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EFFECTIVENESS OF NESTING ON BIO-PHYSICAL PARAMETERS AND SUCKING RESPONSE OFLOW BIRTH WEIGHT BABIES

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Abstract
Introduction :babies are the weak ones in our population, giving birth is a most bliss full and awesomething in one's life, and they are our future, we are doing all our life planning's for them new-borns arethe most susceptible group when it comes to adjusting to their new surroundings and they need a great care and attention ;,the objectives of this study is to assess and do the comparison in the selected bio-physical parameters(basic life variables) and sucking response in the babies with less than normal birth weight(1.5-2.4 kg), in the observational and restrained group, research methods in this study non-probability purposive sampling method is used for the collection of sample, the study used, total 60 samples from the selected hospitals of Pune, and data collected during the monthof February and march in 2022, result in this present study carried out for three consecutive days and used an observational technique , to collect data from total 60 samples ,and data collected from the NICU of selected hospitals in Pune city, and the study is showing gradual improvement of bio- physical and sucking response in each post experimental day, than the controlled group, the observational group shows that the improvement in saturation and temperature and stabilization in heart rate and respiratory rate, conclusion of the study shows nesting is a very helpful comfort measure which can use in improvement or the proper development of health status of low birth weight babies, and helps to reduce the stress and mortality and morbidity of the less birth weight babies

Keywords: Nesting, Bio-Physical Parameters, Sucking, Low Birth Weight Babies.

Introduction India is a tremendous nation where 74% population is living in an undeveloped area and the neonatal death rate is twofold more than the metropolitan city accounts shows that 1.2-5 million infants pass annually in India, so as per that infant needs various dynamic postural control which permits a living framework in the dynamic development of the babies the way the infant is positioned is critical; birth weight is also critical for the child's brain development, further physical development and continuance there. It is a significant risk factor for the death and morbidity of children.

So there are so many comfort measures are available nowadays in that nesting is one popular methodwhich states that it will help to reduce the stress levels in low birth weight babies and will help them to have a womb-like feeling, that the baby become more comfortable in their surroundings and thereare so many studies which state that nesting is suggested as a method of reducing stress and to keepthe parameters and helping to reduce the mortality and morbidity in low birth weight babies

Objectives

1 To assess the selected Bio-physiological parameters and sucking response among thelow birth weight babies

2 To assess the effectiveness of nesting on the bio-physiological parameters and suckingresponse among the low birth weight babies in the experimental group

3 To compare the bio-physiological parameters and sucking response among the low birth weight babies between experimental and controlled group

4 To associate the findings with the selected demographic variable

Methods

The present study was instigated in the neonatal intensive care units of selected hospitals in Pune city.The samples were the babies with birth weight between 1.5 hg-2.4kg available in the NICU, the total sample size is 60, which were divided in to two groups 30 in experimental group and 30 in controlled group and there were adopted in purposive sampling technique after considering inclusion -exclusion criteria, informed consent are obtained from both groups Non-equivalent pre-test-post-test design is used in the present study., the approach is quantitative. In this present study observation of the babies was provided nesting technique for 6 hours every day, it is provided three consecutive days. And the assessment done immediately after the procedure, Results are showing a marked increase in biophysical parameters and helped in the stabilization of the heart rate and respiratory rate, and marked improvement in sucking, the study shows after the experiment the point of temperature

increased from 8.3 to 17.2, and the pulse rate is increased from the point of 1.4 to 2.1, and respiratoryrate stabilized from the point of 0.8 to 1.0 and sucking response e improvement in the point of 3.2 to
17. In this study reliability was assessed by using the inter-rater reliability method, Cohen kappa wasfound to be 0.92

Table No 1: Details of demographic variables of mothers and its frequency percentage n=30, 30

Demographic variable	Control Group		perimentalGroup	
	Frequency	%	Frequency	%
Age of the mother in years				
Within 25 years	16	53.3%	15	50.0%
Between25 - 30 years	8	26.7%	13	43.3%
More than 30 years	6	20.0%	2	6.7%
Height of the mother				
Till 150 cm	7	23.3%	7	23.3%
More than 150 cm	23	76.7%	23	76.7%
Type of conception				
Normal	23	76.7%	21	70.0%
Assisted reproductive technique	7	23.3%	9	30.0%
Parity				
Gravida-1	19	63.3%	15	50.0%
Multigravida	11	36.7%	15	50.0%
Any Risk during Pregnancy				
Nil	12	40.0%	23	76.7%
Pregnancy InducedHypertension	12	40.0%	1	3.3%
Anemia	6	20.0%	6	20.0%
Method of previous labor				
Natural childbirth	22	73.3%	22	73.3%
LSCS	8	26.7%	8	26.7%
Birth interval between children				
Lesser than 2 years	9	30.0%	0	0.0%
above 2 years	2	6.7%	16	53.3%
Exclusion	19	63.3%	14	46.7%

Table No 2: Description of samples according to their personal characteristics

n=30, 30

Demographic variable	Control		Experimental	
	Frequency	%	Frequency	%
Age of the baby				
Day of birth	10	33.3%	17	56.7%
Next day of birth	13	43.3%	7	23.3%
After two days of birth and more	7	23.3%	6	20.0%
Birth weight of the baby				
1500-2000 grams	13	43.3%	11	36.7%

2100-2400 grams	17	56.7%	19	**63.3%**
Gestational age at birth				
37 weeks of pregnancy	8	26.7%	10	**33.3%**
36 weeks of pregnancy	12	40.0%	11	**36.7%**
35 weeks of pregnancy	10	33.3%	9	**30.0%**
Birth number of thechild				
First child	19	63.3%	14	**46.7%**
Second child	11	36.7%	16	**53.3%**
Mode of sucking				
Nutritious Sucking	7	23.3%	10	**33.3%**
Non-Nutritious Sucking	**23**	**76.7%**	**20**	**66.7%**

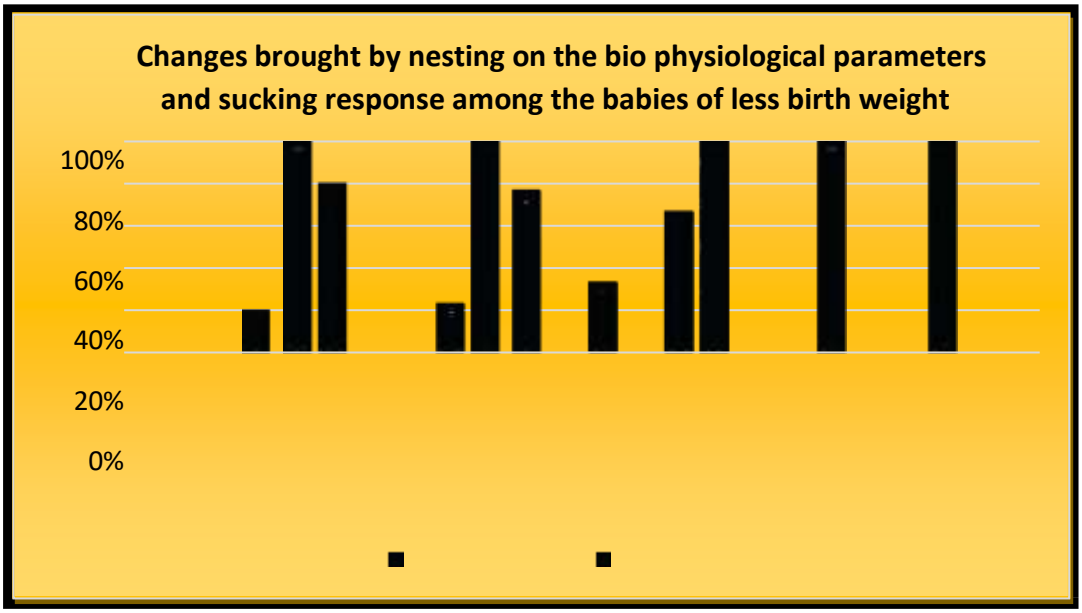
Table No: 3 Bio-physiological parameters (vital variables) and sucking response among the lessbirth weight babies

n=30, 30

Parameter	**Experimental Group**		**Controlled group**	
	Mean	**Standard deviation**	**Mean**	**Standarddeviation**
Body temperature	93.0	0.6	93.9	**0.8**
Pulse	155.9	1.5	154.7	**3.0**
Respiratory rate	46.5	1.4	41.6	**1.4**
SpO2	88.9	0.8	89.5	**1.0**
Sucking Response score	**3.2**	**2.0**	**7.4**	**3.6**

Picture No: 1- Effect of nesting on the bio-physical parameters and sucking response ofthe neonates less than normal birth weight

n=30



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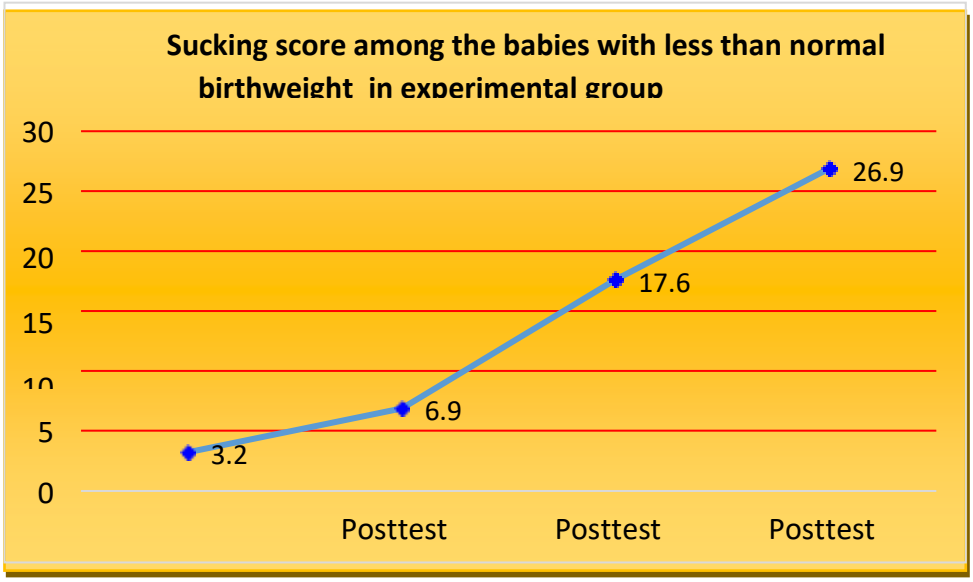
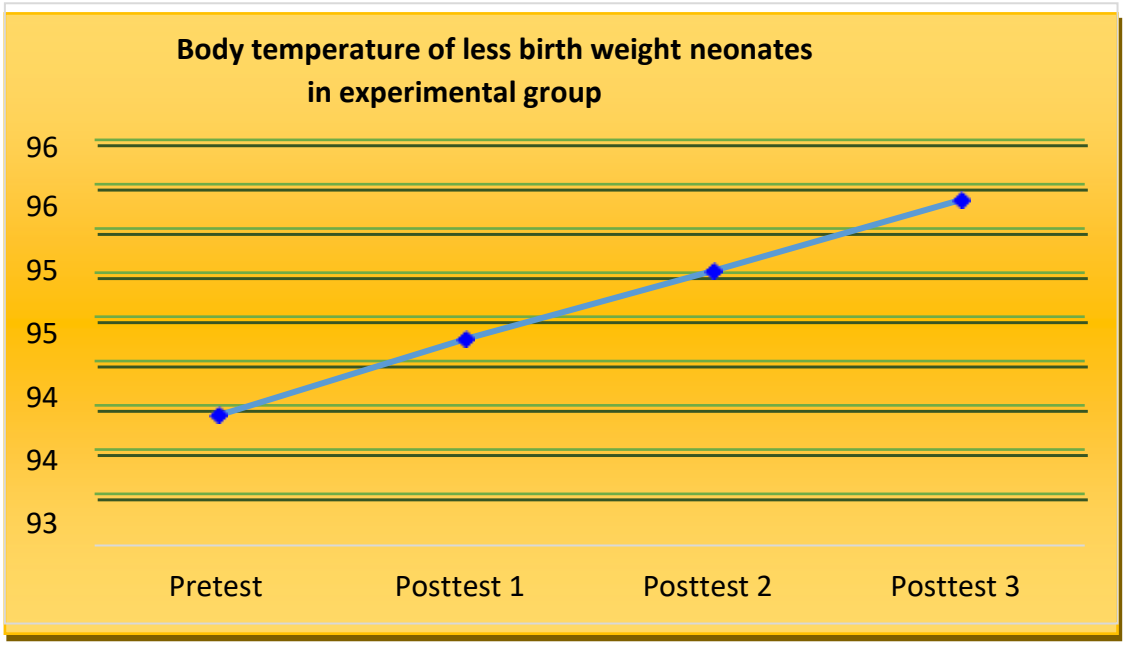
Picture No: 2 sucking score among the babies of less than normal birth weight in theexperimental group n=30



Picture No: 3 Effectiveness of nesting on the Temperature among the babies with birthweight less than normal in the experimental group

n=30



Picture No 4: Effect of nesting on the pulse rate of neonates with less than normal birthweight in the experimental group

n:30

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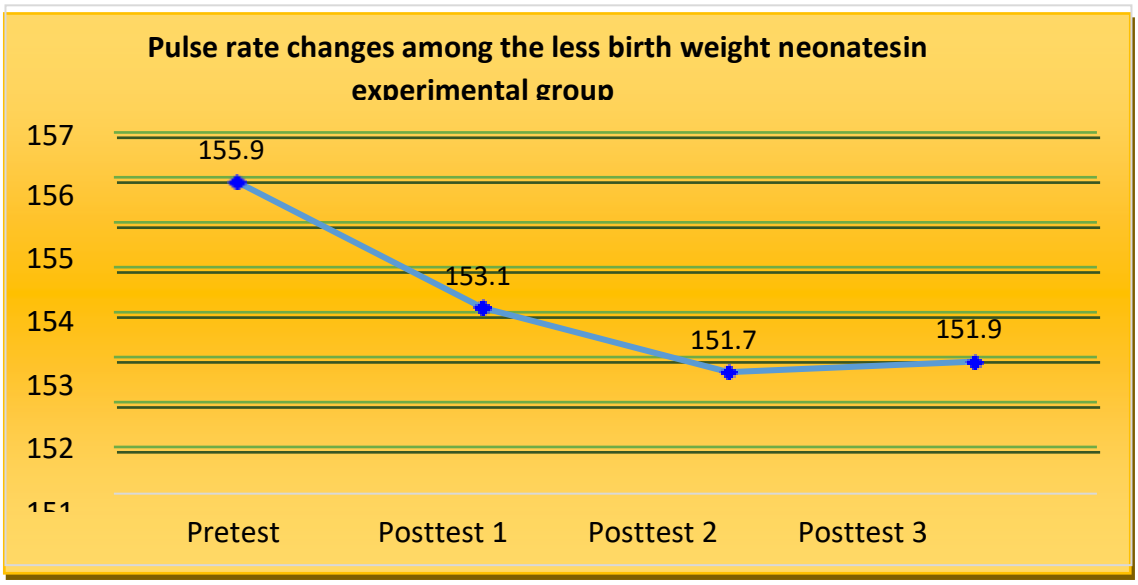
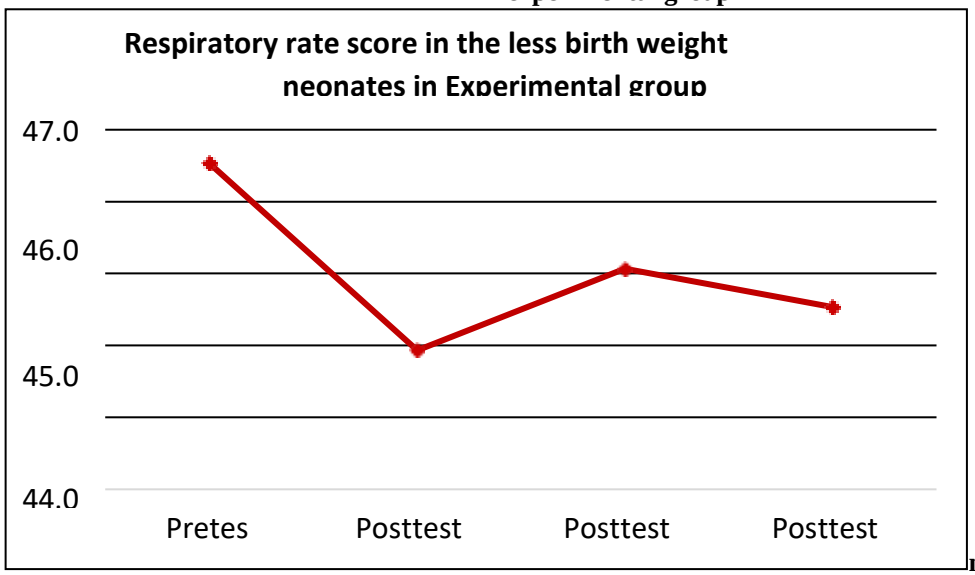
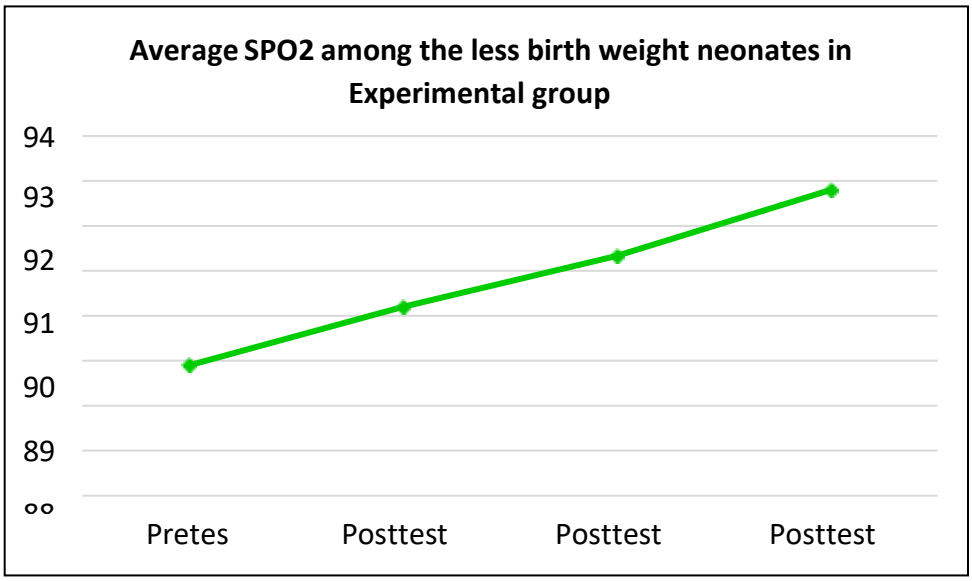


PictureNo:5 Effectiveness of nesting in respiratory rate of babies with less than normalbirth weight in experimental group



n=30

Picture No:-6 effectiveness of nesting on SpO_2 in with less birth weight in theobservational group



n=30

Picture No: 7 comparisons of the sucking response experimental and controlled group ofbabies with less birth weight n:30,30

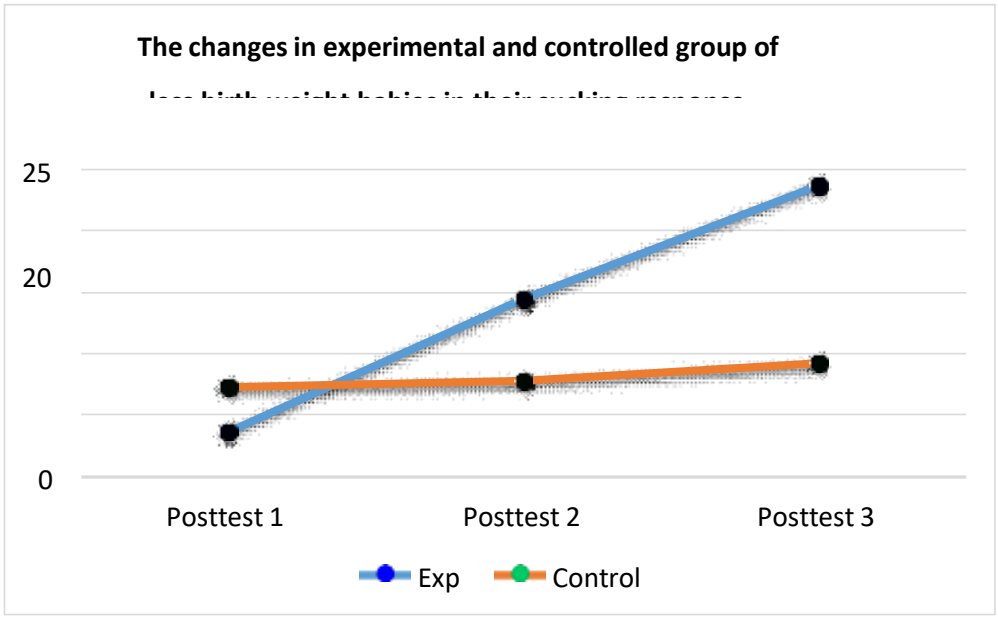
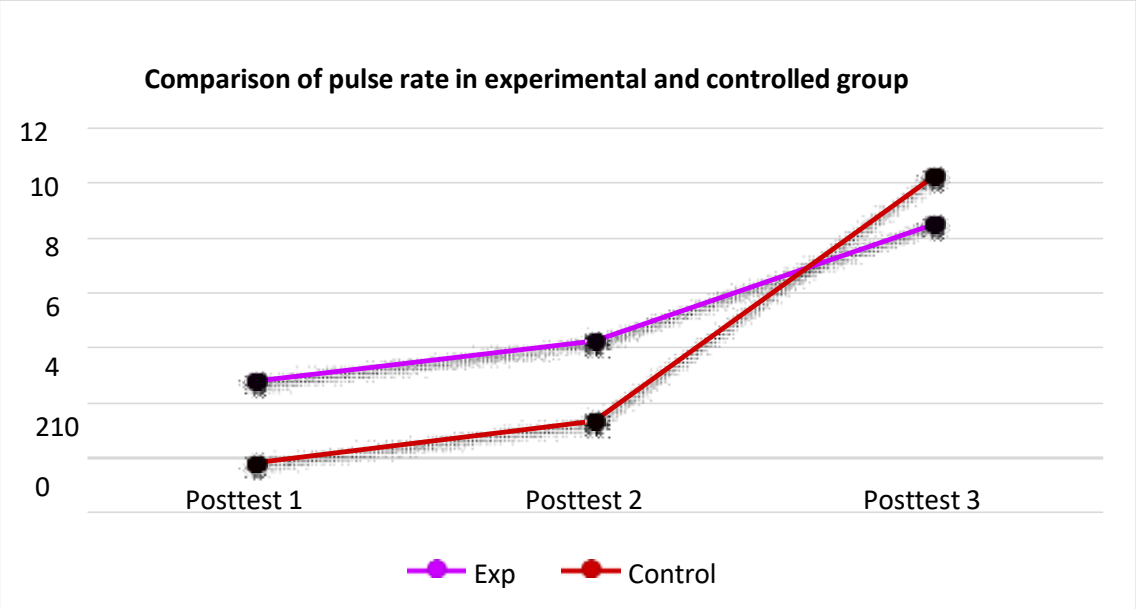


Figure No: 8 Comparison of pulse rate in the experimental group and controlled group

n=30, 30



Picture No: 9 Comparison of temperature in the experimental and controlled group

n=30,30

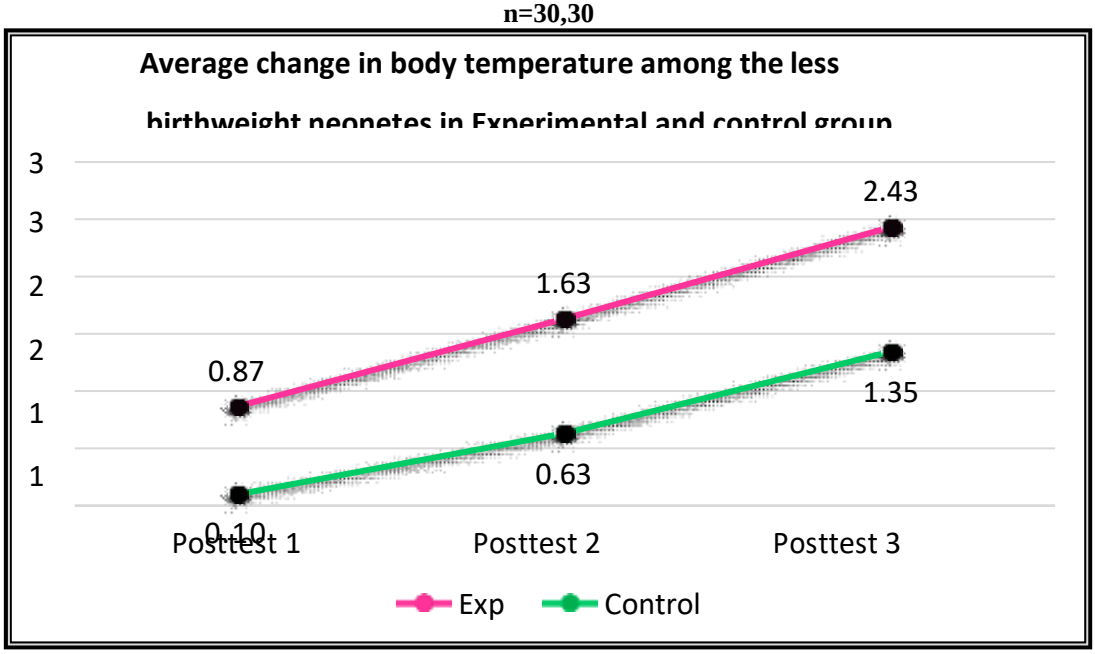
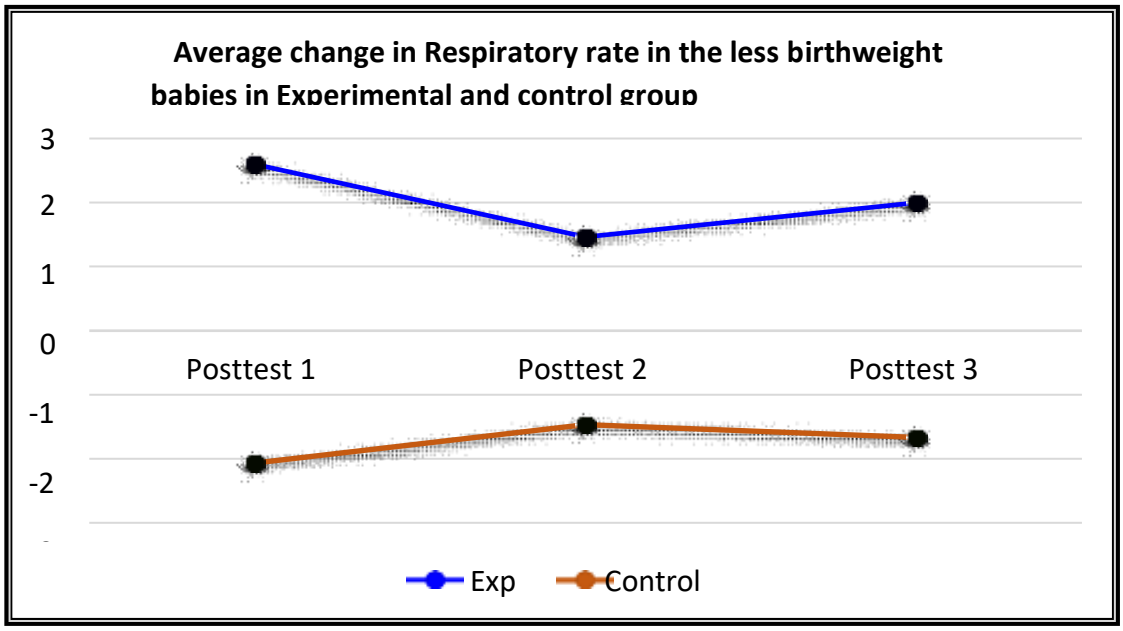
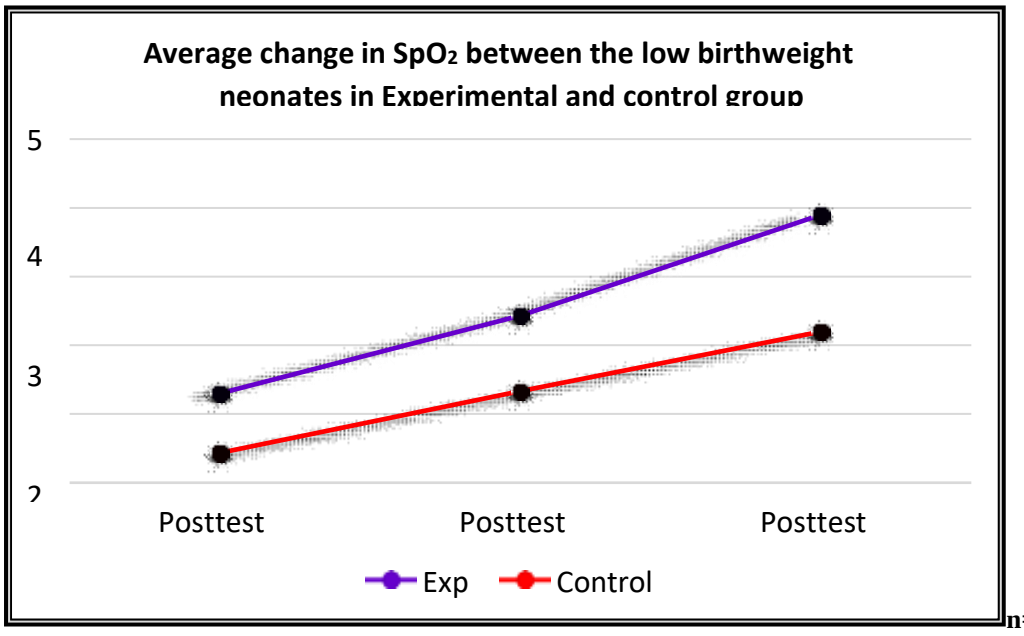


Figure No: 10 Comparison of experimental and controlled groups in respiratory rate n:30,30

Figure No:11 Comparison between the experimental and controlled groups on theoxygen saturation level





n=30, 30

Figure No:12 Association of the findings with the selected demographic variable

N=60

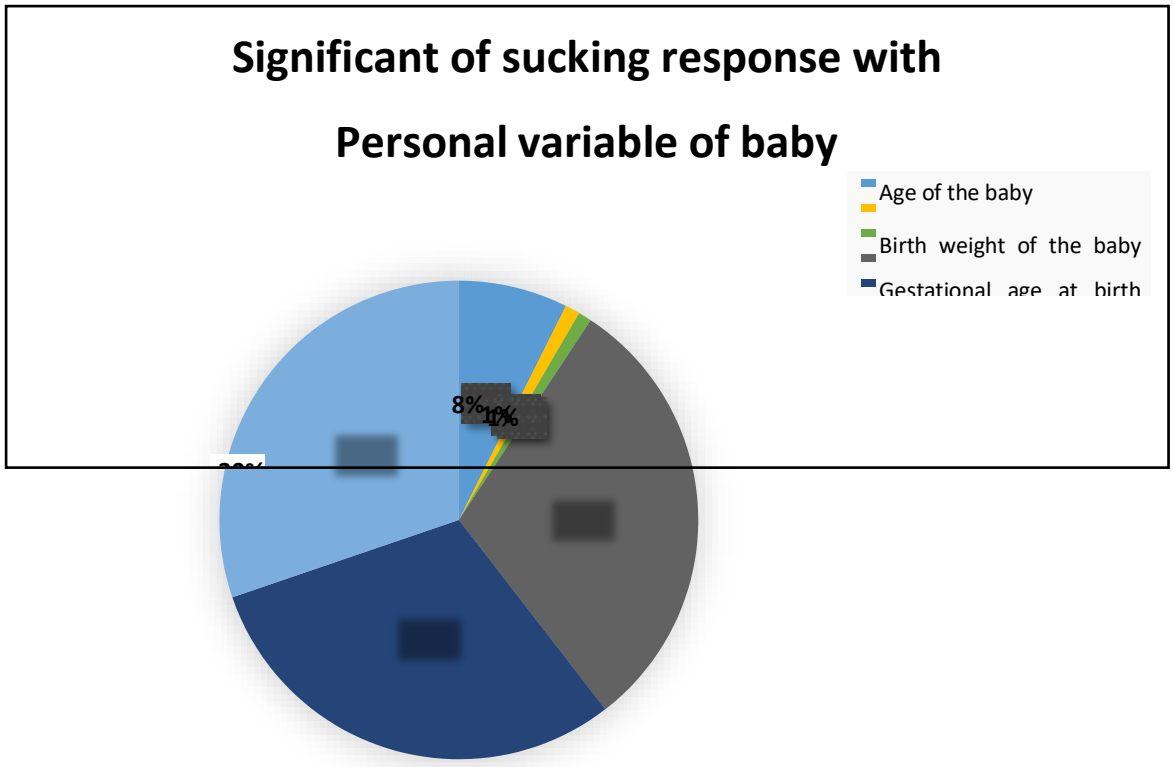
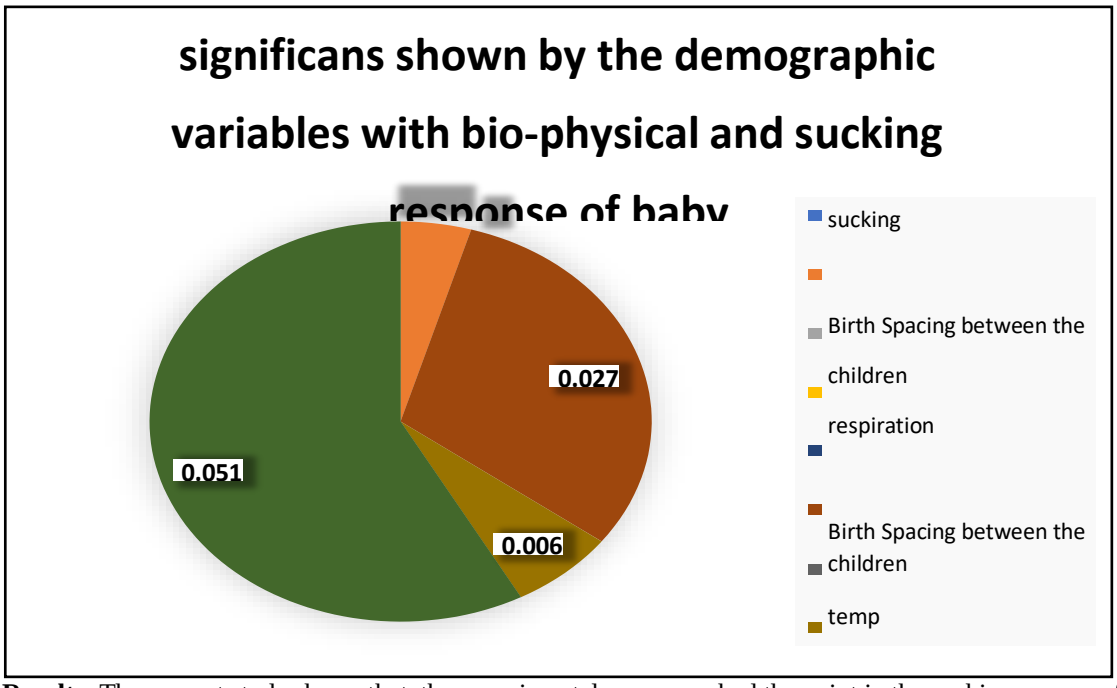


Figure number: 13 Demographic variables of the which are showing association in thesucking and biophysical variables

N=60



Results: The present study shows that the experimental group reached the point in the sucking responsefrom 3.7 to 23.7 and controlled group shows the result from the 7.3 to 9.2, and in temperature experiment group reached 0.87 to 2.43, and the controlled group is from .10 to 1.35 and in pulse rate the experimental group shows the point from 2.6 to 2.0 and in controlled group -2.1 to -1.7 and saturation level reached the point in experimental group from 1.3 to 3.9 and in controlled group 0.5 to 1.0, so the present study states that the nesting is a good

method in the stabilization of biophysical variables and sucking response of less birth weight babies

Discussion

The present study results show the gradual improvement of the selected biophysical parameters and sucking response day by day, and the study states that the null hypothesis is rejected and the research hypothesis stated the significance in the study. There was another study which was conducted by Sandeep Kaur and Yogesh Kumar among the premature babies in NICU of selected hospitals in Haryanaand Punjab the study also used 30 samples by purposive sampling, method, and in this, they provided the nesting from one to two hours and they evaluated the results and its states that the nesting is very effective in low birth weight babies, this study is supporting my study, but the values which got are notthe same as my study that can be because of the difference in a geographical area, or maybe due to the difference in the hospital set up, or the changes in the sample inclusion and exclusion criteria's or it canget the difference because in the present study I provided nesting for continuous 6 hours and in their study, they provided it only for one to two hours, and they did the study in 2015 and the present study conducted in 2022, so the time difference also can bring changes in results. The study which is conducted in Coimbatore in 2017 also supports my study but the result values are varying which can be due to the difference in the geographical area culture and living style of the area, and also a difference in the inclusion-exclusion criteria. The findings of my study is showing that the nesting has an important effect on the development in the improvement of the less birth weight babies, and it helps to improve the vital parameters and proper development of the babies

Recommendations

The present study recommends that it can do in a larger population and can do it in another settings like rural areas. The study can be done by checking its effectiveness with other methods

Conclusion

The result of the present study stated that the nesting method will help to improve the biophysical parameters (vital variables) and sucking response in less birth weight babies and it is an effective comfortmeasure we can use in the practical set up of hospitals

Ethical Clearance

This study was approved by the institutional research committee [IRC], and permission for the study isobtained from the selected hospitals in Pune city

Source of Funding: Nil **Conflict Of Interest**: Nil

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