

Original research

**Adverse consequences of frequent spontaneous abortions in mental health (A review study)**

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**Abstract**

**Introduction:** Frequent spontaneous abortions are one of the most important fertility problems in the world and one of the most common complications of pregnancy, which brings psychological consequences. In this article, the adverse consequences of frequent spontaneous abortions in mental health were examined.

**Research method:** In this systematic review, in order to find sources and related studies, in the data of reliable scientific databases such as: PubMed, ProQuest, Google, Google Scholar, Scopus, and Web of Science Cinhal in the years 2015 to 2024 with a combination of comprehensive search keywords were conducted in English. Based on the inclusion and exclusion criteria and exclusion of duplicate studies, 14 articles were found out of a total of 83 articles in line with the objectives of this study.

**Findings:** The reviewed articles were included in the form of 3 adverse consequences of frequent spontaneous abortions in mental health. Outcomes included depression, stress, and anxiety. Also, the results showed that depression before pregnancy, the history of live birth in depression, The level of education, being employed, and the level of anxiety caused by previous abortion are influential in anxiety and low socio-economic status, history of psychological illness and lack of social support in the stress caused by frequent spontaneous abortion.

**Conclusion:** The need for basic and preventive psychological interventions based on the consequences of frequent spontaneous abortions is very important. Therefore, it is suggested to monitor the risk factors of these consequences in health centers regularly and periodically. Also, studies in the field of prevention and psychological interventions in depression, anxiety and stress caused by frequent spontaneous abortion should be conducted in different population subgroups, especially pregnant women.

**Keywords:** anxiety, abortion, depression, frequent spontaneous abortion, mental health, stress

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**Introduction:**

Fertility is highly valued in most cultures, and having a child is one of the most important human motivations, and failure in this regard can be an unpleasant experience (1). The birth of a child helps women to establish their identity, and women believe that the success of their personal, psychological and social life depends more on their ability to give birth to a child, and abortion can make them feel incompetent (2). Forced or voluntary termination of pregnancy before birth is known as "abortion" (3), and in classical definitions, delivery of a fetus weighing less than 500 grams and termination of pregnancy before the 20th week of pregnancy is considered as abortion (4). About 23 million spontaneous abortions occur every year, which is equivalent to 44 abortions per minute (5). Recurrent spontaneous abortion is one of the most common cases of abortion in pregnancy (6). Recurrent spontaneous abortion refers to the occurrence of two or more consecutive abortions before the 20th week of pregnancy (7). Although there is still disagreement about whether people who have had two or three or more miscarriages should be considered recurrent miscarriages, most doctors emphasize early evaluation after a second miscarriage because the difference can be made. There is a tendency to have frequent miscarriages (8). Recurrent spontaneous abortions are divided into primary and secondary categories. In primary recurrent miscarriage, there has never been a successful pregnancy, whereas in secondary recurrent miscarriage, the miscarriages occur after a live birth (9). Considering the repeated and unsuccessful attempts to conceive and bear children in women with a history of frequent spontaneous abortions, it can be predicted that their mental health is facing a greater amount of adverse psychological consequences (10), which may even last for a long time. It should continue for one year after the incident (11). Mental health is a state of psychological well-being that causes improvement, growth and perfection of human personality and helps a person to be compatible with himself and others (12). Therefore, mental health seeks to reduce negative emotions such as anxiety and depression and to prevent the occurrence of morbid symptoms in people (13). Research has also shown that the negative psychological effects on mental health related to abortion, when this event is frequent, can be more severe than unintentional abortion (14). Therefore, investigating the consequences of repeated spontaneous abortions in order to prevent, support and implement psychological interventions related to the injury is of particular importance. On the other hand, considering the negative effects of these consequences on the mental health of women with repeated spontaneous abortions and their destructive effects on subsequent pregnancies (15) and actually repeating this vicious cycle, studies in this field can be important. . Therefore, the need to access integrated information in this field was felt, and this study was conducted with the aim of investigating the adverse consequences of frequent spontaneous abortions in mental health as a systematic review.

**Method:**

The present study was a systematic review with the aim of investigating the adverse consequences of frequent spontaneous abortions in mental health. For this purpose, search for Persian and English articles from Scopus, Web of Science, PubMed, Cochrane Library, Medlib, Science Direct, Google Scholar, Irandoc, Magiran and SID databases in the time range of 2015 to 2024 and using keywords English words: depression, depressive symptoms, anxiety, stress,

mental health, recurrent pregnancy loss, recurrent miscarriage and Persian keywords: depression, depression symptoms, anxiety, stress, mental health, recurrent pregnancy loss, recurrent miscarriage and using the keys A combination of "and" and "or" was discussed.

The studies were selected based on the following entry criteria: the main texts that include depression, symptoms of depression, major depression, anxiety, stress, mental health, recurrent pregnancy loss and were published between 2015 AD and 2024, the contents are as journals. , have published a book chapter or a valid thesis. The exclusion criteria also included repetitive texts, articles and books and theses that did not have sufficient relevance or did not include the intended keywords, and studies conducted outside of the specified time period.

At the beginning, after a general review of the titles and abstracts, some studies were deleted based on the exclusion criteria - then the retrieved studies were evaluated. First, by checking the repetition of 12 articles, and then according to the titles of the studies, 33 studies with weak relevance were eliminated in the early stages. After that, by studying the explanatory part of the remaining documents, 25 more studies were removed and 14 articles remained for review

### Findings:

Based on the results extracted from the review articles, the psychological consequences of frequent spontaneous abortions in mental health were included in 3 main formats. Outcomes included depression, stress, and anxiety. A summary of the results of the reviewed studies was presented in Table 1

Table 1- Summary of the results of the reviewed studies

Row	Outcome	control group	number of participants	tool for measuring	author (date)
1	anxiety	Women with a history of previous abortion	30	STAI Y test	(16) Tersigni et al, 2018
2	Depression	healthy women	222	MDI	Umar and Ajuwon, 2024 (17)
3	Depression	healthy women	70	BDI	Ridaura & Raich, 2017 (18)
4	Depression	healthy women	74	SDS (>53)	(19) Guo et al ,2020
5	Depression	healthy women	165	SCL-90	(20) Hajar et al ,2019
6	Depression	healthy women	105	HADS (>8)	(21) Tavoli et al ,2018
7	Depression	healthy women	80	EPDS (>9)	(22) Chen et al ,2019
8	Depression and stress	healthy women	1813	MDI, PSS	(23) Hedegaard et al,2021
9	Depression and stress	healthy women	544	MDI	(24) Kolte et al, 2015
10	Depression and anxiety	healthy women	782	SDS (>53)	(25) He et al ,2019
11	Depression and anxiety	healthy women	179	SCL-90	(26) Wang et al,2018
12	Depression and anxiety	healthy women	663	STAI,CES-D	(27) Wang et al,2023

13	Depression and anxiety	healthy women	166	SCL-90	(28) Qu et al, 2021
14	Depression, anxiety and stress	Women with a history of previous abortion	37	DASS-21	(29) Eleje et al, 2024

SDS, self-rated depression scale; SCL-90, Symptom Checklist-90; MDI, Major Depression Inventory; BDI, Beck Depression Inventory; HADS, Hospital Anxiety Depression Scale; EPDS, Edinburgh Postpartum Depression Inventory; NOS, Newcastle Ottawa; SAS, Self-Assessment Anxiety Scale; MDI, Major Depression Index; PSS, Perceived Stress Scale

**Depression:** According to reviewed studies. Depression is one of the most important consequences of repeated abortion pregnancy, which can cause other psychological problems for women in the short and long term, which may even continue for years after the abortion. The possibility of depression in women with repeated spontaneous abortions was significantly higher than women without repeated spontaneous abortions, and their depression symptoms were also more severe; Although there was no statistically significant difference in the evaluation of depression between the group of repeated spontaneous abortions and the pregnant group, which could be due to the high prevalence of depression and anxiety during pregnancy (31). Depression before pregnancy may affect the risk of miscarriage in patients with recurrent spontaneous abortion (32). Also, women with a history of repeated spontaneous abortions and with a history of live births showed a low prevalence of depression compared to women without live births, therefore, not having a history of live births is a risk factor for subsequent abortions and depression. 33). Also, review studies showed that adverse outcomes for pregnant women with untreated depression include preterm delivery and low birth weight, while women treated with antidepressants also face a higher risk of spontaneous abortion (34, 35) In addition, women who have had an abortion and have undergone surgery for residual products of conception with suction curettage or hysteroscopy are at risk of recurrent pregnancy residuals (36). Therefore, providing empathic care, social support and psychological interventions can be a suitable alternative to pharmaceutical and invasive treatments (37, 22).

**Anxiety:** Studies have shown that anxiety is one of the most important pregnancy consequences of repeated spontaneous abortions, which affects the mental health of women with a history of repeated spontaneous abortions. Also, demographic factors that include the level of education, being employed and the level of anxiety caused by repeated spontaneous abortions are effective. For example, women who had received a higher level of education had less anxiety symptoms. Low education in women increases the likelihood of accepting false information, overestimating risks (38). Furthermore, such misperceptions create negative stereotypes about women who have abortions (39). Also, a lower depression score was observed in working women compared to unemployed women. Past studies have reported that job status can improve physical and mental health outcomes (40). Financial stability empowers women to make decisions and enables them to quickly seek health care (41). Additionally, peer support at work increases the opportunity to share distress, learn information about abortion, and receive support from women with similar experiences, which can help reduce mental health complications (42).

**Stress:** A review of studies showed that stress is also one of the main consequences associated with repeated spontaneous abortions. Considering the repeated and unsuccessful attempts for fertility and childbearing in women with a history of repeated spontaneous abortions, it can be predicted that their mental health is facing a greater amount of stress (43). Also, after an abortion, families follow up on the cause of the abortion, the causes of the complication, their role in the occurrence of the complication, genetic and hereditary causes, repeated abortions, and how to ensure health in re-pregnancy, which usually do not have answers to these questions and these questions themselves lead to stress in these people (44). When such a stressful factor affects a person's life, the person's emotional state and physiological thinking are out of their normal and balanced level, so vulnerable cognitive activities, analytical forces and activities and efforts towards Treatment and action for the next pregnancy is reduced (45). In between, factors such as low socio-economic status (46), history of psychological illness (47) and lack of social support (48) are factors that aggravate stress in women with a history of frequent spontaneous abortions .

### **Discussion and Conclusion:**

Spontaneous abortion, as the most common complication of pregnancy, leads to destructive consequences in the mental health of affected women. The studies reviewed in this study have shown that the history of frequent spontaneous abortion is significantly associated with moderate to severe levels of depression ( $P < 0.001$ ), anxiety ( $P < 0.001$ ) and stress ( $P < 0.001$ ). ) was related and these women had a significant amount of moderate to severe depression, anxiety and stress (28). Most of these researches were conducted in a small sample size and in different psychological assessment scales, so different results have been reported. In the conducted studies, the prevalence of depression ranged from 8.6 to 37%, while anxiety was reported from 7 to 45% and stress from 23.2 to 41.2% (19, 24, 27, 28). Also, studies have shown that mental health components are more prevalent in pregnant women with a history of abortion in early pregnancy and then decrease over time (27), but this decline is more prolonged in women with a history of repeated abortion. The level of anxiety is also different between pregnant women who have experienced one abortion and those who have experienced repeated abortions, and this level of anxiety was significantly higher in pregnant women with a history of repeated abortions (18). However, depression or anxiety alone can increase the risk of subsequent recurrent miscarriage, and they have a synergistic effect after the first miscarriage that increases the risk of subsequent recurrent miscarriage. be (49). The results of a prospective study, which included pregnant women with a history of previous spontaneous abortion with and without recurrence, showed that recurrent miscarriage and premature delivery among pregnant women with recurrent spontaneous abortion who experienced a high level of stress It was significantly higher than women with a history of miscarriage without recurrence. Therefore, it is necessary to pay serious attention to the psychological condition of women with a history of repeated spontaneous abortions and provide appropriate psychosocial support to reduce the incidence of negative emotions (28).

Also, the reviewed studies showed that anxiety and depression in women who experienced abortion in the third trimester continued during pregnancy until almost 3 years after delivery, and pregnancy loss in the last months was more damaging than in the first weeks. It is related

to mental health, which reduces the expectations of pregnant women for a successful pregnancy (27). Another important finding was that the symptoms of anxiety and depression may affect each other in pregnant women with a history of repeated miscarriages and anxiety predicts the symptoms of depression (27). According to previous research, anxiety disorders often precede depressive disorders (50), so screening for anxiety symptoms in women with a history of recurrent spontaneous abortion is useful for early detection of depression and prevention of future depression, and strengthening psychological support for these women . .

In general, it can be said that the results of the reviewed studies showed that depression, anxiety and stress are the adverse consequences of frequent spontaneous abortions in mental health, therefore the need for basic and preventive psychological interventions based on the consequences related to frequent spontaneous abortions. It is very important by itself. Therefore, it is suggested to monitor the risk factors of these consequences in health centers regularly and periodically. Also, due to the fact that the existing studies did not pay much attention to the issue of prevention, it is suggested to conduct studies on prevention and psychological interventions in depression, anxiety and stress caused by repeated spontaneous abortions in different population subgroups, especially pregnant women be done in order to control the amount of these traumatic psychological consequences. Psychologists, women's health staff and midwives play an important role in providing relief, complementary treatments and showing treatment options to ensure mental, social and spiritual health in these people, which can affect the possibility of fertility.

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