International Journal of Life Sciences, Biotechnology and Pharma Research Vol. 13, No. 12, December 2024 Online ISSN: 2250-3137
Print ISSN: 2977-0122

DOI: 10.69605/ijlbpr_13.12.2024.11

ORIGINAL RESEARCH

Effect of yoga therapy and neuro linguistic programming on fear and anxiety among labour going primigravida mothers

Dr. M. Sangeereni[1], Dr. Aswathi V S[2], Dr. B.R. Parthasarathy[3]

[1]Associate Professor, [2]Resident, Department of Obstetrics & Gynecology, Govt. Cuddalore Medical College & Hospital (Erstwhile Rajah Muthiah Medical College), Tamil Nadu, India
[3]Physical Therapist, Department of Physiotherapy, Govt. Cuddalore Medical College & Hospital (Erstwhile Rajah Muthiah Medical College), Tamil Nadu, India

Corresponding Author
Dr. Aswathi V S
Resident, Department of Obstetrics & Gynecology, Govt. Cuddalore Medical College & Hospital (Erstwhile Rajah Muthiah Medical College), Tamil Nadu, India
Email: draswathivs@gmail.com

Received Date: 15 October, 2024 Accepted Date: 17 November, 2024

ABSTRACT

Background: In primigravidas, childbirth can be a frightening event. The factors that accompany labour are anxiety, fear and pain. The aim of study is to investigate the benefits of yoga and Neuro Linguistic Programming for relieving fear, anxiety and pain during labour in primigravida woman. **Materials and Methods:** The study involved, 60 primigravida women who were randomly divided into 30 controls and 30 women undergo yoga and Neuro Linguistic Programming Anxiety, Depression and outcome of pregnancy were measured using Hamilton scale for anxiety, Hamilton depression scale and perceived stress scale. **Results:** Yoga and Neuro Linguistic Programming in the third trimester effectively reduces anxiety, fear and depression in pregnant woman and also improves newborn wellbeing.

Keywords: Yoga, Neuro Linguistic Program, primigravida, anxiety, depression

INTRODUCTION

Primigravida (PC) defined as a woman who conceives for the first time, is in a high-riskgroup. Pregnancy for must women, should be a period of great happiness and fulfilment. However,giving bird to child is one of the most intense experiences a woman can go through, so it isunderstandable that many women are nervous about childbirth. The fear of pregnancy is calledTokophobia. It is defined as an intense state of anxiety which leads some women to Fear childbirthand consequently to avoid pregnancy despite desperately Wanting a baby, with regard tochildbirth, it is probably normal to experience some Concern (or) anxiety. Twenty Percent ofpregnant women report fear of childbirth and 6 to 10% describe a severe fear that is crippling.However, this particular data is scarce in India, especially among rural Women who contributesignificantly to the Country's population. Yogic practices help to maintain a health mind and bodyin pregnancy. Yogic practices for pregnant women is given to increase strength, flexibility andendurance of pelvic Floor muscles needed for childbirth. Neuro-linguistic programming is a wayof changing Someone's thoughts and behaviours to help achieve desired outcome for them. It mayreduce anxiety and improve overall wellbeing. Labour is an emotional experience which involves bothPhysiological and psychological mechanisms. The pain of Labour is Severe where this memory diminishes with time.Both Yogic practices and Neuro Linguistic programming are administeredto reduce anxiety and Stress with Fear during labour.

DOI: 10.69605/ijlbpr_13.12.2024.11

Fig.1: Nadi Shuddhi Pranayama

MATERIALS AND METHODS

Research Design

The research design used is randomized controlled trial. 60 Primigravida pregnant mothers who are admitted at Govt Cuddalore Medical Collegeand Hospital for delivery are selected for this study.The research involves2 groups.Group A is experimental group who receive prenatal yoga therapy and Neuro Linguistic Training. Group B is control group who are in active rest during the entire period.Informed Consent will beobtained before starting the study from all subjects. Hamilton anxiety Questionnaire scale,Hamilton depression Questionnaire, perceived Stress scale and Blood Pressure are the outcomemeasures of this Study. This study assesses anxiety, depression and stress level in both groups before starting study and also after therapy in Group A and after delivery in both group within 1 week of child birth

Study Participant

The participants in this study is primigravida woman who met inclusion and exclusion criteria and voluntarily agreed to participate by signing informed consent. Target population for this study comprise primigravida patient in the Govt. Cuddalore medical College in the Chidambaram, Cuddalore, Tamil Nadu from January 2023 to January 2024 sample size is determined by the formula for unpaired numerical categorical data. In this study confidence level of 95% and power of test is 90%. Sample size is 60 primigravida woman who randomly categorized to Group A/Group B who either receives yoga and Neuro Linguistic Programor active rest.

The inclusion criteria include primigravida, third trimister of gestation, no risk factors, no comorbidities, willingness to participate in the study.While theexclusion criteria include multigravida first and second trimester complicated pregnancy, not willing to participate in the study. Subjects meets all inclusion criteria are included in the study and remaining areexcluded. 60 primigravidas who met inclusion criteria's are randomly assigned to two groups.

Fig 2: Patients performing Brhamari Pranayama

DOI: 10.69605/ijlbpr_13.12.2024.11

Variables, Instruments and Data collection

Variables

In this study, the independent variable was the prenatal yoga and neuro linguistic program performed by pregnant woman in treatment group. The control group will do active rest for same duration and frequency. The dependent variable includes stress, depression and anxiety in the antenatal period before therapy, after therapy and also in the postnatal period within one week of child birth. Also, data include vitals during labour, mode of delivery, duration of labour and APGAR of newborn at 1 minute and 5 minutes in both experiment group and control group.

Instrument

The instruments utilized in the study are valid and reliable, which include questionnaires, partogram scoring systems. The questionnaire used are Hamilton anxiety Questionnaire scale (HAM-A), Hamilton depression questionnaire (HAM-D), perceived stress scale. Hamilton anxiety questionnaire scale is used to assess anxiety in both groups in preand post therapy in antenatal period and also in postnatal period. Hamilton depression questionnaire scale is used to assess the depression level in the abovementioned groups.Preceived stress scale will assess the stress level in antenatal and postnatal period of both experiment and control group.Partogram is used during labour in all study subjects to assess progress of labour, duration of labour and vitals monitoring. APGAR score is used to assess the wellbeing of newborn at 1 minute and 5 minutes of life.

Data Collection

The research process begins by setting the goals, setting the inclusion and exclusion criteria and method of study.Then selected the subjects in accordance with the inclusion and exclusion criteria. Further research provides details of study to participants by explaining objective, methods and also participation is solely based on willingness. Following this willing participant signed the inform consent sheet after understanding it thoroughly. After assigning subjects into two groups randomly. First step was collection of anxiety, depression and stress in all subjects using questionnaires. Then experiment group received therapy and control group done active rest. After that both groups undergo reassessment of anxiety, stress level and also reassessed after delivery within first week.

Intervention

The treatment group received yoga with Neurolinguistic programme before getting into delivery. All respondents in this group followed the same yoga and Neuro Linguistic Programming protocol instructed by the same yoga and Neuro Linguistic Programming practitioner. Pre-test was assessed before and starting the training with Hamilton Anxiety questionnaire, Hamilton Depression Questionnaire, perceived stress scale for both experimental and control groups. The Yoga sequence includes introduction, about yoga with breathing practice, stabilization, side stretching, pelvic floor muscle training. Pranayama practice including Chandra Anuloma, Viloma, Chandra Bhedana, Brhamari,NadiShuddi. The above three pranayama regulates and balances the sympathetic and parasympathetic nerve system which makes the Primigravida pregnant women to gain Confidence about regulation of breath.After performing the yoga practice Neuro linguistic program for anxiety and depression were given.

Fig 3: Patient following and practicing Neuro Linguistic Programming techniques

Neuro linguistic programming includes reducing the anxiety which happens during the delivery methods and time. The methods are aimed at individuals with the goal of change and the biggest role of Neuro Linguistic Programming therapy is to reduce fear which can control negative emotions and feelings of anxiety. Neuro Linguistic Programming technique involves creating mental images and scenarios that

DOI: 10.69605/ijlbpr_13.12.2024.11

evoke positive emotions in the person instead of focusing on the negative outcomes, shifting the focus towards the positive once helps alleviate anxiety effectively. Neuro Linguistic Programming addresses both anxiety and depression as well as physical symptoms like pain and discomfort. Pain which is the main drawback causing discomfort was reduced by means of Neuro linguistic program.

Fig 4:Patient doing Sitkari (Cooling) Pranayama

Both Neuro Linguistic Programming and yoga are dealing with the mind and internal organs which balances the hormone systems and boosts the Pregnant women to face for delivery.This makes the experimental group pregnant women to Stabilise themselves and perform the delivery process with much confidence.

Data Analysis

The master chart was created using Microsoft excel 2019 and leaded onto SPSS version 26 for statistical analysis. The quantitative variables were expressed using mean and standard deviation. The qualitative variables using frequency and percentages. To compare the mean between two groups, independent samples t test was used. To compare the mean within the group, repeated measures ANOVA was used. A P value of less than 0.05 was considered to be statistical significance. To compare the distribution of qualitative variable between cases and controls, Pearson chi square test was used.

RESULTS

The result of characteristic of research subjects participated in the study are included in table 1.

Table 1: Comparison of baseline characteristics between cases and controls

Variable	Cases	Controls	T value	P value
Age (in years)	24.57 ± 5.71	25.33 ± 4.16	0.59	0.555
HDRS – pretherapy	9.10 ± 4.63	10.23 ± 4.29	0.98	0.330
HARS – Pretherapy	12.33±6.45	14.37±7.09	1.16	0.250

It can be concluded that the characteristics of the research subjects exhibit no significant difference indicating homogenicity, and so can be compared.The result revealed no difference in age between experiment and control group(P Σ 0.55), suggesting data followed a normal distribution

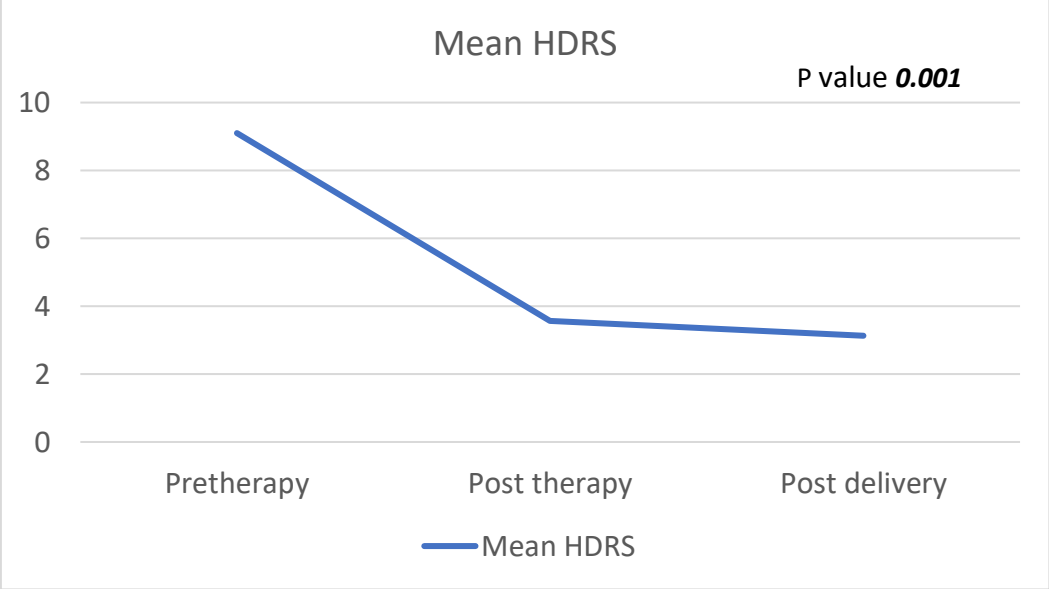
Table 2: The table and graph below shows difference in anxiety and depression between the pretherapy, post therapy and post delivery in both experiment and control group

Variable	Experiment	Controls	P value
Pretheraphy HDRS	9.10 ± 4.63	10.23 ± 4.29	0.330
Posttheraphy HDRS	3.86 ± 2.21	6.31 ± 3.01	0.120

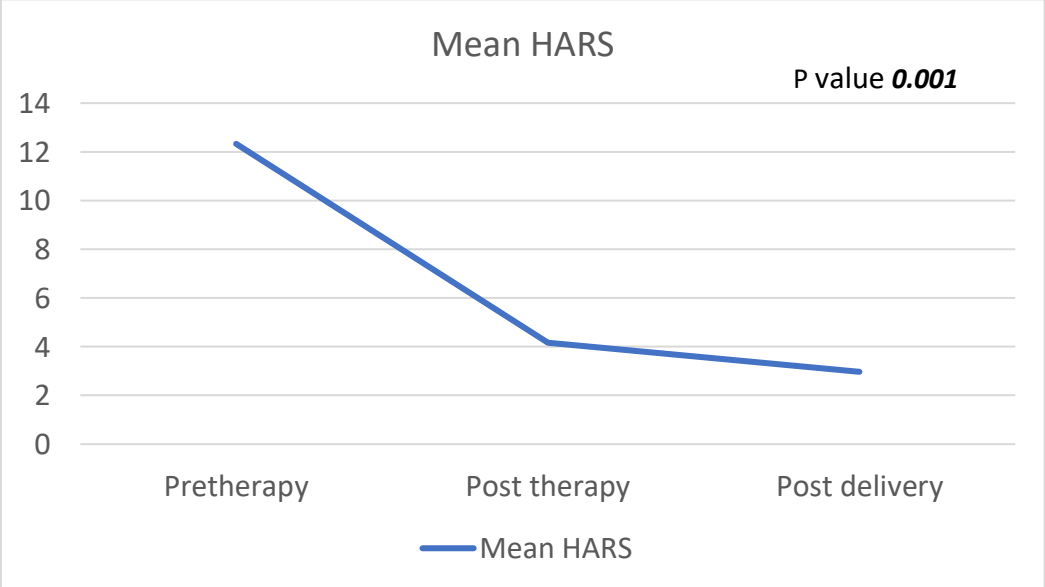
DOI: 10.69605/ijlbpr_13.12.2024.11

Postnatal HDRS	3.13 ± 1.77	4.03 ± 2.12	0.080
Pretheraphy HARS	12.33 ± 6.45	14.37 ± 7.09	1.16
Posttheraphy HARS	4.01 ± 3.34	5.21 ± 2.58	0.070
Postnatal HARS	2.97 ± 2.25	4.60 ± 2.63	0.012

Graph 1: Trend in HDRS score among the cases



Graph 2: Trend in HARS score among the cases



The result reveals that before treatment there is no significant difference in anxiety and depression score in both experiment and control group. However, after therapy like yoga, Neuro Linguistic Programming or active rest, a significant difference in anxiety and depression score observed between two groups that is $P < 0.05$. The experiment group experienced a decrease in both anxiety and depression both after therapy and after delivery.

Table 3 indicates distribution of mode of delivery between cases and controls.

Mode of delivery	Cases		Controls		X^2	P value
	N	%	N	%		
LSCS	16	53.3	15	50	0.366	0.833
Normal vaginal	13	43.3	13	43.3		
Assisted vaginal	1	3.3	2	6.7		

The number of subjectsunderwent LSCS, normal delivery and instrument delivery in both groups are almost same.So not significant with the P value >0.05.

DOI: 10.69605/ijlbpr_13.12.2024.11

Table 4 shows comparison of APGAR scores between cases and controls.

APGAR scores		Cases		Controls		X^2	P value
		N	%	N	%		
1 minute	<4	2	6.7	3	10	12.93	0.002
	4-7	27	90	15	50		
	>7	1	3.3	12	40		
5 minutes	4-7	5	16.7	10	33.3	2.22	0.136
	>7	25	83.3	20	66.7		

It shows a significant difference in improved APGAR at 5 minutes in the experiment group is 88% newborn have >7 APGAR in experiment group when in control group only 66.7% newborn have>7 APGAR at 5 minutes of life.

DISCUSSION

The fear of labour during pregnancy (tokophobia) can have several effects on expectant mother like increased anxiety and stress, depression impact on birth choices, disrupted bonding negative birth experiences and impact on partner and support system.

Fear of labour can lead to heightened stress and anxiety throughout pregnancy.This prolonged stress may have negative effect on both the mothers physical and emotional wellbeing and also can affect the unborn baby like prolonged labour, fetal distress,fatigue.Anxiety can manifest through various symptoms including variation in vitals like elevated pulse and BP jerkymovement and physical changes as muscle tightness.Yoga and Neuro Linguistic Programming can reduce this and can enhance body equilibrium. Itinfluences neurotransmitter in brain, promoting serotonin and endorphins while reduces stress hormone. This point is again provided in our study that yoga, Neuro Linguistic Programming has reduced anxiety in experimental group significantly and that also indicated by the improved APGAR at 5 minutes in the experiment group

Depression during pregnancy also known as antenatal depression can have effect on both mother and developing baby. It can cause maternal health, mother child relationship, postpartum depression, impact on neuro development of fetus and increased risk of behavioural and emotional problems in late life.Yoga and Neuro Linguistic Programming can decrease the depression during pregnancy and thus can reduce these adverse effects.In our study also, yoga and Neuro Linguistic Programming show a significant reduction($P<0.05$) of depression in experiment group than in control group

Yoga can give both physical and emotional benefit, yoga involves gentle stretching, breathing exercises and relaxation techniques that can help allevate physical discomforts associated with pregnancy such as back pain and fatigue. Yoga also promotes mindfulness and relaxation, which can help reduce anxiety and depression by calming mind and body.It also encourages bonding between mothers and babies fostering a sense of connection and wellbeing

Neuro Linguistic Program helps in cognitive restructuring, anchoring techniques and empowerment Neuro Linguistic Programming can help pregnant woman reframe, negative thought and belief about labour, childbirth and motherhood, reducing the anxiety and fear and Neuro Linguistic Programming tools for creating positive anchors are triggers that can be used to evoke feeling of calmness and confidence during stressful situations, including labour and delivery Neuro Linguistic Programming woman to take control of their thoughts and emotions, enabling them to approach pregnancy and birth, with positive mindset and greater resilience

Both yoga and Neuro Linguistic Programming can complement traditional medical care and psychotherapy in managing anxiety, fear and depression during pregnancy. However, it's essential for pregnant woman to consult their healthcare providers before starting a new exercise or wellness program including yoga.

CONCLUSION

Yoga and Neuro Linguistic Programming in the third trimester effectively reduces anxiety, fear and depression in pregnant woman and also improves newborn wellbeing. These findings suggest that yoga and Neuro Linguistic Programming during pregnancy can enhance mental health and have a positive attitude towards pregnancy and labour.Healthcare providers can incorporate yoga and Neuro Linguistic Programming to promote relaxation, reduce anxiety, depression, and improve newborn health.

Scope of further studies

Further studies can be conducted to assess the long-term benefits of yoga and Neuro Linguistic Programming on both maternal and newborn outcome and to develop guidelines for its scientific and safe application in various healthcare settings

Conflict of Interests: The authors declare that they have no conflict of interests

Ethics approval and consent to participate: Not applicable

Consent for publication: Not applicable

Competing interests: The authors declare no competing interests

Funding: Not applicable

Availability of data and materials: Data will be made available on request

DOI: 10.69605/ijlbpr_13.12.2024.11

REFERENCES

1. Deshpande CS, Rakshani A, Nagarathna R, Ganpat TS, Kurpad A1, Maskar R, Nagendra HR, Sudheer DC, Abbas R, Raghuram N, Anura K, Rita M, Ramarao NH. Yoga for High-Risk Pregnancy: A Randomized Controlled trial. Annals of Med and Helth Science Research 10.4103/2141-9248.117933
2. Manoj Sharma, Paul Branscum. Yoga Interventions in Pregnancy: A Qualitative Review. Journal of alternative and complementary medicine. 10.1089/acm.2014.0033
3. Fatemah Shobeiri1, Susan Khaledi2, Seyedeh Zahra Masoumi and Ghodratola Roshannaei. The effect of music theraphy counceling on sleep quality in pregnant women. International Journal of Medical Research and Health Sciences, 2016, 5, 9S:4018-416
4. Esin Ceber. The effects of music theraphy applied to pregnant women on maternal, fetal and neonatal results: A randomized controlled study. Healthcare for women International. 10.1080/07399332.2021.1944150
5. Nursel alp Dal, Erdinc Saridogan, Sureyya Gumussoy, Cagdas Ozdemir. The effect of pregnancy yoga on breastfeeding self-efficacy and prenatal attachment: A semi-experiment study. International Medicine. Jan 2021
6. Budiman MEA, Sari SNJ, Kusumawardani W, Sutopo D. Strategy Intervention to Prevent and Reduce Postpartum Depression: A Systematic. J Ners 2019;14.
7. Herawati C, Suwandono A, Putra ST, Rahmi FL, Syukur MA, Sakti H, et al. Effect of psychoeducation-modification on the improvement of spiritual response, perception stigma, anxiety level and cortisol levels among lepers. Indian J Public Heal Res Dev 2019;10:1873-8.
8. Akinloye O, Obikoya O, Jegede A, et al. Cortisol plays central role in biochemical changes during pregnancy. Int J Med Biomed Res 2013;2:3-12.
9. Diana S, Wahyuni CU, Prasetyo B. Maternal complications and risk factors for mortality. J Public Health Res 2020;9:195- 8.
10. Warburton DER, Nicol CW, Bredin SSD. Health benefits of physical activity: the evidence. C Can Med Assoc J 2006;174:801-9
11. Kwon R, Kasper K, London S, Haas DM. A systematic review: The effects of yoga on pregnancy. Eur J Obstet Gynecol Reprod Biol 2020;250:171-7.
12. Nur A, Kusnanto K, Amin M, et al. The Effect of Combination Pranayama Yoga and Endurance Training Exercise on Peak Expiratory Flow (PEF) in Adult Asthmatic Patients. J Keperawatan Padjadjaran 2020;8:136-49.
13. Shivakumar G, Brandon AR, Snell PG, et al. Antenatal depression: a rationale for studying exercise. Depress Anxiety 2011;28:234-42.
14. Mohyadin E, Ghorashi Z, Molamomanaei Z. The effect of practicing yoga during pregnancy on labor stages length, anxiety and pain: a randomized controlled trial. J Complement Integr Med 2020;18:413-7.
15. Bolanthakodi C, Raghunandan C, Saili A, et al. Prenatal Yoga: Effects on Alleviation of Labor Pain and Birth Outcomes. J Altern Complement Med 2018;24:1181-8.
16. Rong L, Dai L-J, Ouyang Y-Q. The effectiveness of prenatal yoga on delivery outcomes: A meta-analysis. Complement Ther Clin Pract 2020;39:101157.
17. Gong H, Ni C, Shen X, et al. Yoga for prenatal depression: a systematic review and meta-analysis. BMC Psychiatry 2015;15:14
18. Kusaka M, Matsuzaki M, Shiraishi M, Haruna M. Immediate stress reduction effects of yoga during pregnancy: One group pre-post test. Women Birth 2016;29:e82-8.
19. Putri AMS, Mahindra MP, Mapindra MP, et al. Effectiveness of Participation in Pregnancy Classes to Reduce the Incidence of Obstetric Labor Complications and Cesarean Section. Indones J Obstet Gynecol 2022;10:229-34.
20. Curtis K, Weinrib A, Katz J. Systematic review of yoga for pregnant women: current status and future directions. Evid Based Complement Alternat Med 2012;2012:715942.
21. Renuka K, Devi MA. Yoga in pregnancy. Pondicherry J Nurs 2020;13:96-100.
22. Campbell V, Nolan M. “It definitely made a difference”: A grounded theory study of yoga for pregnancy and women’s self-efficacy for labour. Midwifery 2019;68:74-83.
23. Yekefallah L, Namdar P, Dehghankar L, et al. The effect of yoga on the delivery and neonatal outcomes in nulliparous pregnant women in Iran: a clinical trial study. BMC Pregnancy Childbirth 2021;21:351.