

## Management of anxiety among pregnant women with serious medical conditions: A multicentre study

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### Abstract

**Objective:** To examine the effectiveness of relaxation training on anxiety level of pregnant women with serious medical complications.

**Method:** The ex-post facto study was conducted from January to August 2018 at Allied and City hospitals in Jallalpur Jattan, Gujrat, Pakistan, and comprised pregnant women with serious medical conditions. Their medical symptoms were confirmed by a medical chart. Data was collected using the anxiety subscale of the Depression, Anxiety and Stress Scale 21, and those with high levels of anxiety were retained. These women attended 60-minute relaxation training twice a week for 8 weeks. Data was analysed using SPSS 21.

**Results:** Of the 126 women initially assessed, 50(39.5%) were shortlisted for detailed anxiety evaluation. Of them, 30(60%) were included, and after 3(10%) dropouts, the study was completed by 27(90%) women. There was significant difference in overall pre- and post-intervention mean values of anxiety ( $p=0.001$ ).

**Conclusion:** Relaxation training was found to have a significant effect in terms of reducing anxiety without the use of medications among pregnant women with serious medical conditions.

**Keywords:** High risk, Pregnancy, Anxiety, Relaxation, Training, Medication.

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### Introduction

Pregnancy is a blessing for woman in many countries, especially in developing countries women got enormous respect after being pregnant. Pregnancy is an adaptive process, and many physical and psychological changes take place during this period, but sometimes it becomes a danger not only for the mother but also for the offspring who breathe in the mother's womb. Many complications occur in high-risk pregnancies and even the label of a high-risk pregnancy makes a woman more prone to psychological sufferings, like anxiety, stress and depression.<sup>1</sup>

Antenatal anxiety can result in adverse outcomes for the lives of the mother and the foetus, like low birth weight (LBW), postpartum anxiety or depression, and can also affect the development of the foetus.<sup>2</sup> Psychological disturbance becomes worse by uncertainty during the time of pregnancy, especially in those women who are victims of a medical disease, antenatal anxiety has been found mostly in high-risk pregnant women. High-risk pregnancies create extreme complications for both lives and would be a threat to their life because of serious medical problems during the time of pregnancy.<sup>3</sup> Gynaecologists label high-risk pregnancy as an alarming sign for the mother and the foetus due to obstetric and medical concerns.<sup>4</sup> High-risk pregnancies can be defined as a condition in which the risk

of foetal anomaly, foetal or mother's bad health, and foetal or mother's death, is increased. It is a condition that creates actual threat for the life of mother and foetus, or can seriously damage the health of both lives because of disorders or diseases associated with pregnancy.<sup>4</sup> Many factors are involved in high-risk pregnancies, and they vary from one patient to another. High risk in pregnancy is some how influenced by severe anaemia, hypertension (HTN), human immunodeficiency virus (HIV), hyperthyroidism, gestational diabetes mellitus (GDM), multipara, previous history of caesareans, younger primal presentation, bad obstetric history, Rhesus(Rh) incompatibility, low-lying placenta or placenta previa, type of delivery, mode of delivery, birth weight of child, and status of child. Additionally these factors have adverse effects on neonatal health, could be a reason of prematurity, restriction of growth, or even neonatal death.<sup>5,6</sup>

Anxiety, if not treated, causes many adverse effects.<sup>7</sup> For the reduction of anxiety level during complicated period, many techniques are employed, and in the past decades, the main tool was the use of medicine for treating psychological issues. Recently behaviour therapies are getting attention and several behavioural techniques has been employed in which systematic desensitisation, relaxation, exposure, modelling, assertive training, and self-control techniques are more common in use.<sup>8</sup>

Relaxation training is a method or activity that helps people to relax, to increase calmness, to reduce the level of pain

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and even psychological distress. Relaxation training comprises techniques that are used to decrease muscle tension, lower high blood pressure (BP), heart rates (HR), boost up energy and manage the overall mental and physical health of the individual.<sup>8</sup> Previous studies concluded that relaxation techniques were found to be the best method for the reduction of anxiety.<sup>8,9</sup> Extended literature is present as evidence.<sup>10-12</sup>

However, studies in this regard are limited in Pakistan where women with high-risk pregnancies mostly go to obstetricians for seeking medical treatment of anxiety which may have adverse side effects.<sup>13</sup> The current study was planned to examine the effectiveness of relaxation training on anxiety level of pregnant women with serious medical complications.

### Subjects and Method

The ex-post facto pre-post study was conducted from January to August 2018 at Allied and City hospitals in Jallal Pur Jattan Gujrat Pakistan, and the study sample was pregnant women with serious medical conditions. After approval from the ethics review board of the University of Gujrat, the sample size was calculated using Raosoft with 95% confidence interval (CI) and 5% margin of error in line with literature.<sup>14,15</sup> The sample was raised using multistage sampling technique<sup>16</sup> from those who came for a regular check-up at the two hospitals after taking permission from the respective managements. Four hospitals were approached, but only 2 granted permission for data-collection.

The target population was women having high-risk pregnancies as well as high levels of anxiety. All the pregnant women were initially contacted. Women with severe chronic medical/physical diseases, with any mental illness, and those who were having their first pregnancies were excluded. Women already labelled as high-risk pregnancies by their respective obstetricians/gynaecologists were shortlisted and, after taking informed consent, their medical symptoms were confirmed using a medical chart by the researchers. In the second stage, these subjects were administered the anxiety subscale of the Urdu version of the Depression, Anxiety and Stress Scale (DASS) 21. The alpha reliability of the adapted version is significantly high at 0.93.<sup>17</sup> Only those with high levels of anxiety were selected for the planned intervention which comprised 60-minute relaxation training twice a week for 8 weeks at the respective hospital in a room with peaceful environment and no distractions.

Demographic characteristics were noted using an 18-item proforma.

Relaxation training was given using three techniques: deep breathing, mindfulness meditation and guided imagery. Other than the 60-minute sessions, the patients were advised to practise these techniques at home as well.

For the sessions, the patients were divided into 6 equal groups, and each patient was assigned a different identity (ID) on the basis of the group they were in. After 8 weeks of intervention, the anxiety levels of the patients were re-assessed with DASS 21, and the results were compared with baseline values.

Data was analysed using SPSS21. Descriptive and inferential statistics were done. Baseline and post-intervention scores were expressed means and standard deviations, and paired sample t-test was used to compare the values. In order to compare the mean pre and post scores, Shapiro-Wilk test was run to check data normality. Since the data was normal, therefore independent t-test was administered.  $P < 0.05$  was considered significant.

### Results

Of the 126 women initially assessed, 50(39.5%) were shortlisted for detailed anxiety evaluation. Of them, 30(60%) were included, and after 3(10%) dropouts, the study was completed by 27(90%) women whose age range was 15-40 years. Of the total, 2(7.4%) women had high BP, 2(7.4%) had kidney-related diseases, 1(3.7%) had moderate heart disease, 3(11.1%) had diabetes, 1(3.7%) had a history

**Table-1:** Frequencies of serious medical illnesses.

Categories	n (%)
High Blood Pressure	2 (7.4)
Kidney Related Disease	2 (7.4)
Less Severe Heart Problems	1 (3.7)
Diabetes Mellitus	3 (11.1)
History of Miscarriages	1 (3.7)
Preeclampsia	2 (7.4)
Previous Preterm Births	1 (3.7)
Multiple Births	1 (3.7)
Anaemia	2 (7.4)
Other abdominal problems	2 (7.4)
5 or over pregnancies	3 (11.1)
Obesity	1 (3.7)
Previous 4 c/section	2 (7.4)
Malaria	1 (3.7)
Fever	1 (3.7)
History of neonatal death	2 (7.4)

**Table-2:** Mean Differences in Pre & Post Test among high risk pregnant women (n= 27).

Anxiety	Before	After	t-value	P-value	Cohen's d
	intervention	intervention			
n	Mean $\pm$ SD	Mean $\pm$ SD			
27	39.70 $\pm$ 1.53	25.92 $\pm$ 1.61	42.24	0.001	8.77

SD: Standard Deviation

of miscarriages, 2(7.4%) had preeclampsia, 1(3.7%) had previous history of preterm births, 1(3.7%) had multiple fetuses, 2 (7.4%) had anaemia, 2(7.4%) had abdominal diseases, 3(11.1%) had 5th or above pregnancy, 1(3.7%) had obesity, 2(7.4%) had 4 caesarean sections, 1(3.7%) had malaria, 1(3.7%) had high fever, and 2(7.4%) women had history of early neonatal death (Table 1).

Baseline mean anxiety level was 39.70 @ 1.53 which indicated severe level of anxiety. Post-intervention score was 25.92 @ 1.61 ( $p=.001$ ) respectively (Table 2).

## Discussion

The findings favoured the role of relaxation training on anxiety level of women with high-risk pregnancies. Studies have concluded that high-risk pregnancies or obstetric complications can create psychological disturbances, like anxiety and depression, in pregnant women and their major concerns are about the health of the foetus, unexpected birth outcomes, and threat to foetal life.<sup>17-20</sup> The current study examined the role of relaxation training on anxiety levels of women with high-risk pregnancies, and there was significant difference in baseline and post-intervention results. These results are consistent with studies suggesting relaxation training as having a positive impact on patients' psychological functioning.<sup>8-12</sup> Literature also suggested that mindfulness meditation, which was one of the techniques used in the current study, was effective in helping the patients in reducing their concerns and worries related to the future.<sup>21-23</sup> The current study had its limitations. Being a quantitative study, it could not explore the factors of anxiety. Besides, the study was conducted in a single small town and the sample belonged to a rural area. As such, the results are not generalisable. Also, serious medical conditions, like cancer, hepatitis, HIV, tuberculosis, severe heart diseases, were excluded.

Future in-depth and larger studies comprising both urban and rural populations need to be conducted to understand the role of other demographic and psycho-social factors leading to anxiety among high-risk pregnant women.

## Conclusion

Relaxation training was found to have a significant effect in terms of reducing anxiety without the use of medications among pregnant women with serious medical conditions.

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**Conflict of Interest:** One of the authors is Head of the Psychology Department, University of Gujrat.

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