

# Features of the psychoemotional condition of women with induced pregnancy

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## ABSTRACT

The objective of the present study was to evaluate special features of the psychological health of women with induced pregnancy and its relationship with nausea and vomiting. The Spielberger scale score results of 270 women with nausea and vomiting during of induced-pregnancy (NVIP) has been studied. The mean age of the women was 25±4.2 years. Results showed that, 31 (11.5%), 118 (43.7%) and 121 (44.8%) of pregnant women with NVIP had low, moderate and high degree of anxiety, respectively. Most of the surveyed women with NVIP (72.2%) experienced a high level of situational anxiety. For moderate and low degrees of state anxiety, the approximately equal frequency was registered, 14.1% (n=38) and 13.7% (n = 37), respectively. The state of tension and regretful from the current situation was noted by 175 (64.8%), anxiety and nervousness were registered in 158 (58.5%) and 207 (76.7%) cases, respectively. 147 (54.4%) and 187 (69.3%) women, respectively, noted their excitement for possible failures and concern. 72.2% of women with induced pregnancy have state anxiety as a result of the emotional reaction to NVIP, which indicates the need for counseling by psychologists.

## Original Article

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## INTRODUCTION

It is known that the ratio of indicators of a woman's mental health (stress resistance, trait anxiety, emotionality and emotional reactivity) form a single system during pregnancy and reflects the general psycho-emotional condition of a woman [1, 2].

Most often, changes in the psycho-emotional background during pregnancy lead to the development of depressive and anxiety disorders. Changes in the psycho-emotional state of women who have long suffered from infertility are of particular relevance.

Symptoms of anxiety during pregnancy can relate to several types of anxiety, such as general anxiety, anxiety disorders and anxiety related to pregnancy, anxiety characterized by specific fears and anxieties [3]. At the same time, numerous factors related to the causes of infertility, the duration of treatment and psychological stress can affect the functional state of various physiological systems that ensure the adaptation of the body and the development of complications of the gestational process [4].

Consequently, during induced pregnancy, changes in the course of already existing psychological disorders occur. At the same time, the identification of depression in this category of women is difficult, since many symptoms, such as the lability of the emotional background, increased fatigue, changes in appetite and a decrease in cognitive functions, are also often encountered during physiologically normal pregnancy [5, 12].

The aim of study was to evaluate and determinate of special features of the psychological health of women with induced pregnancy and its relationship with nausea and vomiting.

## MATERIAL AND METHODS

### Ethical approval

The review board and ethics committee of Tashkent Institute for Post-Graduate Medical Education approved the study protocol and informed consents were taken from all the participants.

The study included 270 women with nausea and vomiting in the first trimester of induced pregnancy (NVIP). The psychological evaluation of pregnant women was carried out with the State-Trait Anxiety Inventory (STAI) developed by Charles D. Spielberger. According to Brunton et al. [1] in 41 studies, the Spielberger scale showed an average of 90% reliability in diagnosing the degree of anxiety in pregnant women.

The State-Trait Anxiety Inventory (STAI) measures two types of anxiety: state anxiety or anxiety about an event, and trait anxiety or anxiety level as a trait characteristic. Higher scores are positively correlated with higher levels of anxiety. The STAI is a test/questionnaire given to adults that shows how strong a person's feelings of anxiety are. Feelings of unease, worry, tension, and stress can be defined as anxiety. The STAI tests two different types of anxiety, state and trait anxiety.

Scores range from 20 to 80, with higher scores correlating with greater anxiety. The creators of this test separated the different anxieties so both scales would be reliable. This means the S-anxiety scale would only measure S-anxiety and the T-anxiety scale would only measure T-anxiety, the ultimate goal in creating this test. They found they could not achieve this if the questions were the same to examine both types of anxiety. Each scale asks twenty questions each and is rated on a 4-point scale [7, 13].

Low scores indicate a mild form of anxiety whereas median scores indicate a moderate form of anxiety and high scores indicate a severe form of anxiety. Both scales have anxiety absent and anxiety present questions. Anxiety absent questions represent the absence of anxiety in a statement like, "I feel secure." Anxiety present questions represent the presence of anxiety in a statement like "I feel worried."

More examples from the STAI on anxiety absent and present questions are listed below. Each measure has a different rating scale. The 4-point scale for S-anxiety is as follows: 1) not at all, 2) somewhat, 3) moderately so, 4) very much so. The 4-point scale for T-anxiety is as follows: 1) almost never, 2) sometimes, 3) often, 4) almost always.

## RESULTS

As can be seen from figure 1 during the psychological evaluation of anxiety, the distribution of patients according to the Spielberger scale was as follows:

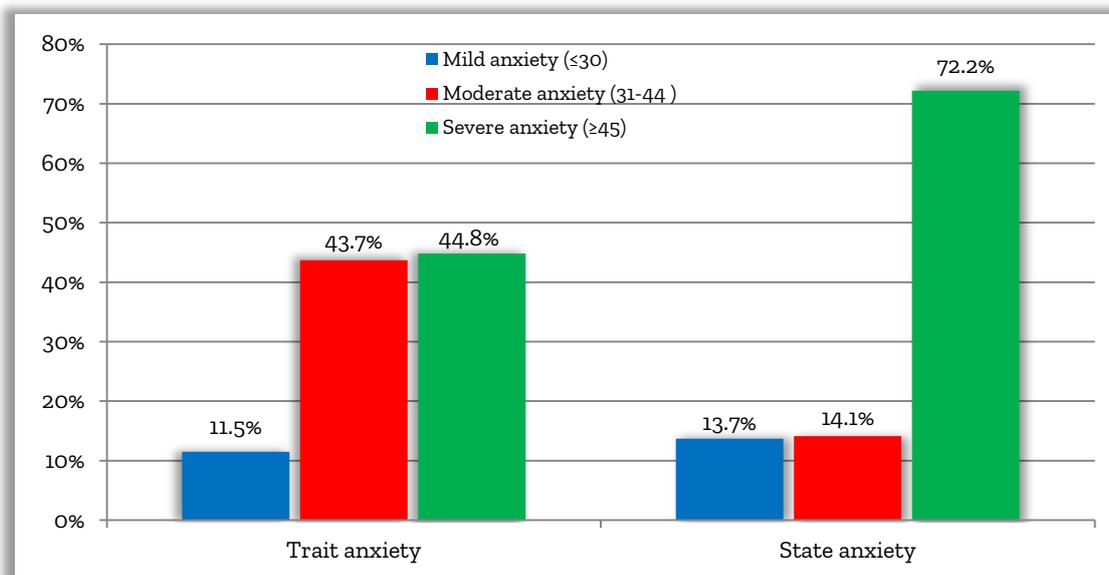
- Low anxiety occurred in 31 (11,5%) pregnant women with NVIP,
- In 118 (43,7%) cases a moderate level of trait anxiety was established,
- 121 (44,8%) women have a high level of anxiety.

According to our data, most of the surveyed women with NVIP experienced a high level of situational anxiety, which amounted to 72.2% (n = 195). For moderate and low degrees of state anxiety, approximately equal frequency was registered, 14.1% (n = 38) and 13.7% (n = 37), respectively.

Such a high rate of state anxiety in women with induced pregnancy is due to the fact that the symptoms of nausea and vomiting in the first trimester led to an increase in the initially existing anxiety and depression. Thus, state or situational anxiety with NVIP arose as an emotional reaction to nausea and vomiting, as to a stressful situation. At the same time, state anxiety, different in intensity and dynamism in time, was observed characteristic of induced pregnancy. In order to obtain the characteristics of the mental health of women with induced pregnancy and developed NVIP, we found it interesting to have a more detailed study of state anxiety.

In the course of studying the results of situational (state) psychodiagnostics on the Spielberger scale, the response rate "very much so" to the specific for anxiety syndrome of pregnant women with NVIP judgments was analyzed (Table 1).

The state of tension and regretful from the current situation was noted by 175 (64.8%), anxiety and nervousness were registered in 158 (58.5%) and 207 (76.7%) cases, respectively. 147 (54.4%) and 187 (69.3%) women, respectively, noted their excitement for possible failures and concern.



**Figure 1.** Distribution of STAI according to trait and state anxiety degree of women with NVIP

**Table 1.** The results of the situational (state) anxiety evaluation in pregnant women according to the Spielberger scale score STAI

Nº	Statements	Not at all	Somewhat	Moderately so	Very much so
1.	I feel calm	134	121	15	0
2.	I feel secure	135	129	6	0
3.	I am tense	0	39	56	175
4.	I am regretful	0	32	63	175
5.	I feel at ease	193	71	6	0
6.	I feel upset	0	77	78	115
7.	I am presently worrying about possible misfortunes	13	41	69	147
8.	I feel rested	197	37	36	0
9.	I feel anxious	4	43	65	158
10.	I feel comfortable	263	4	3	0
11.	I feel self-confident	195	39	36	0
12.	I feel nervous	0	27	36	207
13.	I am jittery	0	57	63	150
14.	I feel "high strung"	0	52	53	165
15.	I am relaxed	234	23	13	0
16.	I feel content	243	27	0	0
17.	I am worried	0	37	46	187
18.	I feel over-exited and rattled	0	54	79	137
19.	I feel joyful	237	33	0	0
20.	I feel pleasant	232	38	0	0

1) not at all, 2) somewhat, 3) moderately so, 4) very much so.

## DISCUSSION

Until recently, the assessment of the course of induced pregnancy was mainly reduced to the study of physiological processes and their corresponding complications, the biological side was mainly studied, and only in recent years did interest arise in the psychological problems of induced pregnancy. Also, in the majority of works on this topic, attention not paid to social aspects. It is believed that socially conditioned stress contributes to the development of psycho-emotional tension and the progression of symptoms of threatened abortion [9, 10].

As for the studies of the psycho-emotional status of pregnant women suffering from nausea and vomiting, they are not numerous, but researchers point to the existence of a close interdependence of mental functions and biological processes, having data on changes in biochemical parameters in the use of psychotherapy and improving the quality of life of patients [11].

State anxiety can be defined as fear, nervousness, discomfort, etc. and the arousal of the autonomic nervous system induced by different situations that are perceived as dangerous. This type of anxiety refers more to how a person is feeling at the time of a perceived threat and is considered temporary [6].

Trait anxiety can be defined as feelings of stress, worry, discomfort, etc. that one experiences on a day to day basis. This is usually perceived as how people feel across typical situations that everyone experiences on a daily basis.

State anxiety with nausea and vomiting induced pregnancy was manifested by tension, internal stiffness, anxiety, nervousness, and anxiety. During pregnancy, due to changes in hormonal and psychoemotional background in women with induced pregnancy, an increase in the level of state anxiety occurs. As the symptoms of the NVIP increase and worsen, the anxiety and stress increase.

## CONCLUSION

The study of the psycho-emotional state of women with NVIP revealed that 44.8% of them had a high level of trait anxiety, and 72.2% noted a rise in the level of situational anxiety, which arises as a result of the emotional reaction to NVIP. It should be noted that, regardless of the severity of NVIP during induced pregnancy, 87.7% of women report a feeling of tension and anxiety about abortion.

The data obtained from the high frequency of severe forms of NVIP and anxiety-depressive conditions among women with induced pregnancy serve as an argument for the early administration of psychologist's consultations, as one of the main links in the treatment of NVIP.

## DECLARATIONS

### Authors' contributions

All authors contributed equally to this work.

### Competing interests

The authors declare that they have no competing interests.

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