

Effect of Progressive Muscle Relaxation Technique in Terms of Anxiety and Physiological Parameters of Antenatal Mothers with Pregnancy-Induced Hypertension

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Abstract

The study sought to assess the level of anxiety and selected physiological parameters of antenatal mothers with pregnancy-induced hypertension (PIH) to find out the relationship between anxiety and selected physiological parameters, to determine the association between anxiety and selected demographic variables, to determine the association between anxiety and selected physiological parameters and demographic variables. The study was based on self-care concept by Dorothy Orem. A pre-test – post-test control group design was adopted for the study, which was conducted in St Stephens Hospital, Delhi. The sample consisted of 60 antenatal mothers with PIH, 30 each in experimental and control groups. The tools used were a structured interview schedule, state anxiety inventory scale (Spielberger's STAI – Standardised tool), structured observation schedule. The study showed that the mean post-test anxiety score was lower than mean pre-test score of antenatal mothers with PIH in experimental group and the mean post-test anxiety scores of experimental group of antenatal mothers was lower than the mean post-test anxiety score of control group, proving the effectiveness of relaxation technique in reducing the anxiety of antenatal mothers. But there was no significant relationship between anxiety and selected variables in terms of age, education, parity and period of gestation. It is recommended that similar studies may be conducted using other complementary therapies like yoga, music therapy, massage therapy, hydrotherapy, aroma therapy etc. and in different settings.

Pregnancy and childbirth is one of the most beautiful experience in a woman's life. There is increased realisation that the female human body is biochemically different from that of male. Revolutionary changes in obstetrical care and management have resulted in tremendous reduction of physical hazards for both mothers and infant. In modern obstetrical nursing care, the emphasis is on the utilisation of non-pharmacological measures for treatment of diseases and returning to the normal healthy state based on these complementary alternative therapies which are natural, have no side effects and also give positive results all lifelong.

National Institute of Health Office of Alternative Medicine has brought out evidences of growing acceptance of forms of 'alternative health care approaches' in this area.

Paul, Vinod K et al (2011) stated that leading causes of maternal deaths in India are haemorrhage,

sepsis, complications of abortion and hypertensive disorders (Fig 1).

The use of relaxation therapy is based on the belief that mind and body are interrelated. The condition of one will necessarily affect the other. If the body is relaxed, the mind will feel relaxed as well. Many Eastern philosophies provide the basis for the integrity of mind, body and spirit that is central to many contemporary relaxation strategies. The goal of relaxation therapy is to produce a response that counters stress response. When this goal is achieved the action of hypothalamus adjusts and decreases the activity of sympathetic and parasympathetic nervous system.

Many studies have shown that relaxation techniques are useful in reducing the symptoms of anxiety, stress and blood pressure in patients with hypertension. Relaxation during pregnancy is safe and effective for reducing stress, feeling calm, and increasing physical and mental comfort.

This study was conducted to evaluate the effectiveness of Progressive muscle relaxation technique

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in terms of anxiety and physiological parameters of antenatal mothers with Pregnancy-induced hypertension (PIH).

Objectives

1. To assess the level of anxiety and selected physiological parameters of antenatal mothers with PIH
2. To find out the relationship between anxiety and selected physiological parameters
3. To determine the association between (i) anxiety and selected demographic variables, and (ii) selected physiological parameters and selected demographic variables

Review of Literature

Literature related to hypertension in pregnancy: Olusanya BO conducted a study to see the perinatal outcome associated with maternal hypertensive disorders of pregnancy (HDP) in developing countries; of 3491 mothers enrolled, 216 (6.2%) were diagnosed with HDP comprising chronic hypertension (4.6%), PIH (55.6%), pre-eclampsia (7.45%), and eclampsia (32.4%). The study concluded that adverse perinatal outcomes of HDP may place newborns at risk of neuro developmental defects.

Laura A Magee, et al, in a study on parenteral hydralazine and labetalol or oral calcium channel blockers such as nifedipine found that oral labetalol and methyldopa are used most commonly in the treatment of hypertension in pregnancy.

Literature related to anxiety and physiological parameters in antenatal mothers with PIH: Chunfang Q et al, conducted a study to identify pre-eclampsia risk in relation to maternal mood and anxiety disorders diagnosed before or during early pregnancy. The risk

of pre-eclampsia appeared to be more strongly related with maternal mood or anxiety disorders first diagnosed during pregnancy. The study outlined that many pharmaco epidemiological studies allow precise evaluations of independent and joint effects of maternal psychopathologies and the use of psychotropic medications on pre-eclampsia risk.

Kurki T et al, in a study on depression and anxiety in early pregnancy and risk of pre-eclampsia, in terms of age, smoking, alcohol consumption, marital status, socioeconomic status and bacterial vaginosis, showed that out of the 623 consecutive nulliparous women with singleton pregnancies who were studied at 10 to 17 weeks gestation and at delivery, 4.5 percent women developed pre-eclampsia, and depression was observed in 30 percent women and anxiety was observed in early pregnancy.

Literature related to effect of progressive muscle relaxation on anxiety and physiological parameters of antenatal mother with PIH: Thankachen C, in a study on effect of deep breathing among mothers with hypertension in pregnancy assessed blood pressure before and after the therapy. Exercise was administered twice a day, 2 hours after food for 15 minutes duration for 3 consecutive days. The study found deep breathing exercise to be effective in reduction of blood pressure of hypertensive mothers.

Methodology

The research approach used in this study was experimental approach. The research design selected for this study was pre-test – post-test control group design.

Variables: Progressive muscle relaxation technique was independent variable and Anxiety scores and selected physiological parameters in terms of blood pressure, weight and oedema were dependent variables.

The study undertaken in antenatal ward of St Stephens Hospital, Delhi, consisted of all admitted antenatal mothers with hypertension stabilised on anti-hypertensive drugs. Thirty antenatal mothers admitted in antenatal ward of selected hospital diagnosed with PIH and stabilised on anti-hypertensives constituted the sample.

Inclusion criteria : Antenatal mothers stabilised on antihypertensive treatment, admitted in antenatal ward, between 20-36 weeks of gestation and willing to participate in the study. Systematic random sampling technique was used. The

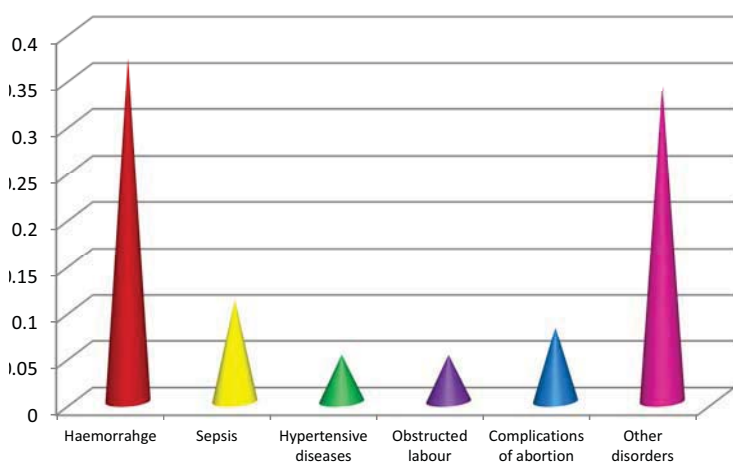


Figure 1: Causes of Maternal deaths in India
Source: The Lancet, 22 January 2011, 377 (9762): 332-349

demographic data was collected by structured interview technique; state anxiety inventory scale (CD Spielberger standardised scale) was used to assess the anxiety level, and Structured Observation Schedule for assessing selected physiological parameters (blood pressure, weight and oedema). Progressive Muscle Relaxation technique was administered for 10-15 minutes with alternate period of relaxation for 10 seconds and tensing the muscle for 5 seconds. The pre- and post-test data were collected using the tools. The tool was validated by nine experts from various experts of Obstetrics & Gynaecology department, both nurses and doctors.

Reliability: The reliability coefficient for these tools were: Structured interview schedule (0.97), Anxiety evaluation questionnaire ($r = 0.89$), Observation checklist ($r = 100\%$), Observation schedule ($r=100\%$).

Pilot study : Pilot study was earlier conducted in the selected hospital as per sampling criteria. Period of data collection was from 1 October 2011.

Frequency and percentage distribution were used to analyse the sample characteristics. Findings related to the mother's anxiety and selected physiological parameters were computed by using 't' test. 'r' value was computed to find the relationship between anxiety and selected variables. Chi square was computed to find out the association between the anxiety and selected physiological parameters with selected variables.

Results

Demographic data: Most of the 30 subjects were in the age group of 20-25 years (37%), graduates and post graduates (23%), primigravida (50%). Most of

them had no bad obstetric history (83%), majority (57%), were in the gestational week of 28-36; most of them (43%) were not working, majority were vegetarian (60%), and majority (70%) of them reported they never did any relaxation technique nor any physical exercise.

Anxiety scores: The mean post-test anxiety score (38.96) of experimental group with a range of 34-43 was lower than the mean post-test anxiety scores (56.17) of control group with a range of 52-61, showing that there was decrease in anxiety scores of the patients in experimental group after the administration of relaxation technique (Figure 2).

Physiological parameters

Blood Pressure: The mean post-test BP score of experimental group was 1.16 which is lower than the mean pre-test BP scores of 1.63. Thus there was decrease of 0.47, in BP scores of the patients in experimental group after the administration of relaxation technique.

Weight: The mean post-test weight score of experimental group was 67.3 which is same as the mean pre-test weight scores of 66.3, showing no change in weight score of the patients in experimental group after the administration of relaxation technique.

Oedema: The mean post-test oedema score of experimental group was 0.7 which is lower than the mean pre-test oedema score of 2.3, with a mean difference of 1.6. Thus there was decrease in oedema score of the patients in experimental group after the administration of relaxation technique.

Discussion

The findings indicated that the antenatal mothers with PIH exposed to progressive muscle relaxation technique had experienced significantly less anxiety than the mothers who were not exposed to progressive muscle relaxation technique. These findings are supported by Amy E Beddoe, Kathryn A Lee (March/April 2008) who reported the effectiveness of mind-body interventions during pregnancy on perceived stress, mood, and perinatal outcomes. Progressive muscle relaxation was the most common intervention. The study also revealed that there was significant reduction in the se-

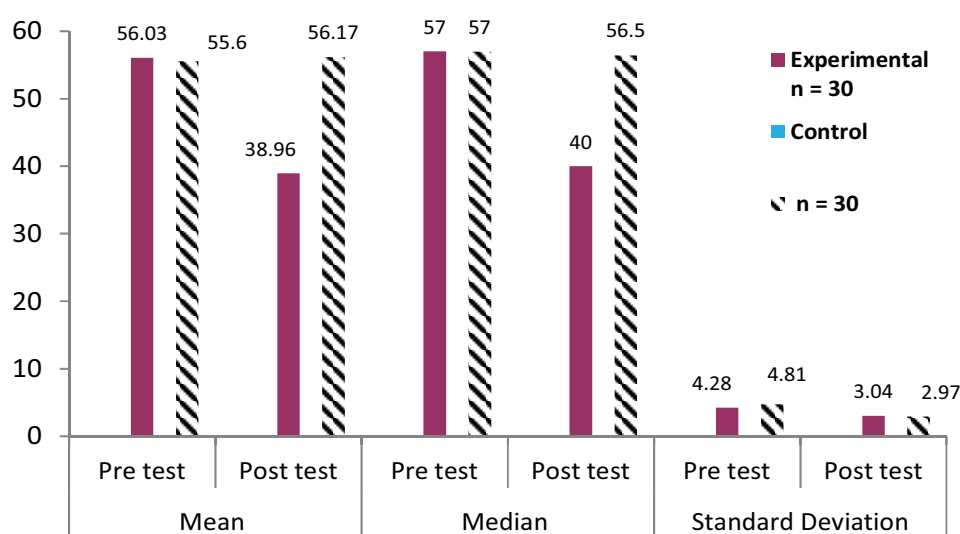


Figure 2: Mean, Median and Standard deviation of anxiety scores of antenatal mothers with PIH on Progressive muscle relaxation of experimental and control group

lected physiological parameters with the administration of progressive muscle relaxation technique which is in line with results of Seon Ae Yeo (June 3, 2008). This study emphasised that stretching exercise may be more effective at reducing the risk of pre-eclampsia than walking for pregnant women who have already experienced the condition and who do not follow a workout routine.

Conclusion

Progressive muscle relaxation was effective in decreasing the anxiety and in maintaining the physiological parameters of antenatal mothers with PIH. Therefore this technique can make a difference to antenatal mothers with PIH in allaying the anxiety and stabilising the selected physiological parameters and can help them to feel relaxed during pregnancy leading to a stabilised physiological parameter thereby improving the general condition during pregnancy.

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स्फूर्ति और राहत प्रदान करती है मालिश

थकावट दूर करने और शरीर को तरोताजा और चुस्त-दुरुस्त बनाए रखने के लिए मालिश कराए जाने की परंपरा बहुत पुरानी है। एक वक्त था जब हड्डी के पुराने दर्द से निजात पाने के लिए लोग मालिश करने वाले पहलवानों के पास जाया करते थे। अब शहरी इलाकों में अनेक मसाज सेंटर यानी मालिश कराने के अड्डे खुल गए हैं और जरूरतमंद और शौकीन लोग झुर्रियां हटाने, सुंदरता लाने और स्वास्थ्यलाभ के लिए वहां जाते हैं।

मालिश से लाभ

- किसी भी कारण से शरीर के जिस अंग में रक्त संचार शिथिल पड़ जाता है तो प्रतिक्रिया बतौर उन अंगों में तनाव उत्पन्न हो जाता है जो हड्डियों के दर्द का कारण है। मालिश से मांसपेशियों में रक्त संचार सक्रिय होता है और हड्डी या जोड़ों के दर्द में फायदा होता है। तनाव दूर होने से जो मानसिक सुकून मिलता है उसकी कुछ लोगों को लत भी लग जाती है।
- मालिश से चूंकि शारीरिक राहत के अलावा मानसिक आराम भी मिलता है अतः अनिद्रा में मालिश करवाना विशेषकर लाभकारी है। नींद लाने के लिए मेरुदंड (स्पाइनल कॉर्ड) की मालिश करना अधिक कारगर होता है।
- जोड़ों और हड्डियों के दर्द में राहत के लिए नियमित रूप से मालिश कराएं।
- प्रसव के बाद महिलाओं का पेट असामान्य तौर पर बढ़ जाता है। प्रसव के बाद करीब 8-10 दिन तक मालिश कराए जाने से स्थिति सामान्य हो जाती है अन्यथा सदा के लिए उनका पेट फूल सकता है। किंतु यह कार्य कुशल महिला द्वारा ही करवाया जाए।

पूरे बदन पर मालिश करनी हो तो शुरुआत पैरों या हाथों से कराएं। मालिश तेल से, पाउडर से या सूखे कैंसे भी की जा सकती है। पेट खराब होने की हालत में मालिश कराना ठीक नहीं है। मालिश के लिए शरीर को सख्त, समतल स्थान जैसे चटाई या दरी पर टिकाना चाहिए।

— टी.एन.ए.आई. प्रकाशन डेस्क