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Research Article

Application of selected yoga on maternal outcome among primigravida mothers attending antenatal OPD at Government Rajaji Hospital, Madurai.

¹S. Rajeswari, ²N. Afrin Banu

¹ College of Nursing, Madurai Medical College, Madurai, Tamil Nadu, India.

² Department of Oncology, Tanjore Medical College and Hospital, Tamil Nadu, India.

Author Designation: ¹ Assistant Professor, ² Nursing Officer

*Corresponding author: Dr. S. Rajeswari

Abstract:

Background: Maternal health serves as a vital indication of healthcare service quality. Prenatal yoga is acknowledged as a safe and beneficial practice that enhances physical and psychological health throughout pregnancy and may improve maternal outcomes. **Aim:** The study aimed to evaluate the efficacy of specific yoga interventions on maternal outcomes in primigravida moms visiting the antenatal outpatient department of Government Rajaji Hospital, Madurai. **Methods:** A quantitative research methodology utilizing a quasi-experimental non-equivalent post-test only control group design was employed. The research involved 60 primigravida moms chosen via non-probability sequential sampling, with 30 mothers allocated to both the experimental and control groups. The experimental group engaged in specific yoga activities. Maternal outcomes were evaluated post-delivery utilizing a standardized Maternal Outcome Scale. The data were examined employing descriptive and inferential statistics. **Results:** The data indicated that 73.3% of mothers in the experimental group experienced normal vaginal delivery, in contrast to 30.0% in the control group. The post-test mean maternal outcome score was markedly elevated in the experimental group (27.10 ± 5.93) compared to the control group (20.20 ± 8.17) ($t = 3.74$, $p < 0.001$). **Conclusion:** The selected yoga activities significantly enhanced maternal outcomes in primigravida moms and may be integrated into standard antenatal care.

Key words: Maternal health, prenatal yoga, primigravida mothers.

INTRODUCTION

Women are essential to society, and maternal health continues to be a significant public health issue globally. Pregnancy entails substantial physical and psychological transformations, and it is crucial to maintain maternal well-being during pregnancy, childbirth, and the postpartum phase. Notwithstanding advancements in healthcare, maternal mortality and morbidity persistently impact numerous women, especially in developing areas. The style of delivery affects maternal outcomes, with vaginal delivery typically linked to less difficulties compared to cesarean section.

Contemporary lifestyle modifications, such as sedentary behavior, unhealthy eating practices, stress, and diminished engagement in prenatal workouts, have led to an increase in cesarean section rates both internationally and in India. Prenatal yoga, a comprehensive practice that combines physical postures, breathing exercises, and relaxation techniques, is acknowledged as a safe and beneficial intervention during pregnancy. It alleviates tension, anxiety, labor pain, and pregnancy-related discomforts while enhancing physical fitness, blood circulation, muscular strength, and readiness for birthing.

Research indicates that yoga facilitates favorable mother outcomes, decreases labor time, improves coping mechanisms during labor, and may diminish the incidence of needless cesarean sections. This study intends to assess the efficacy of specific yoga practices on maternal outcomes

in primigravida moms, in light of the rising inclination towards cesarean deliveries and the low engagement in yoga among pregnant women, while also advocating for normal vaginal delivery.

AIM OF THE STUDY

The study aimed to evaluate the application of selected yoga on maternal outcome among primigravida mothers attending antenatal OPD in Government Rajaji Hospital, Madurai.

METHODOLOGY

The research employed a quantitative methodology utilizing a quasi-experimental non-equivalent post-test only control group design to assess the efficacy of specific yoga practices on maternal outcomes in primigravida moms. The research was performed in the Antenatal Outpatient Department of Government Rajaji Hospital, Madurai. Sixty primigravida moms were recruited by a non-probability sequential sampling method and allocated into experimental (30) and control (30) groups.

Primigravida moms at 36 weeks of gestation who consented to participate and possessed a mobile phone were included in the study. Mothers with significant medical or obstetric difficulties, mental disorders, advanced maternal age, and those already engaged in yoga were excluded. Data were gathered via a standardized instrument that included socio-demographic information, clinical factors, and a Maternal Outcome Scale. The experimental group was provided with demonstrations of specific yoga practices,

including Pranayama, Baddha Konasana, Malasana, and Shavasana, followed by consistent practice and online follow-up sessions. Maternal outcomes were evaluated post-delivery with the structured maternal outcome scale.

Ethical approval was secured from the Institutional Ethics Committee of Madurai Medical College, Madurai. Informed consent, both written and verbal, was acquired from all participants, and confidentiality was upheld throughout the investigation. The gathered data were systematically arranged, tabulated, and analyzed employing descriptive and inferential statistics. Frequency and percentage were utilized to characterize the sample, whereas the unpaired t-test and chi-square test were applied to assess the intervention's efficacy and the correlation between maternal outcomes and selected variables.

RESULT

Table 1 shows that most mothers in the experimental group were aged 18–22 years (60.0%), whereas the majority in the control group were aged 23–34 years (70.0%). Most participants were from urban areas (80.0% and 70.0%), belonged to nuclear families (80.0% and 86.7%), followed a mixed diet (96.7% and 100.0%), had normal BMI (100.0% and 96.7%), haemoglobin levels of 10–11 g/dl (83.3% and 70.0%), and LOA fetal position (76.7% and 50.0%) in the experimental and control groups respectively.

Table 2 reveals that the experimental group had a higher rate of vaginal delivery (73.3% vs. 30.0%), absence of labour induction (80.0% vs. 36.7%), absence of meconium-stained liquor (73.3% vs. 30.0%), Apgar score of 9 (83.3% vs. 43.3%), birth weight of 2.5–4 kg (80.0% vs. 36.7%), immediate ambulation (80.0% vs. 36.7%), and easy birthing experience (80.0% vs. 36.7%) compared to the control group, indicating better maternal outcomes among mothers who practiced selected yoga.

The table 3 presents a comparison of post-test maternal outcome scores between the experimental and control groups. The experimental group had a superior mean score (27.10 ± 5.93) compared to the control group (20.20 ± 8.17), resulting in a mean difference of 6.90. The calculated unpaired t value was 3.74, with a p value of 0.000, signifying a statistically significant difference between the groups. This study indicates that the chosen yoga regimen was beneficial in enhancing maternal outcomes for primigravida moms.

DISCUSSION

The present study was conducted to evaluate the effectiveness of selected yoga practices on maternal outcomes among primigravida mothers attending the antenatal outpatient department of Government Rajaji Hospital, Madurai. The findings revealed that mothers in the experimental group who practiced selected yoga demonstrated significantly better maternal outcomes than those in the control group.

Regarding maternal outcomes, the majority of mothers in the experimental group had normal vaginal delivery (73.3%), whereas only 30.0% of mothers in the control group had vaginal delivery. The incidence of LSCS was considerably lower in the experimental group (10.0%) compared to the control group (30.0%). Most mothers in the experimental group did not require induction of labour (80.0%), had absence of meconium-stained liquor (73.3%), and reported an easy birthing experience (80.0%). Better neonatal outcomes were also observed, with 83.3% of newborns attaining an Apgar score of 9 and 80.0% having a birth weight between 2.5–4 kg.

The comparison of post-test maternal outcome scores showed that the experimental group obtained a higher mean score (27.10 ± 5.93) than the control group (20.20 ± 8.17). The obtained unpaired t value of 3.74 was statistically highly significant ($p < 0.001$), indicating that selected yoga practices were effective in improving maternal outcomes among primigravida mothers.

The study also examined the association between maternal outcomes and selected socio-demographic and clinical variables in the control group. Haemoglobin level showed a significant association with maternal outcome ($\chi^2 = 9.54$, $p = 0.05$), whereas all other variables had no significant association. Overall, the findings support the effectiveness of selected yoga practices in promoting favorable maternal and neonatal outcomes among primigravida mothers.

CONCLUSION

The study concluded that selected yoga practices were effective in improving maternal outcomes among primigravida mothers. Mothers who practiced yoga experienced a higher rate of normal vaginal delivery, fewer maternal and neonatal complications, and a better birthing experience. The experimental group demonstrated significantly higher maternal outcome scores than the control group. Therefore, yoga can be considered a beneficial antenatal intervention for promoting safe motherhood and positive birth outcomes.

REFERENCES:

- Allen, J. C., et al. (2022). Maternal health outcomes in relation to mode of delivery: A comparative study. *Journal of Obstetrics and Gynecology Research*, 48(2), 215–223.
- Betrán, A. P., Ye, J., Moller, A. B., Zhang, J., Gülmezoglu, A. M., & Torloni, M. R. (2016). The increasing trend in caesarean section rates: Global, regional and national estimates. *PLOS ONE*, 11(2), e0148343.
- Middleton, P., Shepherd, E., & Crowther, C. A. (2020). Induction of labour for improving birth outcomes for women at or beyond term. *Cochrane Database of Systematic Reviews*, (7).
- Molina, G., et al. (2015). Relationship between cesarean delivery rate and maternal and neonatal mortality. *JAMA*, 314(21), 2263–2270.
- Satyapriya, M., Nagendra, H. R., Nagarathna, R., & Padmalatha, V. (2013). Effect of integrated yoga on stress and heart rate variability in pregnant women. *International Journal of Gynecology & Obstetrics*, 122(1), 70–72.
- Wellock, K. (2007). Normal pregnancy: Women's expectations, experiences and psychological well-being. *British Journal of Midwifery*, 15(1), 17–20.
- Field, T., Diego, M., Hernandez-Reif, M., Medina, L., Delgado, J., Hernandez, A., & Schanberg, S. (2012). Yoga and social support reduce prenatal depression, anxiety and cortisol. *Journal of Bodywork and Movement Therapies*, 16(2), 204–209.
- Narendran, S., Nagarathna, R., Narendran, V., Gunasheela, S., & Nagendra, H. R. (2005). Efficacy of yoga on pregnancy outcome. *The Journal of Alternative and Complementary Medicine*, 11(2), 237–244.
- Beddoe, A. E., & Lee, K. A. (2008). Mind-body interventions during pregnancy. *Journal of Obstetric, Gynecologic & Neonatal Nursing*, 37(2), 165–175.
- Chuntharapat, S., Petpichetchian, W., & Hatthakit, U. (2008). Yoga during pregnancy: Effects on maternal comfort, labor pain and birth outcomes. *Complementary Therapies in Clinical Practice*, 14(2), 105–115.
- Newham, J. J., Wittkowski, A., Hurley, J., Aplin, J. D., & Westwood, M. (2014). Effects of antenatal yoga on maternal anxiety and depression: A randomized controlled trial. *Depression and Anxiety*, 31(8), 631–640.
- Jiang, Q., Wu, Z., Zhou, L., Dunlop, J., & Chen, P. (2015). Effects of yoga intervention during pregnancy: A review for current status. *American Journal of Perinatology*, 32(6), 503–514.

Table 1: Demographic data of primigravida mothers in experimental and control groups. (N = 60)

S. No.	Variable	Category	Experimental n (%)	Control n (%)
1	Age Range	18–22 years	18 (60.0)	9 (30.0)
		23–34 years	12 (40.0)	21 (70.0)
2	Place of Domicile	Rural	4 (13.3)	7 (23.3)
		Suburban	2 (6.7)	2 (6.7)
		Urban	24 (80.0)	21 (70.0)
3	Type of Family	Joint family	6 (20.0)	4 (13.3)
		Nuclear family	24 (80.0)	26 (86.7)
4	Dietary Pattern	Mixed diet	29 (96.7)	30 (100.0)
		Vegetarian	1 (3.3)	0 (0.0)
5	Educational Status of Mother	Graduation	14 (46.7)	12 (40.0)
		Illiterate	1 (3.3)	1 (3.3)
		Schooling	15 (50.0)	17 (56.7)
6	Occupation of Husband	Government	2 (6.7)	4 (13.3)
		Private	28 (93.3)	26 (86.7)
7	Occupation of Mother	Government employee	0 (0.0)	1 (3.3)
		Home maker	30 (100.0)	21 (70.0)
		Private employee	0 (0.0)	4 (13.3)
		Self-employed	0 (0.0)	3 (10.0)
		Daily wages	0 (0.0)	1 (3.3)
8	Monthly Income (Rs.)	> 9098	30 (100.0)	30 (100.0)
		4549–9097	0 (0.0)	0 (0.0)
		2729–4548	0 (0.0)	0 (0.0)
		1364–2728	0 (0.0)	0 (0.0)
		< 1364	0 (0.0)	0 (0.0)
9	Source of Information on Yoga	Books	3 (10.0)	5 (16.7)
		Family and Friends	6 (20.0)	4 (13.3)
		Healthcare Professional	14 (46.7)	9 (30.0)
		Social Media/Internet	3 (10.0)	1 (3.3)
		Unknown	4 (13.3)	11 (36.7)
10	Height of Mother	151–156 cm	29 (96.7)	27 (90.0)
		≥157 cm	1 (3.3)	3 (10.0)
11	BMI	18.5–24.5 kg/m ²	30 (100.0)	29 (96.7)
		25–29.9 kg/m ²	0 (0.0)	1 (3.3)
12	Haemoglobin	<10 g/dl	1 (3.3)	1 (3.3)
		10–11 g/dl	25 (83.3)	21 (70.0)
		>11 g/dl	4 (13.3)	8 (26.7)
13	Blood Pressure	<120/80 mmHg	24 (80.0)	30 (100.0)
		120/80 mmHg	6 (20.0)	0 (0.0)
14	Random Blood Sugar	100–120 mg/dl	30 (100.0)	30 (100.0)
15	Position of Fetus	LOA	23 (76.7)	15 (50.0)
		ROA	7 (23.3)	15 (50.0)

Table 2: Comparison of Maternal Outcomes between Experimental and Control Groups. N=60

S. No.	Variable	Category	Experimental n (%)	Control n (%)
1	Mode of Delivery	LSCS	3 (10.0)	9 (30.0)
		Vacuum Delivery	5 (16.7)	12 (40.0)
		Vaginal Delivery	22 (73.3)	9 (30.0)
2	Induction of Labour	No	24 (80.0)	11 (36.7)
		Optional	3 (10.0)	10 (33.3)
		Yes	3 (10.0)	9 (30.0)
3	Meconium-Stained Liquor	Absent	22 (73.3)	9 (30.0)
		Thick	4 (13.3)	9 (30.0)
		Thin	4 (13.3)	12 (40.0)
4	Apgar Score at 1 Minute	7	3 (10.0)	0 (0.0)
		8	2 (6.7)	6 (20.0)
		9	25 (83.3)	13 (43.3)
		10–19	0 (0.0)	11 (36.7)
5	Baby Weight	< 2.5 kg	3 (10.0)	18 (60.0)
		> 4 kg	3 (10.0)	1 (3.3)
		2.5–4 kg	24 (80.0)	11 (36.7)
6	Blood Transfusion	No	24 (80.0)	11 (36.7)
		On Observation	2 (6.7)	10 (33.3)
		Transfused	4 (13.3)	9 (30.0)
7	Ambulation	Delayed	3 (10.0)	9 (30.0)
		Immediate (within 2 hrs)	24 (80.0)	11 (36.7)
		Took > 2 hrs	3 (10.0)	10 (33.3)
8	MICU Admission	No	24 (80.0)	11 (36.7)
		Observation	3 (10.0)	10 (33.3)
		Under Admission	3 (10.0)	9 (30.0)
9	NICU Admission	No	24 (80.0)	11 (36.7)
		Observation	3 (10.0)	10 (33.3)
		Under Admission	3 (10.0)	9 (30.0)
10	Birthing Experience	Better	3 (10.0)	9 (30.0)
		Difficult	3 (10.0)	10 (33.3)
		Easy	24 (80.0)	11 (36.7)

Table 3: Comparison of Post-Test Maternal Outcome Scores between Experimental and Control Groups Using

Group	N	Mean	SD	Mean Difference	Unpaired t Value	p Value
Experimental	30	27.10	5.93	6.90	3.74	0.000***
Control	30	20.20	8.17			

Table 4: Association Between Maternal Outcome and Selected Socio-Demographic and Clinical Variables Among

S. No.	Variable	χ^2 Value	df	p Value	Significance
1	Age Range	0.77	2	0.68	NS
2	Place of Domicile	6.01	4	0.20	NS
3	Type of Family	1.99	2	0.37	NS
4	Dietary Pattern	0.00	1	1.00	NS
5	Educational Status	2.36	4	0.67	NS
6	Occupation of Husband	3.43	2	0.18	NS
7	Occupation of Mother	6.02	8	0.65	NS
8	Income	0.00	1	1.00	NS
9	Source of Information on Yoga	5.35	8	0.72	NS
10	Height	1.94	2	0.38	NS
11	BMI	2.41	2	0.30	NS
12	Haemoglobin	9.54	4	0.05	Significant
13	Blood Pressure	0.00	1	1.00	NS
14	Random Blood Sugar	0.00	1	1.00	NS
15	Fetal Heart Rate	0.00	1	1.00	NS

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