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Assessment of Stress level among Women with Spontaneous Abortion

[1]**Author.** Eman Hadi sabit
Academic Nurse, Ministry of Health, Wasit Health Department, Kut Maternity Hospital and Children, Waist, Iraq

[2]**Author.** Sarab Nasr Fadhil
Instructor. Dr., University of Baghdad, College of Nursing, Baghdad, Iraq

***Abstract*---**
Fertility is highly valued in most cultures, and the desire to have a child is one of the most basic human desires. However, failed fertility and pregnancy efforts can be a traumatic emotional experience for the mother, jeopardizing her mental health. Pregnancy is linked to a high amount of mental stress, and spontaneous abortion is a physically and psychologically stressful occurrence that often results in Post-Traumatic Stress Symptoms (PTSS). As a result, the aim of the study was to assess stress level among women with spontaneous abortion and find out the relationship between stress level and some women's sociodemographic and reproductive characteristics. A non-probability selection strategy was used to select a purposive sample of 150 aborted women for a descriptive correlational study. This study started on 1st October 2022, to 25th April, 2022. The reliability of the questionnaire was achieved through a pilot study and then presented to experts to prove its validity. The data was analyzed by the application of a descriptive and inferential statistical data analysis approach. The study results indicated that 40% of women are experiencing severe stress level while 38.7% are experiencing mild stress level (M±SD= 10.06±7.827). So that the study recommended that the health care institutions should develop support plans and open a section concerned with mental health. The health staff communicates with aborted women to reduce the stress that aborted women face from abortion and make these sections specialized for psychological support for aborted women.

***Keywords*--- Assessment, Stress, Spontaneous Abortion**

Introduction

Failure to conceive can be a debilitating emotion and a difficult situation that can harm an individual's mental health, So Women consider their biological, psychological, and social success to be a function of their ability to give birth to children; giving birth to a child helps to stabilize women's identity. (Nayeri et al., 2020).

Corresponding author: Eman Hadi sabit; *Email:* iyman.hadi1205b@conursing.uobaghdad.edu.iq
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According to Fernlund (2021), the loss of a wanted pregnancy is a big negative life event that can bring severe bodily and psychological pain, including anxiety and sadness and stress.

About half of all women who miscarry experience psychological distress for weeks, if not months, after the loss of their pregnancy. In 20–55 percent of instances, short-term depression and anxiety symptoms have been documented. Six months following a miscarriage, about 10.9 percent of women develop a significant depressive episode. Psychiatric difficulties are caused by a variety of circumstances, and a past loss may be a risk factor for increased levels of distress in a subsequent pregnancy, which is linked to adverse pregnancy outcomes. (Barat,2020). When a spontaneous abortion is followed by complicated grief, the diagnosis of acute stress disorder or post-traumatic stress disorder may be overlooked by the primary care physician. In acute stress disorder, symptoms such as dissociation, reliving the experience, avoiding stimuli linked with the trauma, and elevated arousal are present for at least two days but no longer than four weeks. However, if the symptoms last longer than four weeks, the patient may have post-traumatic stress disorder (Bowles et al.,2000).

Method

A non-probability selection strategy was used to select a purposive sample of 150 aborted women for a descriptive correlational study to assess the stress level among women with spontaneous abortion.

Study instrument: The questionnaire is one of the means to help collect data that contribute to achieving the results expected by the study, so the researcher designed this questionnaire, which aims to clarify the study objectives and significance. This questionnaire consists of three parts which includes the following:

Part I: This section composed of socio-demographic information which includes sex items that include general information about women such as age, educational level, occupation status, monthly income, residence

Part II: This section deals with reproductive characteristics which comprised of ten items. Including the number of pregnancies, number of deliveries, the number of abortions, number of live children, number of dead children, type of spontaneous abortion, was the pregnancy was planned, the time between the current and previous pregnancy was pregnancy desirable, and the sex of the aborted fetus.

Part III: This section deals with stress level which measures by use subscale of 7 items of (DASS-21). The scoring system is based on a 4-point Likert scale ranging from 0 to 3 (0=does not apply to me at all, 1=applies sometimes, 2=applies to a considerable degree or for a good part of the time, and 3=applies very much or most of the time).

Content validity was determined through a panel of (18) experts, who had more than 10 years of professional experience in their fields. Reliability of the questionnaire (tools) was determined through empirical research to obtained through evaluating 15 aborted women selected from Al-Kut Hospital in Wasit governorate. For the periods of 1st January 2022, to 5th January 2022. Cronbach's alpha was discovered to be 0.99.

The data were analyzed using (SPSS) version 24 application of statistical analysis system. The information was evenly distributed. Frequencies, Percentages, Mean and Standard Deviation, and Pearson's Correlation Coefficients. The statistical significance was defined as a p 0.05.

Result

The results show that women are with average age 30.31±7.598 year in which the highest percentage refers to age group (20-less than 30) years (32%). Regarding level of education, the highest percentage(19.3%) refers to bachelor's degree. (66.75%) of women are housewives and (24.6%) of them are governmental employees. (59.3%) of women are resident in urban and (40.7%) of them are resident in rural. Concerning the monthly income variable indicates that (38%) of women perceive barely sufficient monthly income, (31.3%) perceive insufficient income, and (30.7%) perceive sufficient income. regarding family type the highest percentage (56%) of women lived with nuclear family

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Table (1): Distribution of Socio-Demographical Characteristics of (150) Women

List	Characteristics	Groups	F	%
1	**Age (M±SD=30.31±7.598)**	Less than 20 years	25	16.6
		20 – less than 30 years	**48**	**32**
		30 – less than 40 years	43	28.7
		40 – 49 years	34	22.7
		Total	***150***	***100***
2	**Level of education**	Illiterate	20	13.3
		Read & write	25	16.7
		Primary school	22	14.7
		Intermediate school	25	16.7
		Secondary school	21	14
		Bachelor	**29**	**19.3**
		Postgraduate	8	5.3
		Total	***150***	***100***
3	**Occupation**	**Housewife**	**100**	**66.7**
		Employee	37	24.6
		Retired	1	0.7
		Free work	12	8
		Total	***150***	***100***
4	**Environmental Residency**	**Urban**	**89**	**59.3**
		Rural	61	40.7
		Total	***150***	***100***
5	**Monthly Income**	Not enough	47	31.3
		Barely enough	**57**	**38**
		Enough	46	30.7
		Total	***150***	***100***
6	**Family Type**	**Nuclear**	**84**	**56**
		Extended	66	44
		Total	***150***	***100***

*** F: Frequency, %: Percentage, M: Mean, SD: Standard deviation**

Table (2) shows that (36%) of women their number of pregnancies at group range from (3-4) pregnancies. (36%) of them are haven't birth. (66%) of women have (1-2)

abortion. (32.6%) have lived children at range (1 – 2). Regarding the number of dead children majority of women reports that they haven't dead children and accounted (90%) of sample. More than half of women reported they have planned pregnancy and accounted (62%). Regarding the interval between pregnancies, (38.7%) of women have (1-6) months interval, (34.7%) have (7-12) months interval, and (26.6%) have interval of 13 months and more. (86%) of women confirmed that their pregnancy was wanted while 14% responding no planned pregnancy. Finally, the highest percentage among gender of aborted fetus is referring to male among (21.3%) and (17.3%) refer to female.

Table (2): Distribution of Reproductive Parameters of (150) Women

List	Characteristics	Groups	F	%
1	**Gravidity**	1 – 2	40	26.7
		3 – 4	**54**	**36**
		5 – 6	44	29.3
		7 ≤	12	8
		Total	***150***	***100***
2	**Parity**	None	**54**	**36**
		1 – 2	51	34
		3 – 4	24	16
		5 – 6	17	11.3
		7 ≤	4	2.7
		Total	***150***	***100***
3	**Previous abortion**	None	20	13.3
		1 – 2	**97**	**66**
		3 – 4	26	17.3
		5 – 6	4	3.4
		Total	***150***	***100***
4	**Lived children**	None	**61**	**40.7**
		1 – 2	49	32.6
		3 – 4	22	14.6
		5 – 6	14	9.4
		7 ≤	4	2.7
		Total	***150***	***100***
5	**Dead children**	None	**135**	**90**
		1	9	6
		2	5	3.3
		3	1	.7
		Total	***150***	***100***
6	**Planned Pregnancy**	No	57	38
		Yes	**93**	**62**
		Total	***150***	***100***
7	**Interval between pregnancies**	1 – 6 months	**58**	**38.7**
		7 – 12 months	52	34.7
		13 ≤ months	40	26.6
		Total	***150***	***100***
8	**Wanted pregnancy**	No	21	14

		Yes	**129**	**86**
		Total	***150***	***100***
9	**Gender of aborted fetus**	None	**92**	**61.4**
		Male	32	21.3
		Female	26	17.3
		Total	***150***	***100***

***F: Frequency, %: Percentage, M: Mean, SD: Standard deviation**

Table (3): indicates that 40% of women are experiencing severe stress level while 38.7% are experiencing mild stress level (M±SD= 10.06±7.827).

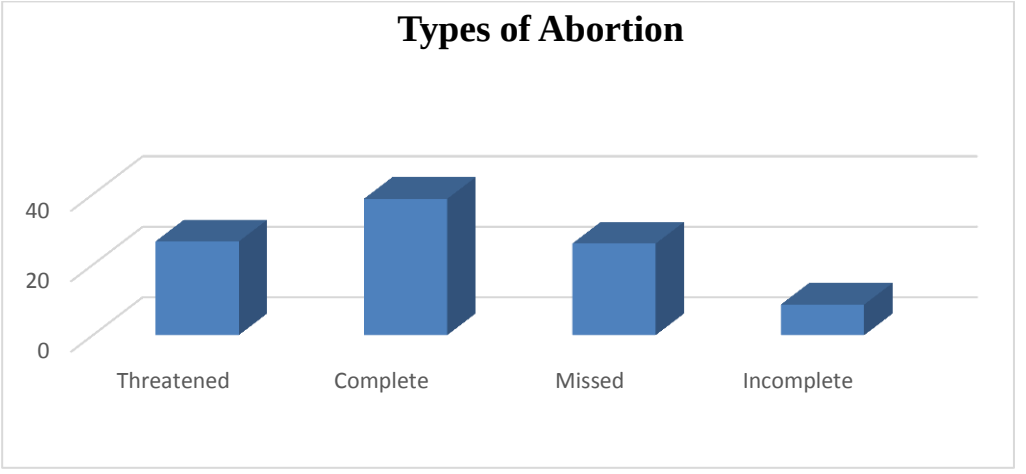

Figure (1): Types of Spontaneous Abortion among Women (N= 150)

This figure clarifies the types of abortion (38.7%) of them associated with complete abortion; (26.6%) have threatened abortion; (26%) have missed abortion, and (8.7%) have an incomplete abortion.

Table (3): Assessment of Stress Levels among Women with Spontanous Abortion

Stress	**f**	**%**	**M**	**SD**
Mild	58	38.7	10.06	7.827
Moderate	32	21.3		
Severe	60	40		
Total	***150***	***100***		

f: Frequency, %: Percentage, M: Mean for total score, SD: Standard Deviation

Mild= 0 – 7; Moderate= 8 – 15; Severe= 16 – 21

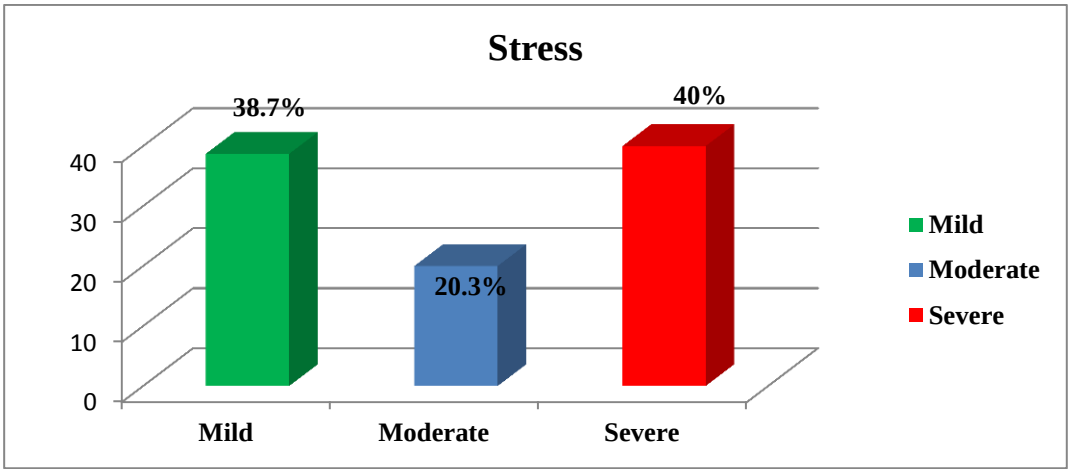

Figure (2): Levels of Stress among Women (N=150)

This figure shows that (40%) of women are associated with severe level of stress.

Table (4): indicates that women show moderate stress as revealed by moderate mean scores among all items of the scale.

Table (4): Assessment of Items related to Stress among Women (N=150

No	Stress	Mean	SD	Assess.
1	I found it hard to wind down	1.45	1.126	Moderate
2	I tended to over-react to situations	1.48	1.252	Moderate
3	I felt that I was using a lot of nervous energy	1.25	1.290	Moderate
4	I found myself getting agitated	1.27	1.174	Moderate
5	I found it difficult to relax	1.45	1.288	Moderate
6	I was intolerant of anything that kept me from getting on with what I was doing	1.53	1.283	Moderate
7	I felt that I was rather touchy	1.49	1.273	Moderate

No: Number, SD: Standard Deviation for total score, Assess: Assessment
Mild= 0 – 1, Moderate= 1.1 – 2, Severe= 2.1 – 3

Table (5) manifests the association between stress level and socio-demographic characteristics; there is a highly significant difference between age and occupation at (p-value=0.002, and 0.011), respectively, While there are no statistically significant differences with leftover socio-demographic characteristics.

Table (5): Association between stress level and Women's Socio-demographic Characteristics

Socio-demographic characteristics	Stress		
	correlation	p-value	Sig
Age	.250	.002	**H.S**
Educational level	.105	.202	N.S
Occupation	.208	.011	**S**

residential environment	.130	.113	N.S
Monthly Income	.080	.329	N.S
Family type	.074	.368	N.S

P: probability, Sig: Significance, N.S: Not Significant, S: Significant, H.S: High significant.

Table (6): demonstrates that there are significant differences between ***Stress*** with para, gravida, previous abortion, the number of lived children, planned pregnancy, wanted pregnancy, and gender at (p-value=0.001), and there is a significant difference with dead children at (p-value= 0.011).

Table (6) Association between stress level and Women's Reproductive Parameters

Reproductive Parameters	**Stress**		
	correlation	p-value	Sig
Gravida	.360	.001	**H.S**
Para	.610	.001	**H.S**
Previous abortion	.295	.001	**H.S**
Lived children	.658	.001	**H.S**
Dead children	.207	.011	**S**
Types of abortion	.158	.053	N.S
Planned pregnancy	.664	.001	**H.S**
Interval between pregnancy	.093	.257	N.S
Wanted pregnancy	.382	.001	**H.S**
Gender	.365	.001	**H.S**

Discussion

The results of table (1) show the highest percentage of participants (32%) with age from (20 – 29) years. This result is in agreement with a study done by (Fadhil & Ali, 2015) in Iraq which show that the highest percentage of participant (26.5%) with age (20-29) years. concerning level of education, it was a Bachelor's degree and accounted (for 19.3%). This result disagrees with a study done by Hameed and Miran (2021) in Iraq, which shows that the highest percentage of participants were in primary school (28%).

Concerning occupational level (66.7%) were housewives. This result is in line with a study done by (Elsharkawy, Mohamed, Awad, & Ouda, 2021) in Egypt, which shows that the highest percentage of participants (56.6%) were housewives.

Regarding to environmental residency (59.3%) resided in the urban area. Such findings emerged because urban areas are crowded, and transportation is available, making it easier to seek health care. But in rural areas, the visits of women to hospitals and health centers are few, or they may not return to the hospital or health center after having an abortion due to they are considered women who have spontaneous abortion stigma; therefore, a large number of them prefer to go at a midwife to reach their facility care so that it found increases the possibility that the number of urban women appears in the sample more than rural women. This is in agreement with the study reported by Carlson and Mourgova (2003); Yong and Wang (2006), who presented that the place of residence affects the risk of miscarriage; it has been concluded that women in cities report a level of

miscarriage higher than those in towns and the countryside: 3.7 versus 3.2 and 3 percent respectively.

Concerning the Monthly income: The highest percentage (38%) reported barely sufficient monthly income. This result disagrees with a study done by Shalash and Mohammed (2012) in Iraq, which showed that the highest percentage (54%) of participants were with insufficient monthly income.

Family Type: The result shows that (56%) of participants have a nuclear family. This result is not close to a study done by Shalash, and Mohammed (2012) in Iraq, which show that the highest percentage(64%) of participants' family were extended type.

According to results as show in table (2) which present the reproductive characteristics of Pregnant Women. The study sample's highest percentage (36%) got 3-4 pregnancies. This result disagrees with a study done in Iraq by Raheem, and Ghafel (2021), which shows that the highest percentage of women participants in the study(65%) got 5-7 pregnancies.

The parity variable reveals that (36%)of them are nullipara. This result is in agreement with a study conducted in Iraq by (Fadhil & Ali,2015) which found that women's "parity " accounts for (24.5%) of the nullipara group

Concerning the number of abortions: the result shows that (66%) of women have a history of 1 -2 abortion. This result is in agreement with the study done by Majeed (2018) in Iraq, which shows that a high percentage of the study sample (49%) have previous two abortion.

Concerning the Lived Child: The result shows that most participants (40.7%) did not have any living children. This result disagrees with a study done in Qatar by (Kilshaw et al., 2017). This shows that the highest number of participants (37.5%) regarding the number of lived children is≥ 5.

Concerning the Stillbirth: The result shows that many participants (90%) none have a stillbirth history. This result agrees with a study done by Jeid (2006) in Iraq, which shows that a high percentage (99.5%) of participants none have a stillbirth history.

Planned &Wanted pregnancy: Results show that the highest (62%) women reported they are planned pregnant, and (38%) reported unplanned pregnancy. This result agrees with a study done by Lok, and Neugebauer (2007) in the USA, which shows that a high percentage of participants planned the pregnancy, and the miscarriage had a more significant impact on them when compared with pregnant controls.

The interval between pregnancies: The high percentage of participants (38.7%) have 1-6 months as an interval between pregnancies. This result disagrees with the study done by Al-Rikabi (2016) in Iraq, which shows that a high percentage of participants (45%) have 12-24 months as an Interval between pregnancies.

Sundermann, Hartmann, Jones, Torstenson, & Velez Edwards, (2017). It is documented that an interpregnancy interval after pregnancy loss of fewer than three months is associated with the lowest risk of subsequent miscarriage.

Gender of an aborted fetus: The result shows that a high percentage of participants (61.4%) did not know the gender of the fetus. In our society, it is often preferred that the gender of the child be male, especially if it is the first child. Therefore, if the woman knows the gender of the child and it is male, the psychological consequences will be greater than if it is female.

Types of abortion: The result in (Figure 1) shows that complete abortion rates were highest (38.7%) than other types of abortion. In a complete abortion, there is severe

abdominal pain and vaginal bleeding, but after the passage of all the products, the pain and bleeding diminish. On examination, the os will be found to be closed (the cervix closes). And the uterus is smaller than the period of amenorrhea would suggest; ultrasonography will show an empty uterus and signs of pregnancy regress (Neville et al., 2010; Adams, 2010).

The result of table (3 & 4) and figure (2) shows that a high percentage of participants (40%) are experiencing severe stress. This result is in line with a study done by (Alipanahpour, Zarshenas, Ghodrati, & Akbarzadeh, 2020) in Iran, which found that most women in all three groups of abortion had average stress levels.

Another study conducted by Haghparast, Faramarzi & Hassanzadeh (2016) found that pregnancy is associated with a high level of emotional stress, and spontaneous abortion is a traumatic event both physically and psychologically. It is accompanied by Post-Traumatic Stress Symptoms (PTSS).

In addition, studies done by Cheung &Chan (2013); Hutti, Armstrong, Myers, & Hall (2015) indicated that most women experienced sorrow and stress or both after the abortion. These events have harmful effects on the relationship of the couples.

Also, the descriptive cross-sectional study was carried out in the Colombo South Teaching Hospital by (Pathiraja, Rohanachandra, Kaththiriarachchi, & Nishad, 2018), which found that seventy-two percent of women who presented with a miscarriage had some psychological disturbance (50.2%), with stress being the commonest.

The findings of results in table (5 &6) depicted that age of women had positively influenced the women's positive and negative feelings, thinking, and self-esteem. This can be interpreted so that the maternal age in this study accounted (for 48%) of the total sample in the age group (20-29) years. These age groups are called young women, and it is the most important determinant of fertility. This result is consistent with a study reported by Adolfsson and Larsson (2010), who noted that the feeling lonely, dysphoria, which is emotional stress. It often manifests in remorse, irritability, sorrow, guilt, fear, and hostility, followed by sadness and resignation. In addition, its agreement with the study done by Fadhil & Ali (2015) in Iraq shows that there is no significant relationship between psychological status among women regarding their residency and family type.

According to a study done by (Alipanahpour, Zarshenas, Ghodrati, & Akbarzadeh, 2020) in Iran, which is close to the study result that shows no significant relationship exists between psychological status among women regarding their level of education.

Finally, study done in Iraq by Fadhil & Ali (2013) shows statistically significant differences between women's gravid and psychological maim domain (P=0.031), which means primigravida and multigravida are the same when suffering from psychological effects of spontaneous abortion.

Conclusion

Most women are age (20-less than 30) years old, have bachelor's degrees, are housewives, residents in urban areas, and perceive barely sufficient monthly income. In addition, their reproductive characteristics are mostly multigravida, nullipara, having a previous abortion, not having lived child, not having a stillbirth, their pregnancy was planned and wanted, the interval between pregnancies was (1-6) months, and most of the study sample didn't know the gender of an aborted fetus.

The study found that the stress level of spontaneous abortion according to the DAS scale indicated severe stress

There is a significant effect of spontaneous abortion on the psychological status The study found an association between stress level and some socio-demographic and reproductive characteristics of women.

FINANCIAL DISCLOSURE
There was no financial disclosure.

CONFLICT OF INTEREST
None to declare

ETHICAL CLEARANCE
Is obtained from (Al-Kut Hospital), and all aborted women participants in the research - have been approved before the study is started.

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