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EFFECTIVENESS OF NESTING ON SELECTED PHYSIOLOGICAL PARAMETERS OF PRETERM NEONATES IN A SELECTED GOVERNMENT HOSPITAL OF NORTH BENGAL

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ABSTRACT

Introduction: Worldwide birth of the preterm is seen in almost 11.1% of all pregnancies. As per the estimate 27 million newborn are born each year in India, of which 3.5 million newborn are born preterm. One of the major challenges during the first one month of life is maintenance of stable physiological parameters. **Objective:** The objective of the study is to assess the physiological parameters in Experimental and Control group, to find out the effectiveness of Nesting, to compare physiological parameters between two groups and to find out the association between physiological parameters and demographic variables. **Materials and Methods:** Quasi experimental Time Series Non Equivalent Control Group Research Design was adopted. 52 samples (26 for Experimental and 26 for Control) were selected by Non probability Purposive Sampling Technique. Final data was collected using a validated and reliable Record Analysis Performa (r=1), Bio physiological Measurement Performa includes Temperature (r=0.96), Heart Rate (r=0.82), Respiratory Rate (r=0.95) and Oxygen Saturation (r=0.78) including weight (r=0.99). On Day 1, all the physiological parameters were recorded in both groups. Application of Nesting was done in Experimental group. Preterm Neonates kept for 4 hours in Nesting daily in experimental group. This same process was followed till Day 7. **Results:** Study result revealed there was a significant difference in physiological parameters as computed by Repeated measure ANNOVA, Temperature (F=11.46), Heart rate (F=15.97), Respiratory rate (F=4.47) and Oxygen saturation (F=4.46). Comparison between Experimental and Control group was done using t test,

Temperature (t=2.77), Heart rate (t=4.03), Respiratory rate (t=5.02), Oxygen saturation (t=3.16) and Weight (t=2.03). **Conclusion:** Nesting was found that it significantly improve physiological parameters compared to control. The investigator recommends this type of further study in future

Key Words: Nesting, Physiological parameters, Preterm, Effectiveness

Introduction

Worldwide birth of the preterm is seen in almost 11.1% of all pregnancies. Preterm birth rates represent approximately 70% of neonatal and 36% of infant deaths. As per the estimate 27 million newborn are born each year in India, of which 3.5 million newborn are born preterm. As the preterm neonates are most vulnerable population, they need highly specialized nursing care and medical treatments with advanced technology.[1]

As per National Vital Statistics Reports, in **India** infant mortality rate in low and middle-income countries was approximately 88/1000 live birth among those 26 deaths occur in the early neonatal period.

According to report released by **Lancet in December 2016** states that globally around 15 million preterm births takes place. In India almost 3.6 million preterm births takes place. 1 million children die each year due to complications of preterm births. Across 184 countries in the world, the rate of preterm birth ranges from 5% to 18% of babies born.[2]

Nesting may promote comfort & sleep there by able to maintain stable physiological parameters.

Background of the study

Preterm neonates are most vulnerable group. After birth, first few months act as a transitory period during which new born has to adjust to the external environment. Hence the position of new-borns throughout this time is very important.[3]

A Quasi Experimental study conducted by **Hima P Das, Sreeja G Pillai, Molukutty Joyichan (2020)** on effect of nesting on selected physiological parameters among preterm babies in **Kannur**. The study was conducted among 60 preterm babies and revealed that nesting is effective in maintaining stable physiological parameters like axillary temperature, heart rate, respiratory rate, SPO2, Capillary refill time, and over al activity ($p<0.05$).[4]

An experimental study was conducted by **Ingale S, Lt Col. Radha V, Mr. Bhosale V (2018)** to assess the effectiveness of nesting on posture and movement among preterm neonate in Pravara Rural Hospital, Loni. The study was conducted among 60 healthy preterm neonates with pre test post-test design with control group. The study revealed that posture score among experimental group showed the improvement from average (57.5%) to good (92.75%) and movement score showed that there was improvement in discomfort from severe (70%) to fullness of comfort (33.1%). It revealed that there was statistically significant difference in pre and post test score posture ($t=4.87$, $p< 0.001$) movement ($t=4.93$, $p<0.001$).[5]

A study conducted by **Phebe Esther Philominal (2017)** on effectiveness of nesting on bio physiological parameters and sucking response among low birth weight babies in **Coimbatore**. The study was conducted on 40 low birth weight babies. The study was analysed using ANNOVA and Z test and revealed that there is a highly significant difference in scores on heart rate ($F = 92.91$), respiratory rate ($F = 55.19$) and oxygen saturation ($F = 107.92$) among the experimental group. Hence it shows that nesting is an effective intervention in stabilizing bio physiological parameters.[6]

Need of the study

New-born usually faces many adjustment problems soon after the delivery. When they were in mother's womb the internal temperature is maintained and also the flexed position that provides comfort to the new-born. Nesting provides a comfort measures that stimulates the in utero feeling by providing the rolled bed sheets. It facilitates a posture that conserves warmth and minimizes the weight loss by providing a flex posture hence reducing the surface area exposed. It facilitates comfort by providing a flex posture of the limbs and adduction of shoulder of the preterm neonates.[9]

A study was conducted by **Alice Jeba J, Senthil Kumar S , Shivaprakash sosale (2019)** to see the effect of positioning (Nesting) on physiological parameters (axillary temperature, heart rate, respiratory rate and oxygen saturation) on 40 low birth weight preterm babies in neonatal intensive care unit. Result of the study showed that there was statistically significant effect of nesting at 60th minute, temperature ($t=5.03966$,

,p<0.05) respiratory rate(t= -2.13,p<0.05) and heart rate (t=-2.59766, p<0.05). But the effect was not significant on oxygen saturation level (t=1.2,p=0.238).[10]

A study was conducted by **Syamsu Andi Fatmawati, Aminuddin(2019)** on application of Nesting and the Light Protective Cover of Incubator to the Stability of Oxygen Saturation and the Pulse of low birth weight babies in the Newborn Intensive Care Unit in RSU Undata Palu Public Hospital in 2018 with One-group Prestest-Posttest design. The study revealed that there was a significant difference between the oxygen saturation before and after the intervention (p = 0.012 <0.05).[11]

Objectives of the Study

1. To assess the selected physiological parameters of preterm neonates in Experimental and Control group.
2. To find out the effectiveness of Nesting on selected physiological parameters of preterm neonates in Experimental group.
3. To compare the physiological parameters of preterm neonates between Experimental and Control group.
4. To determine the association between selected physiological parameters of preterm neonates with selected demographic variables

Hypothesis

H_1-There is significant difference in mean Pre score and mean Post score of physiological parameters of preterm neonates in Experimental group after providing Nesting for at least 7 days on preterm neonates at 0.05 level of significance.

H_2- There is significant difference in mean post score of physiological parameters of preterm neonates between Experimental group and Control group at 0.05 level of significance.

H_3- There is significant association between Pre score physiological parameters of preterm neonates with selected demographic variables at 0.05 level of significance in Experimental group.

H_4- There is significant association between Post score physiological parameters of preterm neonates with selected demographic variables at 0.05 level of significance in Experimental group.

H_5- There is significant association between Pre score physiological parameters of preterm neonates with selected demographic variables at 0.05 level of significance in Control group.

H_6- There is significant association between Post score physiological parameters of preterm neonates with selected demographic variables at 0.05 level of significance in Control group.

Materials and Methods

Study was conducted from 07TH February 2022 to 06th March 2022 at Neonatal Care Unit of NBMCH, Darjeeling and District Hospital Siliguri. Prior to data collection a formal written permission was taken from Hospital Authority. Preterm Neonates were selected according to selection criteria.SNCU protocol followed before entering the ward. Self introduction was given to mother. Purpose and objectives of the study was explained to the mother. Inform consent was taken from the mothers. By using Non Probability Purposive Sampling technique, 52 (26 for Experimental and 26 for Control Group) samples was selected randomly. On Day 1 the demographic variables were collected by Record analysis that consists of 9 items and each sample took 15 minutes. All the physiological parameters were recorded in Experimental and Control group.Nesting given in Experimental group.1st bio physiological measurements were taken and 2nd bio physiological measurement was taken after 2 hours of 1st bio physiological measurement in both group. On Day 2 1st bio physiological measurements was taken and 2nd bio physiological measurement was taken after 2 hours of 1st bio physiological measurement in both group. Neonates were kept for 4 hours in Nesting daily in experimental group. This same process was followed till Day 7.On 8th day only weight was assessed for all the preterm neonates in experimental and control group. The same procedure was followed in Control Group except for Nesting; only routine care was given to them. The bed sheet used in making Nesting was changed daily for each and every neonate.

(Detailed procedure of Nesting of preterm neonates is discussed in Appendix I)

Results

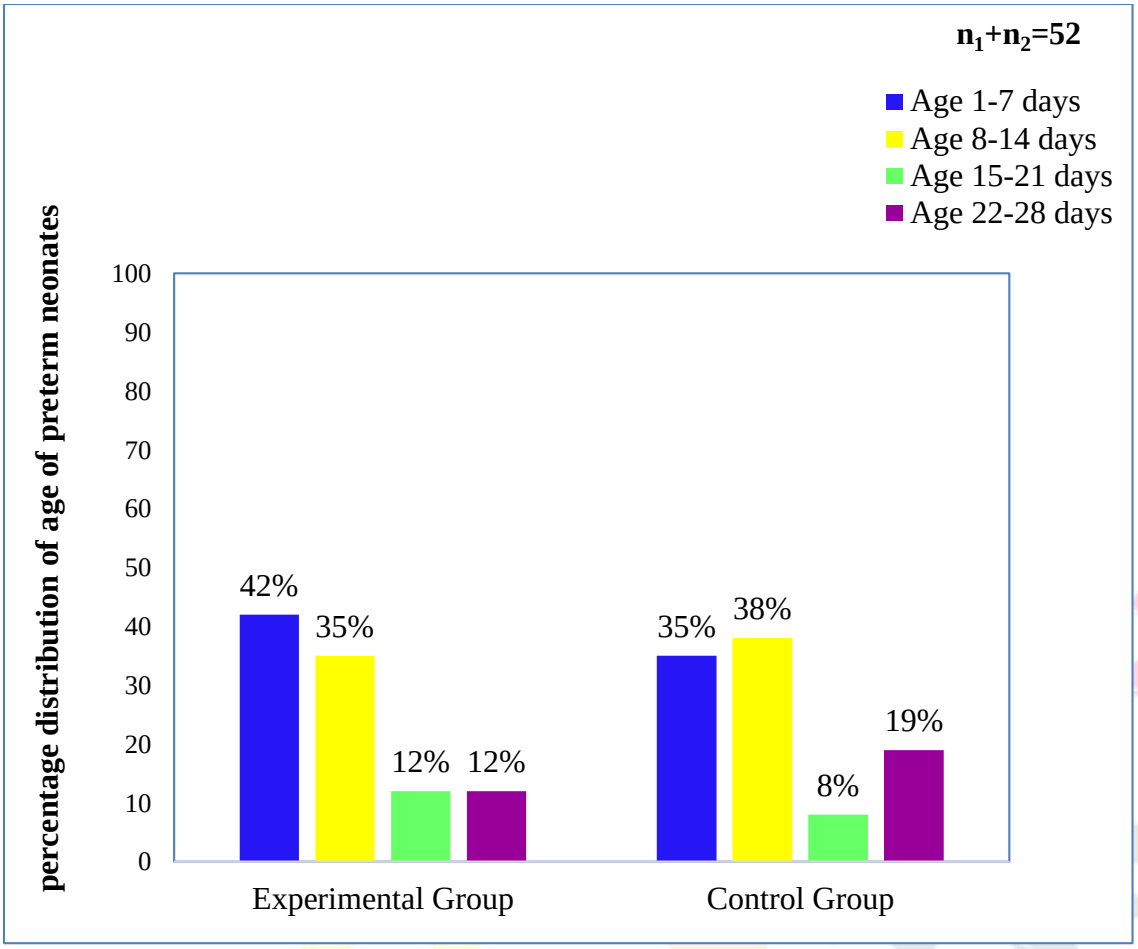

Figure 1 Column diagram showing the percentage distribution of age of preterm neonate in Experimental and Control group.

Data presented in Figure 1 shows that majority that is 42% of preterm neonates are between 1-7 days age group, 35 % in between 8-14 days and 12% between 15-28 days in Experimental group and majority that is 38 % in 8-14 days, 35 % between 1-7 days, 19% between 22-28 days and 8% between 15-21 days in Control group.

Table 1 Comparison of Physiological Parameters among different age group of neonate in Experimental and Control Group n1+n2=52

	Experimental group			Control group		
Age in days	1-14 days	15-28 days	't'	1-14 days	15-28 days	't'
Physiological parameters	M±SD	M±SD		M±SD	M±SD	
Temperature	36.14±0.25	36.29±0.31	1.2	35.77±0.86	36.03±0.78	0.69
Heart rate	134.62±5.04	135.46±5.53	0.35	147.15 ± 8.08	144.85±9.54	0.55
Respiration	44.08±3.90	42.69±3.92	0.76	45.62±3.71	45.15±3.0	0.29
Oxygen Saturation	95.65±1.02	95.88±0.91	0.49	94.42±1.55	94.50±1.56	0.11
Weight	1592.85 ±362.34	1620.04± 363.92	0.16	1440.42± 304.92	1453.46 ±306.10	0.09

df=24=2.06; p<0.05 * significant

Data presented in Table 1 showed that there is no significant difference present in physiological parameters among different age group of preterm neonate in Experimental and Control group at 0.05 level of significance.

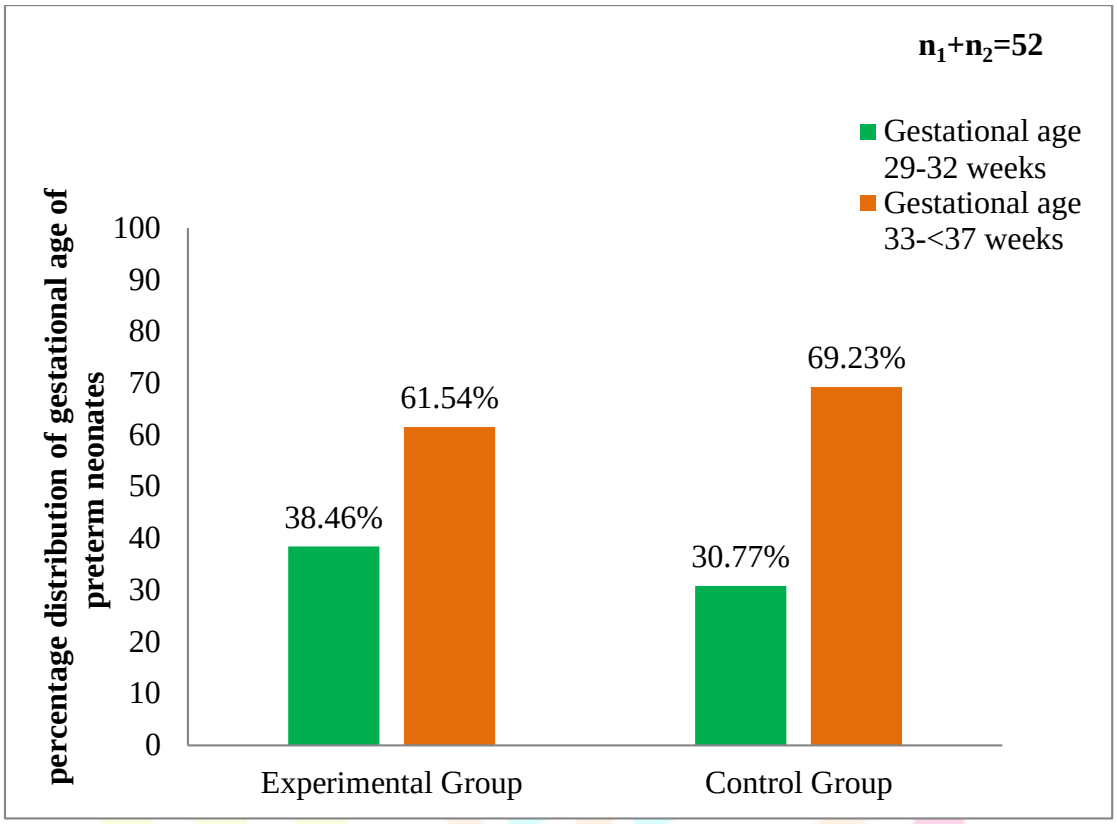

Figure 2 Column diagram showing the percentage distribution of Gestational age at birth of preterm neonate in Experimental and Control group.

Data presented in Figure 2 depicts majority that is 61.54% of preterm neonates are born in 33-<37 gestational week at birth and 38.46% born in 29-32 weeks of gestation in Experimental group and majority that is 69.23% born in 33-<37 gestational week at birth and 30.77% born in 29-32 weeks of gestation in Control group.

Table 2 Comparison of Physiological Parameters among different gestational age group of neonate in Experimental and Control Group n1+n2=52

	Experimental group			Control group		
Gestational Age in weeks	29-32 weeks	33-<37 weeks	't'	29-32 weeks	33-<37 weeks	't'
Physiological parameters	M±SD	M±SD		M±SD	M±SD	
Temperature	36.13±0.28	35.28±0.30	0.79	35.77±0.86	36.03±0.78	0.69
Heart rate	136.20±16.32	133.8±18.52	0.36	130.8 ± 13.7	133.2±20	0.29
Respiration	37.67±7.02	39.6±7.5	0.52	39.88±8.58	40.08±9.79	0.04
Oxygen Saturation	96.20±2.96	94.60±3.91	0.97	94.0±6.55	97.58±2.50	1.73
Weight	1586.81 ±354.31	1591.24± 356.90	0.11	1440.42± 304.92	1453.46 ±306.10	0.09

df=24=2.06; p<0.05 * significant

Data presented in Table 2 showed that there is no significant difference present in physiological parameters among different gestational age group of preterm neonates in Experimental and Control group at 0.05 level of significance.

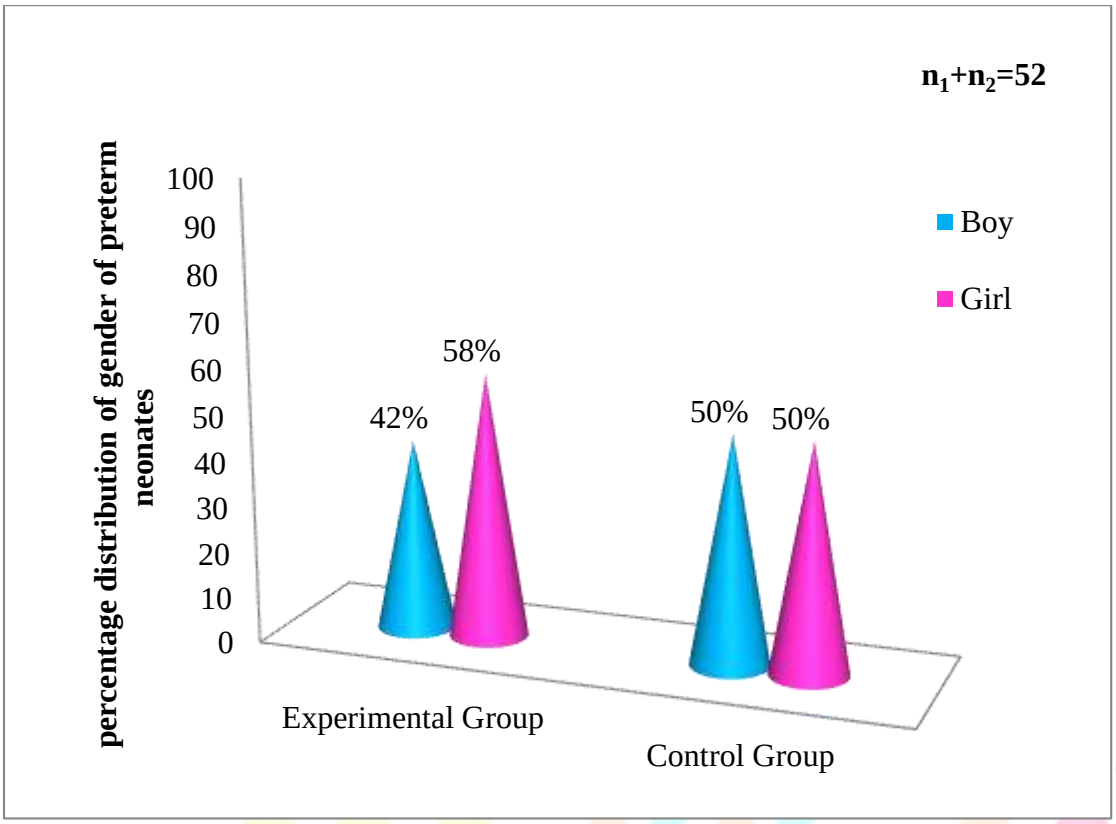

Figure 3 Cone diagram showing the percentage distribution of gender of preterm neonate in Experimental and Control group.

Data presented in Figure 3 depicts that majority that is 58 % is girl and 42 % is boy in Experimental group and 50% is both boy and girl in Control group.

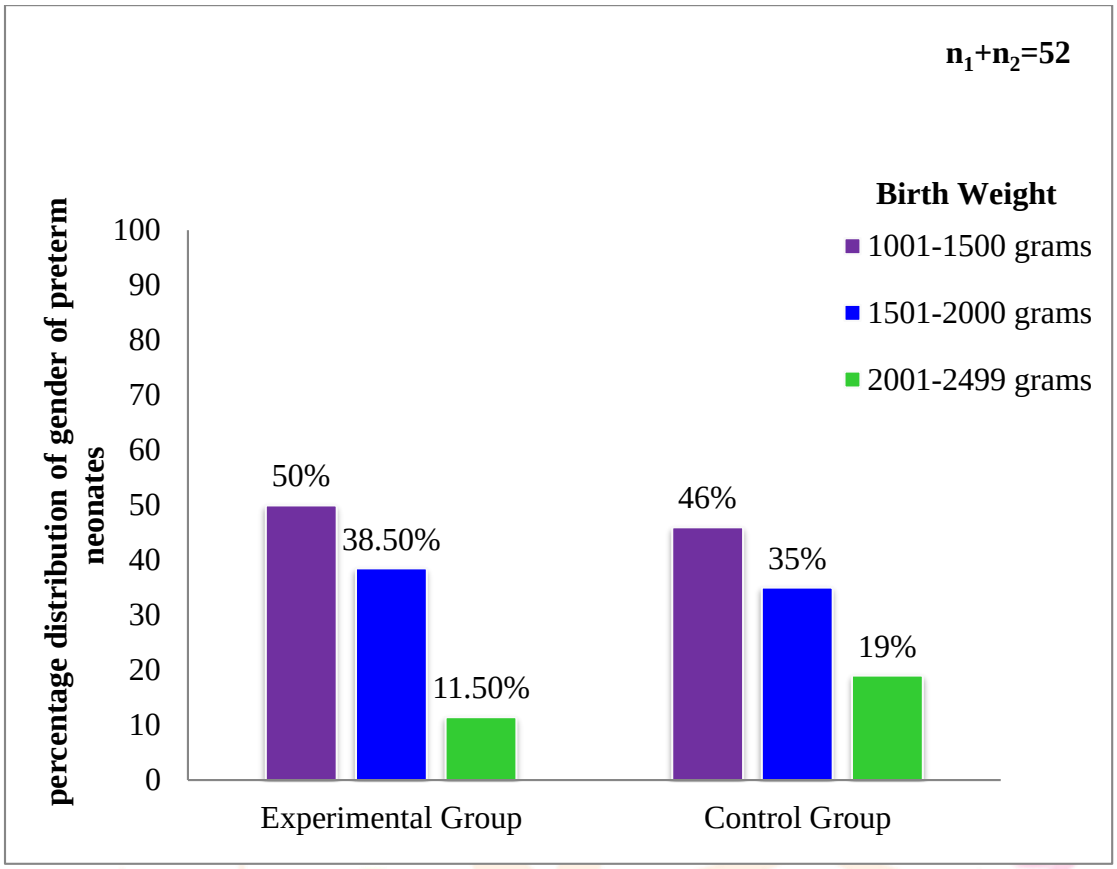

Figure 4 Column diagram showing the percentage distribution of Birth weight of preterm neonate in Experimental and Control group

Data presented in Figure 4 depicts that majority that is 50% of Preterm neonates birth weight was between 1001-1500 grams, 38.50% between 1501-2000 grams and 11.50 % between 2001 – 2499 grams in Experimental group and majority that is 46% of Preterm neonates birth weight was between 1001-1500 grams, 35% between 1501-2000 grams and 19% between 2001 – 2499 grams in Control group.

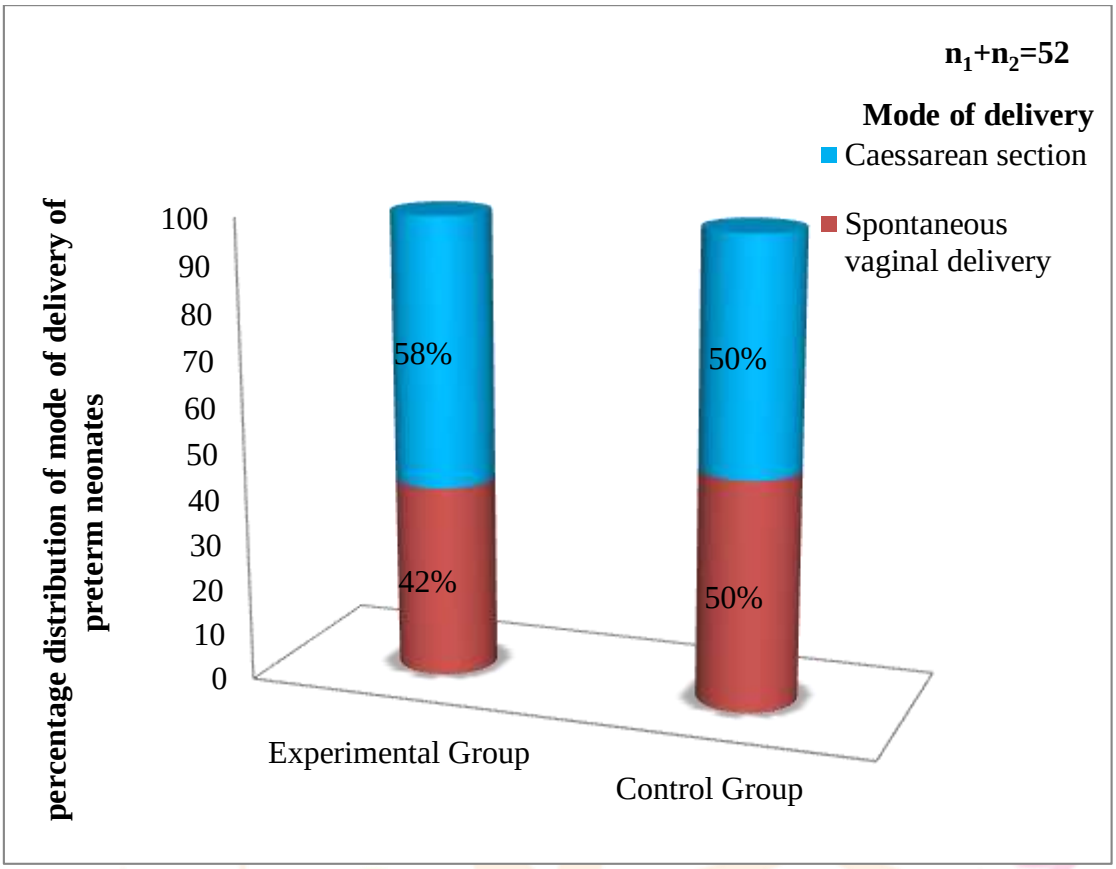

Figure 5 Cylindrical diagrams showing the percentage distribution of Mode of Delivery of preterm neonate in Experimental and Control group

Data presented in Figure 5 depicts that majority that is 58 % of preterm neonates were born by caesarean section and 42% by spontaneous vaginal delivery in Experimental group and 50 % both in SVD and caesarean section in Control group.

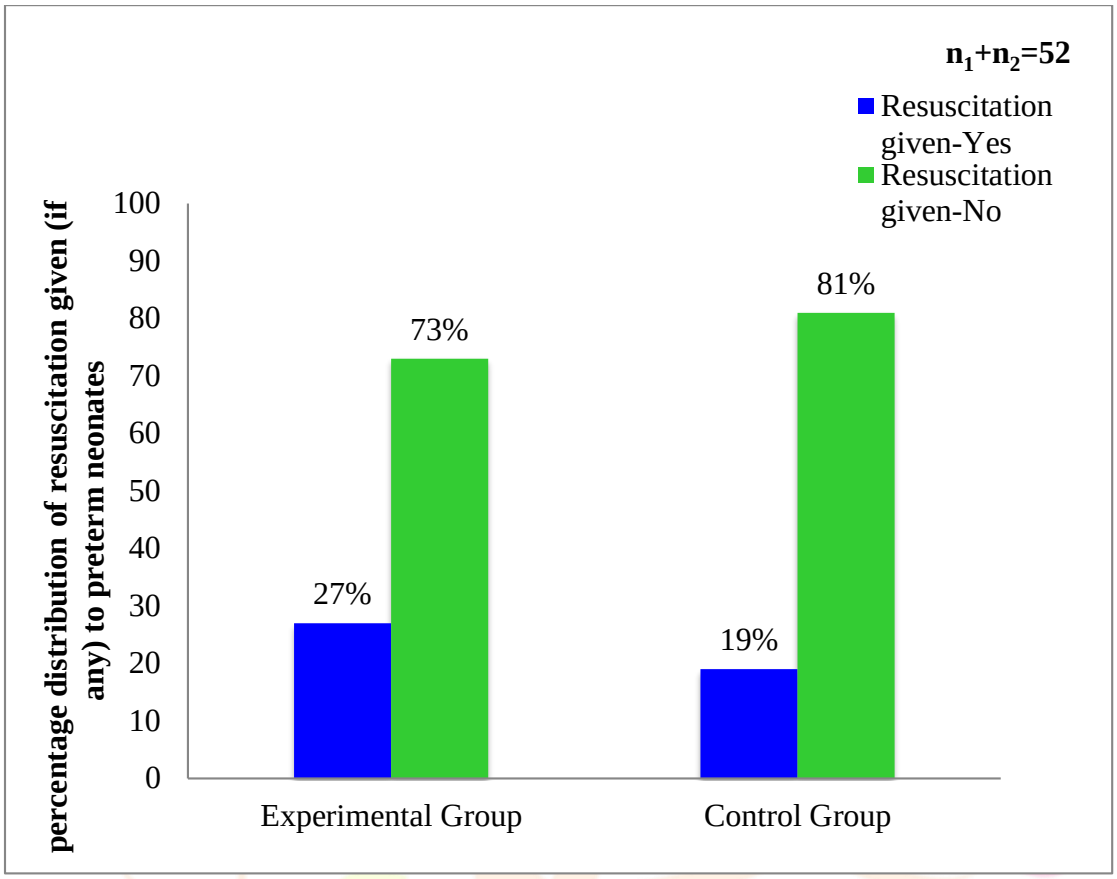

Figure 6 Column diagram showing the percentage distribution of Resuscitation given (if any) of preterm neonate in Experimental and Control group

Data presented in Figure 6 depicts majority that is 73 % of preterm neonates does not needed any resuscitation at birth and 27 % needed resuscitation at birth in Experimental group and majority that is 81% does not needed resuscitation and 19 % needed resuscitation at birth in Control group.

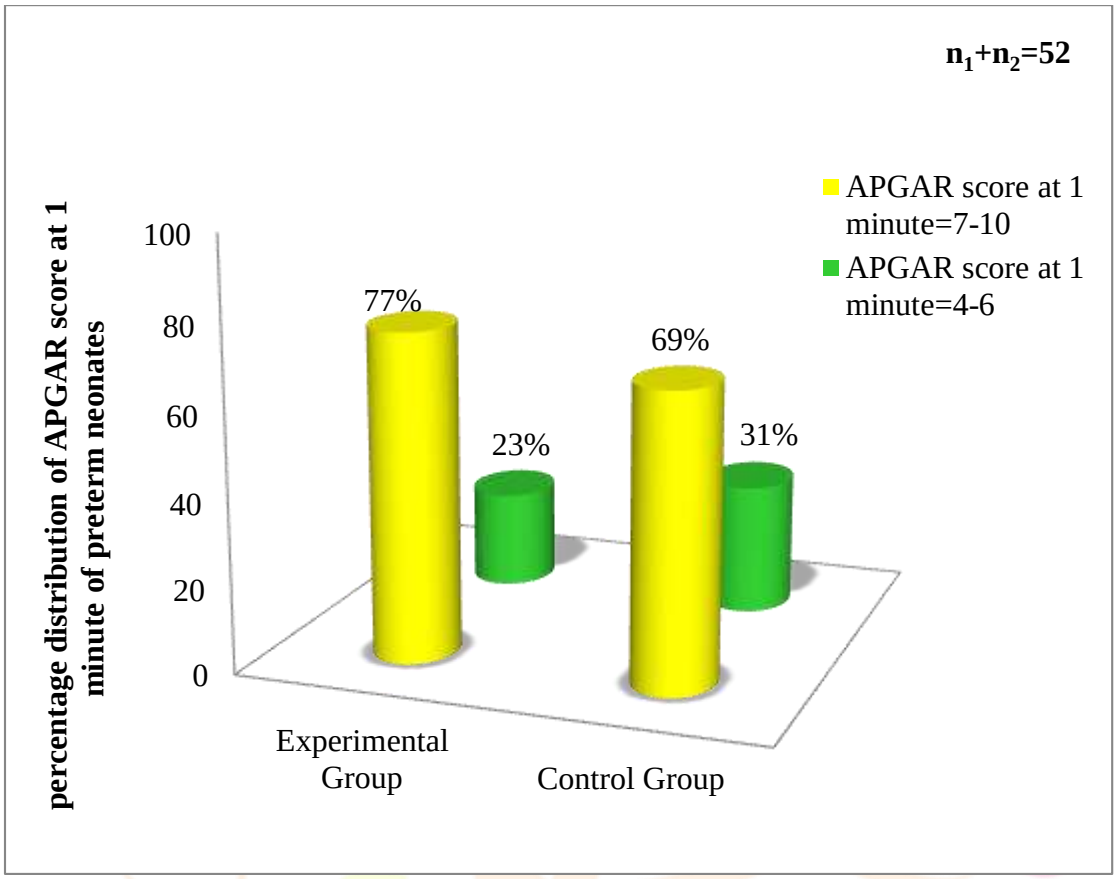

Figure 7 Cylindrical diagrams showing the percentage distribution of APGAR score at 1 minute of preterm neonate in Experimental and Control group

Data presented in Figure 7 depicts, majority that is 77 % of preterm neonates has APGAR score 7-10 at 1 minute and 23 % has 4-6 in Experimental group and majority that is 69 % has 7-10 APGAR score at 1 minute and 31% has 4-6 APGAR score in Control group.

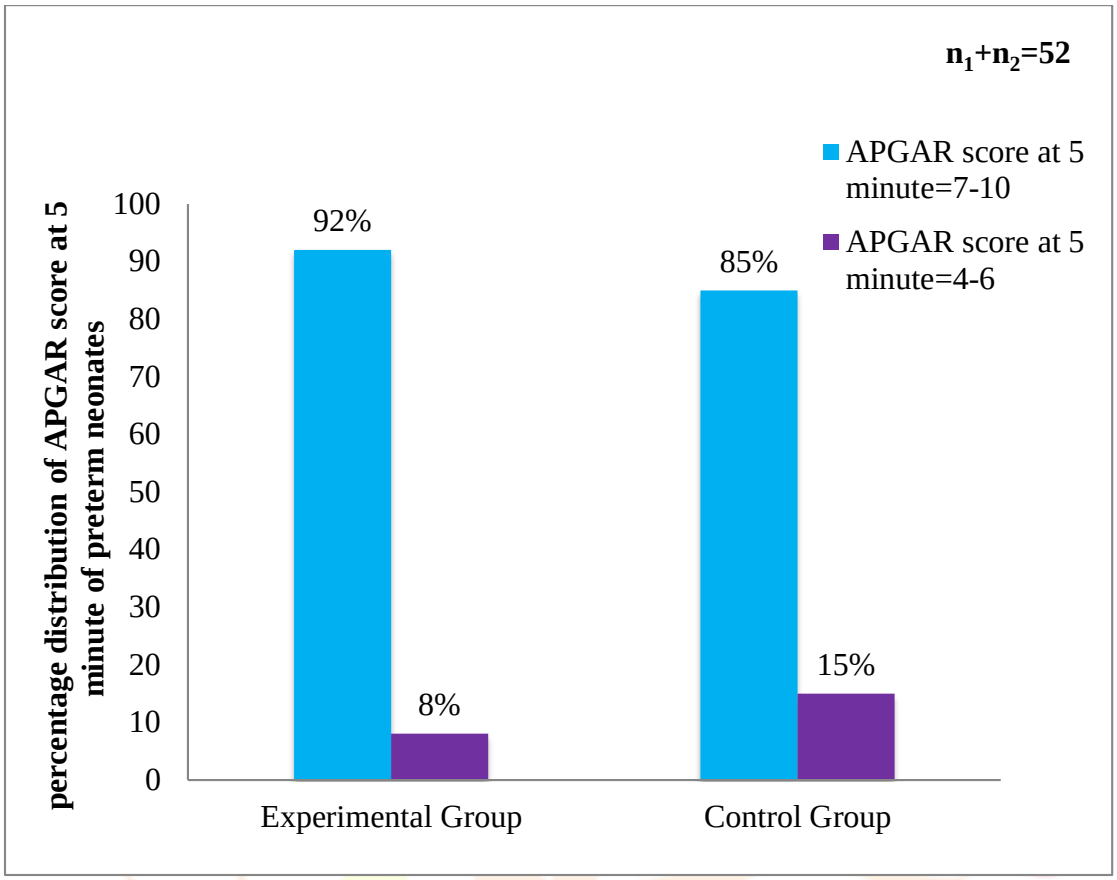

Figure 8 Column diagram showing the percentage distribution of APGAR score at 5 minute of preterm neonate in Experimental and Control group

Data presented in Figure 8 depicts, majority that is 92% preterm neonates has APGAR score 7-10 at 5 minutes and 8 % has APGAR score 4-6 in Experimental group and majority that is 85 % has 7-10 APGAR score and 15 % has 4-6 score in Control group.

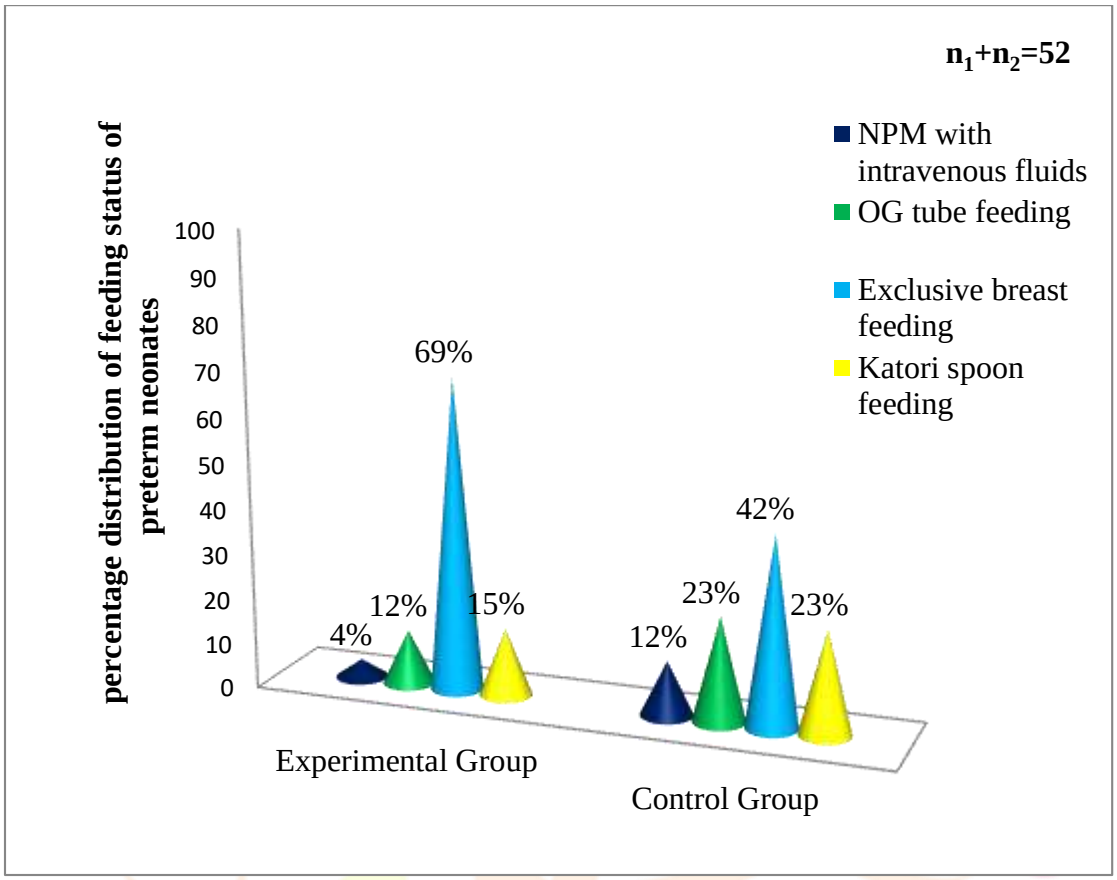

Figure 9 Cone diagram showing the percentage distribution of Feeding Status of preterm neonate in Experimental and Control group

Data presented in Figure 9 depicts, majority that is 69 % of preterm neonates were on Exclusive breast feeding 15% in katori spoon feeding, 12% OG Tube feeding and 4% NPM with intravenous fluid in Experimental group and majority that is 42 % were in exclusive breast feeding, 23% in both katori spoon feeding and OG tube feeding and 12% NPM with intravenous fluid in Control group.

Table 3 Showing homogeneity of Experimental and Control group.

N=52(n_1+n_2=26+26)

Parameters	Pre score M±SD		M_e	't' Value
	Experimental Group	Control Group		
Temperature	35.3±0.66	35.1±1.22	0.21	0.77
Heart Rate	157±6.01	156±6.56	1	0.34
Respiration	54±4.22	51±4.31	3	0.33
Oxygen saturation	93±1.83	93±1.64	0	0.48
Weight	1480.4±373.7	1397.5±306.27	82.9	0.87

df = 40=2.02;p<0.05 *significant

The data presented in Table 3 reveal that there is no significant difference (0.05level of significance) present in pre-test level of Temperature, Heart rate, Respiration, oxygen saturation and weight in Experimental and Control group. So, the group is homogenous group.

Table 4 Showing Repeated Measure ANNOVA between pre score and post score of Experimental group in terms of Temperature

$n_1+n_2=52$

Post score of Temperature Group	Mean	SD	Degree of Freedom	Errors	*F*
Experimental group	36.33	0.33	1	50	*11.459
Control group	35.84	0.84			

df (1);F(1,50)=4.03 p<0.05; * significant.

The data presented in the Table 4 reveals that F value of Temperature is 11.459 which is statistically significant in Experimental group at df(1) at 0.05 level of significance. Here the calculated F value is greater than the Table value. So here the difference is a true difference and not by chance. Hence null hypothesis is rejected and research hypothesis is accepted.

Table 5 Showing Repeated Measure ANNOVA between pre score and post score of Experimental group in terms of Heart rate.

$n_1+n_2=52$

Post score of HR Group	Mean	SD	Degree of Freedom	Errors	*F*
Experimental group	133.08	5.22	1	50	*15.968
Control group	141.46	8.65			

df (1); F(1,50)=4.03 p<0.05; * significant.

The data presented in the Table 5 reveals that F value of Heart rate is 15.968 which is statistically significant in Experimental group at df(1) at 0.05 level of significance. Here the calculated F value is greater than the Table value. So here the difference is a true difference and not by chance. Hence null hypothesis is rejected and research hypothesis is accepted.

Table 6 Showing Repeated Measure ANNOVA between pre score and post score of Experimental group in terms of Respiratory rate.

$n_1+n_2=52$

Post score of RR Group	Mean	SD	Degree of Freedom	Errors	*F*
Experimental group	37.92	3.07	1	50	*4.47
Control group	42	2.65			

df (1); F(1,50)=4.03 p<0.05; * significant.

The data presented in the Table 6 reveals that F value of Respiratory rate is 4.47 which is statistically significant in Experimental group at df(1) at 0.05 level of significance. Here the calculated F value is greater than the Table value. So here the difference is a true difference and not by chance. Hence null hypothesis is rejected and research hypothesis is accepted.

Table 7 Showing Repeated Measure ANNOVA between pre score and post score of Experimental group in terms of Oxygen saturation.

$n_1+n_2=52$

Post score of Oxygen saturation Group	Mean	SD	Degree of Freedom	Errors	*F*
Experimental group	96.04	0.53	1	50	*4.46
Control group	94.92	1.52			

df (1); F(1,50)=4.03 p<0.05; * significant.

The data presented in the Table 7 reveals that F value of Oxygen saturation is 4.46 which is statistically significant in Experimental group at df(1) at 0.05 level of significance. Here the calculated F value is greater than the Table value. So here the difference is a true difference and not by chance. Hence null hypothesis is rejected and research hypothesis is accepted.

Table 8 Showing Repeated Measure ANNOVA between pre score and post score of Experimental group in terms of Weight

$n_1+n_2=52$

Post score of Weight Group	**Mean**	**SD**	**Degree of Freedom**	**Errors**	***F***
Experimental group	1659.35	382.91	1	50	2.112
Control group	1464.12	306.34			

df (1); F(1,50)=4.03 p>0.05; * significant.

The data presented in the Table 8 reveals that F value of Weight is 2.112 which is not significant in Experimental group at df(1) at 0.05 level of significance. Here the calculated F value is less than the Table value. Hence null hypothesis is accepted and research hypothesis is rejected.

Table 9 Mean, Standard Deviation, Mean Difference and 't' value of post mean Temperature score between Experimental and Control group

$n_1+n_2=52$

Post score of Temperature Group	**Mean**	**SD**	**Mean difference**	**t**
Experimental group	36.3	0.33	0.49	*2.77
Control group	35.8	0.84		

t(40)=2.02 p<0.05; * significant.

Data presented in Table 9 depicts that the mean Temperature score of Experimental group (36.3) is higher than the mean Temperature score of Control group (35.8) which is statistically significant,'t' value is 2.77 at df 40 and at 0.05 level of significance. So, here the mean difference is a true difference and not by chance. Hence null hypothesis is rejected and research hypothesis is accepted. It indicates that the Nesting is effective in maintaining thermo regulation of preterm neonates.

Table 10 Mean, Standard Deviation, Mean Difference and 't' value of post mean Heart rate score between Experimental and Control group

			$n_1+n_2=52$	
Post score of Heart rate **Group**	**Mean**	**SD**	**Mean difference**	**t**
Experimental group	133	5.22	8	**4.03
Control group	141	8.65		

t(40)=2.02 p<0.05; ** highly significant.

Data presented in Table 10 depicts that the mean Heart rate score of Experimental group (133) is lower than the mean Heart rate score of Control group (141) which is statistically significant, 't' value is 4.03 at df 40 and at 0.05 level of significance. So, here the mean difference is a true difference and not by chance. Hence null hypothesis is rejected and research hypothesis is accepted. It indicates that the Nesting is effective in stabilizing Heart rate of preterm neonates.

Table 11 Mean, Standard Deviation, Mean Difference and‘t’ value of mean post Respiratory rate score between Experimental and Control group

$n_1+n_2=52$

Post score of Respiratory rate Group	Mean	SD	Mean difference	t
Experimental group	38	3.07	4	**5.02
Control group	42	2.65		

t(40)=2.02 p<0.05; ** highly significant.

Data presented in Table 11 depicts that the mean Respiratory rate score of Experimental group (38) is lower than the mean Respiratory rate score of Control group (42) which is statistically significant,‘t’ value is 5.02 at df 40 and at 0.05 level of significance. So, here the mean difference is a true difference and not by chance. Hence null hypothesis is rejected and research hypothesis is accepted. It indicates that the Nesting is effective in stabilizing respiratory rate of preterm neonates.

Table 12 Mean, Standard Deviation, Mean Difference and 't' value of mean post Oxygen saturation score between Experimental and Control group

$n_1+n_2=52$

Post score of Oxygen saturation Group	Mean	SD	Mean difference	t
Experimental group	96	0.53	1	*3.16
Control group	95	1.52		

t(40)=2.02 p<0.05; * significant.

Data presented in Table 12 depicts that the mean Oxygen saturation score of Experimental group (96) is higher than the mean Oxygen saturation score of Control group (95) which is statistically significant, 't' value is 3.16 at df 40 and at 0.05 level of significance. So, here the mean difference is a true difference and not by chance. Hence null hypothesis is rejected and research hypothesis is accepted. It indicates that the Nesting is effective in stabilizing oxygen saturation of preterm neonates.

Table 13 Mean, Standard Deviation, Mean Difference and 't' value of mean post Weight score between Experimental and Control group

$n_1+n_2=52$

Post score of weight Group	Mean	SD	Mean difference	t
Experimental group	1659.35	382.91	195.23	*2.03
Control group	1464.12	306.34		

t(40)=2.02 p<0.05; * significant.

Data presented in Table 13 depicts that the mean Weight score of Experimental group (1659.35) is higher than the mean Weight score of Control group (1464.12) which is statistically significant, 't' value is 2.03 at df 40 and at 0.05 level of significance. So, here the mean difference is a true difference and not by chance. Hence null hypothesis is rejected and research hypothesis is accepted. It indicates that the Nesting is effective in maintaining the weight of preterm neonates.

Table 14 Chi Square value showing association between Post score weight and age of the preterm neonates in Experimental group n=26

Demographic variables	**weight**		**Total**	**Calculated value of χ^2**
	< Median	**≥ Median**		
Age of the preterm neonates(in days)				
1-14	4	13	17	5.046*
15-28	7	2	9	
Total	11	15	26	

χ^2

df(1)=3.841, p<0.05

The data presented in Table 14 depicts the computed chi square value (5.046) after Yates correction between Post score weight of preterm neonates with selected variables like age of the preterm neonates was significant because chi square value was greater than table value (3.841) at df(1) at 0.05 level of significance. This indicates there is association between the Post score weight with age of the preterm neonate in experimental group.

Table 15 Chi Square value showing association between Post score Heart rate and age of the preterm neonates in Experimental group n=26

Demographic variables	Heart rate		Total	Calculated value of χ^2
	< Median	≥ Median		
Age of the preterm neonates (in days)				
1-14	4	12	**16**	5.440*
15-28	8	2	**10**	
Total	**12**	**14**	**26**	

χ^2 df(1)=3.841, p<0.05

The data presented in Table 15 depicts the computed chi square value (5.440) after Yates correction between Post score heart rate of preterm neonates with selected variables like age of the preterm neonates was significant because chi square value was greater than table value (3.841) at df (1)at 0.05 level of significance. This indicates there is association between the Post score heart rate with age of the preterm neonate in experimental group

Table 16 Chi Square value showing association between Post score Respiratory rate and Resuscitation after birth of the preterm neonates in Experimental group

n=26

Demographic variables	Respiratory rate		Total	Calculated value of χ^2
	< Median	≥ Median		
Resuscitation after birth				
Yes	3	9	**12**	5.46*
No	11	3	**14**	
Total	**14**	**12**	**26**	

χ^2 df(1)=3.841, p <0.05

The data presented in Table 16 depicts the computed chi square value (5.46) after Yates correction between Post score respiratory rate of preterm neonates with selected variables like resuscitation after birth of the preterm neonates was significant because chi square value was greater than table value (3.841) at df (1) at 0.05 level of significance. This indicates there is association between the Post score respiratory rate with resuscitation done after birth in experimental group.

Discussion

In the present study the mean Post Heart rate score of Experimental group (133) is lower than the mean Post Heart rate score of Control group (141) at df (40) and at 0.05 level of significance. So, here the mean difference is a true difference and not by chance. It indicates that the Nesting is effective in stabilizing Heart rate of preterm neonates. The mean Post Respiratory rate score of Experimental group (38) is lower than the mean Post Respiratory rate score of Control group (42) which is statistically significant,'t' value is 5.02 at df (40) and at 0.05 level of significance. So, here the mean difference is a true difference and not by chance. It indicates that the Nesting is effective in stabilizing respiratory rate of preterm neonates.

Conclusion

The study concluded that Nesting is effective in maintaining physiological parameters like temperature, heart rate, respiratory rate, oxygen including weight of preterm neonates compared to control group.

Limitation

- The study has limited evidence separately on weight parameters for preterm neonates.
- The study could not evaluate the long term outcome on the effect of nesting on preterm neonates because of time constraint.
- The positive effect shown by the preterm neonates in the control group might have occurred due to the routine care as per hospital protocol in which researcher did not have any control on it.

Recommendation

- The study can be replicated by using a large sample thereby findings can be generalized.
- Studies can be conducted to find out the factors that influence the physiological parameters of preterm neonates like maternal complication, physiological weight loss.
- Similar studies can be done on neonates on ventilator.

Summary

This chapter deals with the summary of the study, discussion, conclusion, implications, limitations and recommendations.

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