Vol 6 Issue 2 March 2016

ISSN No : 2230-7850

International Multidisciplinary Research Journal

Indian Streams Research Journal

Welcome to ISRJ

RNI MAHMUL/2011/38595 **ISSN No.2230-7850**

Indian Streams Research Journal is a multidisciplinary research journal, published monthly in English, Hindi & Marathi Language. All research papers submitted to the journal will be double - blind peer reviewed referred by members of the editorial board.Readers will include investigator in universities, research institutes government and industry with research interest in the general subjects.

Address:-Ashok Yakkaldevi 258/34, Raviwar Peth, Solapur - 413 005 Maharashtra, India
Cell : 9595 359 435, Ph No: 02172372010 Email: ayisrj@yahoo.in Website: www.isrj.org

Indian Streams Research Journal
International Recognized Multidisciplinary Research Journal
ISSN: 2230-7850 Impact Factor : 4.1625(UIF) Volume - 6 | Issue - 2 | March - 2016

A STUDY TO ASSESS THE EFFECT OF TACTILE –KINESTHETIC STIMULATION ON SELECTED PHYSIOLOGICAL PARAMETERS AND NEUROBEHAVIORAL DEVELOPMENT AMONG LOW BIRTH WEIGHT NEONATES ADMITTED IN NICU OF SELECTED HOSPITALS AT INDORE CITY.

Prerna Pandey[1], Dr. Kochu Thresiamma Thomas[2] and Dr. Sneha Pitre[3]
[1]Ph.D Scholar-Nursing, Nims University, Jaipur, India
[2]Professor of Nursing, Nims University Jaipur
[3]Principal Bharati VidyaPeeth Nursing College, Pune.

ABSTRACT :

Low Birth Weight Neonates may be grossly handicapped at birth by Virtue of their weight and in some cases associated relative immaturity of vital organs and lack of immunological response. This handicap exposes them to high risk of infection, respiratory distress syndrome and other neonatal complications resulting in high rate of perinatal mortality and morbidity. The requirement of adequate intervention to prevent the mortality and morbidity among low birth weight neonates. Purpose: To study the effect of Tactile and Kinesthetic Stimulation on Physiological Parameters and Neurobehavioral Development among Low Birth Weight Neonates. Objectives: To assess the effect of Tactile –Kinesthetic Stimulation on Physiological Parameters and Neurobehavioral Development

among Low Birth Weight Neonates. Material and Method: This was a quantitative quasi-experimental pretest -posttest control group design . The sample size was 104, divided in to 52 for each group of control and experimental group. Probability simple random sampling technique was used for the selection of sample. Each group was having 52 samples and experimental group was received Tactile –Kinesthetic Stimulation. .Study was conducted in SAIMS hospital, Bhandari hospital & Research Center, Dolphin hospital in Indore. Data collection was done by using demographic data of the samples, observation schedule was used to assess the Physiological parameters and Brazelton Neurobehavioral Assessment Scale was used to (BNAS) to assess the neurobehavioral development of low birth weight neonates. Result: The Tactile and Kinesthetic Stimulation had good effect for low birth weight neonates that physiological parameters were increased and neurobehavioral development was changed in experimental group. Conclusion : The Tactile –Kinesthetic Stimulation is remarkably good effect on Physiological Parameters and Neurobehavioral Development of Low Birth Weight Neonates.

KEY WORDS: Tactile-Kinesthetic Stimulation, Physiological Parameters, Neurobehavioral Development, Low Birth Weight Neonates, Brazelton Neurobehavioral Assessment Scale (BNAS).

1. INTRODUCTION:

Neonatal period is the single-most hazardous period in the life. The newborn confronts with more dramatic challenges during the transition from dependent intrauterine to Independent post natal life.. Low-birth weight babies are more likely than babies of normal weight to have health problems during the newborn period. Tactile and kinesthetic stimulation improves neurodevelopment of low birth weight neonates.

2.REVIEW OF LITERATURE

Revealed a systematic review on Low Birth Weight Policy in India conducted the purpose of this policy brief is to increase attention to, investment in, and action for a set of cost-effective interventions and policies that can help Member States and their partners in reducing rates of low birth weight .neonates.

Study conducted an experimental study on Comparison of kangaroo mother care and tactile kinesthetic stimulation in low birth weight babies in Karnataka, India. The weight and parental bonding of all the neonates before and after intervention were recorded. .It has shown that the importance of Tactile/Kinesthetic stimulation of Low Birth Weight neonates.

3 . RESEARCH METHODOLOGY

This study uses the quantitative research approach. A quasi experimental study with two group pre-test post-test control group design was considered best sited to the study. This design was used since the study evaluated the effect of Tactile –Kinesthetic Stimulation (independent variable) on physiological parameters and neurobehavioral development of low birth weight neonates (dependent variables). The investigator adopted Probability simple random sampling for Data Collection.

3.1. Setting: Sri Aurobindo Institute of Medical Sciences(SAIMS) Hospital, Bhandari Hospital and Research Center (BHRC), Dolphin Children Hospital .
3.2. Population: Low Birth Weight Neonates admitted in NICU.
3.3. Sample Size: 104

3.4. Inclusion Criteria:

• Mothers who were willing to participating her Low Birth Weight Neonates in the study.
• Low Birth Weight Neonates have less than 2500gm were admitted in NICU.
• Low Birth Weight Neonates have less than 37 weeks gestational age were admitted in NICU.

3.5. Exclusion Criteria:

• Those mothers who were not willing to participate her low Birth Weight Neonates in the study.
• Low Birth Weight Neonates with severely sick and having congenital anomalies were admitted in NICU.
• Low Birth Weight Neonates have less than 1500grms. and less than 28 weeks gestational age were admitted in NICU.

4. DESCRIPTION OF THE TOOL

1) Socio demographic data of neonates and mothers.

This section included items seeking information on socio-demographic data of the neonates and their mothers.

Section A: Demographic variables of neonates : This section consists of 5 items such as age, gender, body weight, gestational age and birth order of the child.

Section B: Demographic variables of mothers. This section consists of 7 items such as age, educational status, occupation, family income, type of delivery, nutritional status and area of living.

2) Observation Schedule to assess the physiological parameters :

This section of the tool consisted of 7 items for physiological parameters such as

• Body Temperature (o C),Heart rate (per minute), Respiration rate (per minute), Oxygen saturation (%), Body Weight (gm), Skin observation, Feeding patterns.

Observation assessment Record consisted of seven items, the scoring done was as follows: Normal parameters –2, Abnormal Parameters-1, Total Score—14

Grading was done as below.

Grade	Category
0—5	Poor
6—9	Average
10--14	Good

3) Brazelton Neurobehavioral Assessment Scale (BNAS)

This section of the tool consisted of 7 clusters under which, 1- 6 clusters consist of 24 items, and 7th cluster consisted of 15 items. Researcher had used Brazelton Neurobehavioral Assessment Scale (BNAS) 9 point rating scale for the assessment of neurological status of low birth weight neonates and 4 point rating scale for the assessment of reflexes of low birth weight neonates .

• Habituation: These are Response decrement to light, Response decrement to rattle, Response decrement to bell and Response decrement to foot probe.
• Orientation:- These are animate visual, animate auditory and Inanimate visual, inanimate auditory.
• Motor system: - These are General Tone, Motor maturity, Pull-to-sit, Activity level.
• Range of state: - These are peak of excitement, rapidly of build up, irritability and lability of states.

• State Regulation: - These are cuddliness, consolability, self quieting, and hand to mouth.
• Autonomic system: - These are tremulousness , startles, lability of skin colour and smiles.

This section consisted 24 items , the scoring done was as follows:

1-3= Mild Response , 4-6= Moderate Response, 7-9= Sever Response , Total Score=216.

• Reflexes:-These are Plantar, Babinski, Ankle clonus, Rooting, Sucking, Glabella, Passive resist –legs, Passive resist –arms, Palmar ,Placing, Blinking, Crawling, Tonic neck reflex, Moro and Tonic dev. head and eyes.

Observation Assessment tool consisted of 15 items, the scoring was done as follows:

3=Hyperactive Response, 2=Normal Response, 1= Hypoactive Response
0= Not able to Response , Total Score =45 .

Grading was done as below.

Grade	Category
1 - 15	Poor
16 – 30	Average
31 - 45	Good

5. RESULTS AND ANALYSIS

This part deals with the overall analysis of samples related to physiological parameters and neurobehavioral development of low birth weight neonates admitted in NICU of selected hospitals at Indore city in terms of frequencies, percentage, average, and t value ,U-test and Z- test.

Assessment of base line observation of selected demographical and other parameters of low birth weight neonates and their mothers in experimental and control group.

Table 1. FREQUENCY AND PERCENTAGE DISTRIBUTION OF DEMOGRAPHIC VARIABLES OF NEONATES

Age (days)	Experimental		Control	
	Frequency	%	Frequency	%
1	21	40.4	23	44.2
2	31	59.6	29	55.8
Total	**52**	**100.0**	**52**	**100.0**

Gestational Age (weeks)	Experimental		Control	
	Frequency	%	Frequency	%
29-31	8	15.4	3	5.8
>31-33	16	30.8	14	26.9
>33-35	14	26.9	19	36.5
>35-37	14	26.9	16	30.8
Total	**52**	**100.0**	**52**	**100.0**

Gender	Experimental		Control	
	Frequency	%	Frequency	%
Male	31	59.6	22	42.3
Female	21	40.4	30	57.7
Total	**52**	**100.0**	**52**	**100.0**

Baseline Weight (gram)	Experimental		Control	
	Frequency	%	Frequency	%
1500-1800	18	34.6	7	13.5
>1800-2100	11	21.2	20	38.5
>2100-2400	23	44.2	25	48.1
Total	**52**	**100.0**	**52**	**100.0**

Birth order	Experimental		Control	
	Frequency	%	Frequency	%
First	32	61.5	24	46.2
Second	15	28.8	25	48.1
Third	4	7.7	2	3.8
Fourth and more than fourth	1	1.9	1	1.9
Total	**52**	**100.0**	**52**	**100.0**

Table no. 2. DEMOGRAPHIC VARIABLES OF MOTHERS OF NEONATES

Age of mother	Experimental		Control	
	Frequency	%	Frequency	%
18-22	33	63.46	29	55.76
23-27	14	26.92	16	30.77
28-32	04	7.69	06	11.54
33-37	01	1.93	00	00
More than 37	00	00	01	1.93
Total	**52**	**100.0**	**52**	**100.0**

Educational status of mother	Experimental		Control	
	Frequency	%	Frequency	%
Illiterate	10	19.2	9	17.3
Primary or Middle education	25	48.1	21	40.4
Secondary or higher secondary education	12	23.1	9	17.3
Graduate or Post graduate	5	9.6	13	25.0
Total	**52**	**100.0**	**52**	**100.0**

Occupational status of mother	Experimental		Control	
	Frequency	%	Frequency	%
Business	2	3.8	1	1.9
Government job	4	7.7	8	15.4
Private job	7	13.5	11	21.2
House wife	39	75.0	32	61.5
Total	**52**	**100.0**	**52**	**100.0**
Socio-Economic status of family	Experimental		Control	
	Frequency	%	Frequency	%
Low Income Group	17	32.7	15	28.8
Middle Income Group	33	63.5	31	59.6
High Income Group	2	3.8	6	11.5
Total	**52**	**100.0**	**52**	**100.0**

Type of delivery	Experimental		Control	
	Frequency	%	Frequency	%
Normal	37	71.2	20	38.5
Cesarean	15	28.8	32	61.5
Forceps	0	0.0	0	0.0
Total	**52**	**100.0**	**52**	**100.0**

Nutritional status	Experimental		Control	
	Frequency	%	Frequency	%
Vegetarian	20	38.5	16	30.8
Non-Vegetarian	32	61.5	36	69.2
Total	**52**	**100.0**	**52**	**100.0**

Area of residence	Experimental		Control	
	Frequency	%	Frequency	%
Urban	30	57.7	29	55.8
Rural	22	42.3	23	44.2
Total	**52**	**100.0**	**52**	**100.0**

SECTION 2

Table 3. ASSESSMENT OF PHYSIOLOGICAL PARAMETERS AMONG SUBJECTS AT BASELINE AND POST ADMINISTRATION IN GROUPS

Physiological Parameter		Experimental (n_1=52)				Control (n_2=52)			
		Baseline		Post		Baseline		Post	
		N	%	n	%	N	%	n	%
Temperature (℃)	*Abnormal*	52	100.0	9	17.3	52	100.0	43	82.7
	Normal	0	0.0	43	82.7	0	0.0	9	17.3
Heart Rate (Per min)	*Abnormal*	48	92.3	5	9.6	52	100.0	21	40.4
	Normal	4	7.7	47	90.4	0	0.0	31	59.6
Respiratory Rate (Per min)	*Abnormal*	52	100.0	1	1.9	52	100.0	32	61.5
	Normal	0	0.0	51	98.1	0	0.0	20	38.5
Oxygen Saturation (%)	*Abnormal*	52	100.0	6	11.5	52	100.0	4	7.7
	Normal	0	0.0	46	88.5	0	0.0	48	92.3
Weight (gram)	*Abnormal*	52	100.0	5	9.6	52	100.0	41	78.8
	Normal	0	0.0	47	90.4	0	0.0	11	21.2
Skin observation	*Abnormal*	52	100.0	6	11.5	52	100.0	44	84.6
	Normal	0	0.0	46	88.5	0	0.0	8	15.4
Feeding Patterns	*Abnormal*	52	100.0	0	0.0	52	100.0	41	78.8
	Normal	0	0.0	52	100.0	0	0.0	11	21.2

Table 4. DISTRIBUTION AND COMPARISON OF SCORE FOR PHYSIOLOGICAL PARAMETERS BETWEEN BASELINE (PRE) AND POST ADMINISTRATION (POST) OBSERVATIONS

Score for physiological parameters		Experimental				Control			
		Baseline		Post		Baseline		Post	
Score	*Category*	N	%	N	%	n	%	N	%
0-5	Poor	0	0.0	0	0.0	0	0.0	0	0.0
6-10	Average	52	100.0	5	9.6	52	100.0	41	78.8
11-14	Good	0	0.0	47	90.4	0	0.0	11	21.2
Total		**52**	**100.0**	**52**	**100.0**	**52**	**100.0**	**52**	**100.0**

Table 5. SIGNIFICANCE OF PHYSIOLOGICAL PARAMETERS OF NEONATES IN EXPERIMENTAL AND CONTROL GROUPS BETWEEN BASELINE (PRE-TEST) AND POST ADMINISTRATION (POST-TEST)

Physiological Parameter	Sampling Stage	Spread Mean ± SD		Z-value	LOS
Experimental group (n_1=52)					
Temperature (°C)	*Baseline*	35.54	± 0.85	**9.30**	p<0.001#
	Post	36.88	± 0.46		
Heart Rate (Per min)	*Baseline*	107.96	± 10.75	**11.85**	p<0.001#
	Post	128.33	± 9.84		
Respiratory Rate (Per min)	*Baseline*	56.62	± 3.40	**18.97**	p<0.001#
	Post	39.77	± 5.83		
Oxygen Saturation (%)	*Baseline*	90.27	± 2.39	**5.40**	p<0.001#
	Post	93.08	± 2.42		
Weight (gram)	*Baseline*	1957.69	± 272.54	**29.44**	p<0.001#
	Post	2286.98	± 270.69		
Physiological Parameter (Score)	*Baseline*	7.08	± 0.27	**38.53**	p<0.001#
	Post	13.38	± 1.14		
Control group (n_2=52)					
Temperature (°C)	*Baseline*	35.78	± 0.56	**10.86**	p<0.001#
	Post	36.05	± 0.47		
Heart Rate (Per min)	*Baseline*	110.85	± 6.88	**10.10**	p<0.001#
	Post	121.85	± 9.87		
Respiratory Rate (Per min)	*Baseline*	56.31	± 2.75	**18.41**	p<0.001#
	Post	52.25	± 3.03		
Oxygen Saturation (%)	*Baseline*	90.96	± 1.81	**1.79**	p>0.05@
	Post	91.54	± 1.96		
Weight (gram)	*Baseline*	2046.92	± 218.71	**23.67**	p<0.001#
	Post	2186.77	± 232.24		
Physiological Parameter (Score)	*Baseline*	7.00	± 0.00	**11.02**	p<0.001#
	Post	9.65	± 1.74		

The mean differences are not significant (insignificant) at the 0.05 level of significance. The mean differences are highly significant at the 0.001 level of significance. [LOS-Level of significance; Degrees of freedom are 51]

SECTION 3

Table 6. SIGNIFICANCE OF NEUROBEHAVIORAL DEVELOPMENT OF NEONATES IN EXPERIMENTAL AND CONTROL GROUPS BETWEEN BASELINE (PRE-TEST) AND POST ADMINISTRATION (POST-TEST)

	Neurobehavioral Parameter	Sampling Stage	Spread Mean ± SD		Z-value	LOS
EXPERIMENTAL GROUP	Habituation score	*Baseline*	12.33	± 2.68	35.41	p<0.001 *
		Post	23.31	± 2.56		
	Orientation	*Baseline*	12.79	± 2.76	34.94	p<0.001 *
		Post	23.23	± 2.41		
	Motor System	*Baseline*	12.15	± 3.04	39.19	p<0.001 *
		Post	23.92	± 2.67		
	Range of State	*Baseline*	13.02	± 3.40	45.74	p<0.001 *
		Post	24.40	± 3.09		
	State Regulation	*Baseline*	12.77	± 2.02	39.76	p<0.001 *
		Post	23.94	± 2.22		
	Autonomic System	*Baseline*	13.62	± 2.08	38.48	p<0.001 *
		Post	23.81	± 2.38		
	Neurobehavioral Score Total	*Baseline*	76.67	± 11.32	99.41	p<0.001 *
		Post	142.62	± 10.62		
CONTROL GROUP	Habituation score	*Baseline*	12.33	± 2.51	4.35	p<0.001 *
		Post	13.31	± 3.08		
	Orientation	*Baseline*	12.77	± 2.56	8.17	p<0.001 *
		Post	14.52	± 2.95		
	Motor System	*Baseline*	12.25	± 2.87	10.42	p<0.001 *
		Post	14.98	± 3.30		
	Range of State	*Baseline*	13.10	± 3.12	15.95	p<0.001 *
		Post	16.56	± 2.71		
	State Regulation	*Baseline*	12.88	± 1.88	11.12	p<0.001 *
		Post	16.29	± 2.20		
	Autonomic System	*Baseline*	13.48	± 1.94	16.58	p<0.001 *
		Post	18.00	± 2.72		
	Neurobehavioral Score Total	*Baseline*	76.81	± 10.60	30.93	p<0.001 *
		Post	93.65	± 11.36		

The mean differences between groups are highly significant at the 0.001 level of significance. [LOS-Level of significance; Degrees of freedom are 51]

Table 7. COMPARISON OF ITEMWISE NEUROBEHAVIORAL DEVELOPMENT BETWEEN EXPERIMENTAL AND CONTROL GROUPS AT BASELINE AND POST ADMINISTRATION

		Mann Whitney U and Z statistics					
		Baseline (n_1=52)			Post (n_2=52)		
		U	Z	p-value	U	Z	p-value
Habituation: Response decrement to	*Light*	1347.0	0.03	>0.05[@]	276.0	7.09	<0.001[*]
	Bell	1351.5	0.00	>0.05[@]	317.0	6.83	<0.001[*]
	Rattle	1340.5	0.08	>0.05[@]	227.0	7.46	<0.001[*]
	Foot probe	1340.0	0.08	>0.05[@]	389.0	6.33	<0.001[*]
Orientation	*Animate visual*	1350.0	0.01	>0.05[@]	322.5	6.80	<0.001[*]
	Inanimate visual	1335.0	0.12	>0.05[@]	393.5	6.32	<0.001[*]
	Animate auditory	1335.5	0.11	>0.05[@]	437.0	6.04	<0.001[*]
	Inanimate auditory	1330.0	0.15	>0.05[@]	388.0	6.39	<0.001[*]
Motor System	*Tone*	1347.0	0.03	>0.05[@]	447.5	5.97	<0.001[*]
	Maturity	1334.5	0.12	>0.05[@]	272.0	7.15	<0.001[*]
	Pull-to-sit	1310.0	0.28	>0.05[@]	374.0	6.47	<0.001[*]
	Activity level	1308.5	0.29	>0.05[@]	421.0	6.16	<0.001[*]
Range of State	*Peak of excitement*	1313.0	0.26	>0.05[@]	535.5	5.39	<0.001[*]
	Rapidity of build-up	1281.5	0.47	>0.05[@]	461.5	5.91	<0.001[*]
	Irritability	1278.5	0.50	>0.05[@]	383.0	6.45	<0.001[*]
	Lability of states	1319.0	0.22	>0.05[@]	491.0	5.72	<0.001[*]
State Regulation	*Cuddliness*	1299.0	0.38	>0.05[@]	347.0	6.75	<0.001[*]
	Consibility	1252.0	0.69	>0.05[@]	4.05.5	6.33	<0.001[*]
	Self-quieting	1194.5	1.12	>0.05[@]	485.0	5.88	<0.001[*]
	Hand-to-mouth	1201.5	1.03	>0.05[@]	207.0	7.58	<0.001[*]
Autonomic System	*Tremulousness*	1329.5	0.16	>0.05[@]	669.0	4.58	<0.001[*]
	Startles	1304.0	0.32	>0.05[@]	599.5	5.01	<0.001[*]
	Labiality of skin color	1333.5	0.12	>0.05[@]	678.0	4.48	<0.001[*]
	Smiles	1349.0	0.02	>0.05[@]	771.5	3.96	<0.001[*]

The differences based on ranks between groups are not significant (insignificant) at the 0.05 level of significance. The differences based on ranks between groups are highly significant at the 0.001 level of significance.

Table 8. ASSESSMENT OF REFLEXES TO JUDGE THE NEUROBEHAVIORAL DEVELOPMENT AT BASELINE IN EXPERIMENTAL GROUP AND CONTROL GROUP

Reflex (Baseline)	Reflexes at Baseline (%)							
	Experimental (n_1=52)				Control (n_2=52)			
	NAR %	HPO %	NLR %	HYR %	NAR %	HPO %	NLR %	HYR %
Plantar	1.9	76.9	21.2	0.0	0.0	82.7	17.3	0.0
Babinski	1.9	53.8	44.2	0.0	0.0	61.5	38.5	0.0
Ankle clonus	3.8	55.8	40.4	0.0	3.8	46.2	50.0	0.0
Rooting	5.8	32.7	61.5	0.0	5.8	21.2	71.2	1.9
Sucking	3.8	59.6	36.5	0.0	1.9	48.1	48.1	1.9
Glabella	0.0	69.2	30.8	0.0	0.0	71.2	28.8	0.0
Passive resist-legs	1.9	69.2	28.8	0.0	1.9	59.6	38.5	0.0
Passive resist-arms	1.9	57.7	40.4	0.0	1.9	44.2	53.8	0.0
Palmar	1.9	59.6	38.5	0.0	0.0	69.2	30.8	0.0
Placing	3.8	59.6	36.5	0.0	3.8	57.7	38.5	0.0
Blinking	3.8	51.9	44.2	0.0	5.8	42.3	46.2	5.8
Crawling	3.8	88.5	7.7	0.0	1.9	84.6	13.5	0.0
Tonic neck reflex	3.8	71.2	25.0	0.0	1.9	57.7	40.4	0.0
Moro	1.9	26.9	71.2	0.0	1.9	25.0	73.1	0.0
Tonic dev.-head & eyes	0.0	55.8	44.2	0.0	0.0	57.7	42.3	0.0

[NAR-Not able to response; HPO-Hypoactive response; NLR-Normal response and HYR-Hyperactive response]

Table 9. ASSESSMENT OF REFLEXES TO JUDGE THE NEUROBEHAVIORAL DEVELOPMENT AT POST 10th DAY IN EXPERIMENTAL GROUP AND CONTROL GROUP

Reflex (Post 10th day)	Reflexes after administration (%)							
	Experimental (n_1=52)				Control (n_2=52)			
	NAR %	HPO %	NLR %	HYR %	NAR %	HPO %	NLR %	HYR %
Plantar	0.0	1.9	76.9	21.2	0.0	80.8	19.2	0.0
Babinski	0.0	1.9	53.8	44.2	0.0	61.5	38.5	0.0
Ankle clonus	0.0	3.8	57.7	38.5	3.8	46.2	50.0	0.0
Rooting	0.0	5.8	32.7	61.5	5.8	21.2	71.2	1.9
Sucking	0.0	3.8	61.5	34.6	1.9	42.3	53.8	1.9
Glabella	0.0	0.0	69.2	30.8	0.0	65.4	34.6	0.0
Passive resist-legs	0.0	1.9	69.2	28.8	1.9	42.3	55.8	0.0
Passive resist-arms	0.0	1.9	57.7	40.4	1.9	36.5	61.5	0.0
Palmar	0.0	1.9	61.5	36.5	0.0	57.7	42.3	0.0
Placing	0.0	1.9	61.5	36.5	3.8	42.3	53.8	0.0
Blinking	0.0	3.8	50.0	46.2	5.8	38.5	50.0	0.0
Crawling	0.0	3.8	88.5	7.7	1.9	63.5	34.6	0.0
Tonic neck reflex	0.0	3.8	71.2	25.0	1.9	44.2	53.8	0.0
Moro	0.0	1.9	26.9	71.2	1.9	25.0	73.1	0.0
Tonic dev.-head & eyes	0.0	55.8	44.2	0.0	0.0	53.8	46.2	0.0

[NAR-Not able to response; HPO-Hypoactive response; NLR-Normal response and HYR-Hyperactive response]

6.DISCUSSION

In present study the gestational age wise distribution of neonates in experimental group and control group, was different. Sixteen (30.8%) neonates of experimental group had gestational age more frequently from 31-33 weeks but gestational age from 33-35 weeks recorded among nineteen (36.5%) neonates of control group more frequently. Each 26.9% neonates in experimental group had gestational age from 33-35 weeks and 35-37 weeks but 36.5% and 30.8% neonates of control group had in same groups of gestational age from 33-35 weeks and 35-37 weeks respectively. The age of neonates as per gestation from 29 to 31 weeks was noted among 15.4% of experimental group and 5.8% of control group. Similar findings have been observed in 2015 on low birth weight babies with mean gestational age of 29 weeks .this proves that such interventions have more effectiveness on >29 weeks of gestational age.

In the present study at post 10th day after administration of tactile-kinesthetic stimulation in experimental group, the mean temperature (36.88 °c), heart rate (128.33 per minute), respiratory rate (39.77 per minute), oxygen saturation (93.08 %) and weight (2286.98 gram) of neonates was significantly differ and improved as compared to baseline mean temperature (35.54 °c), heart rate (107.96 per minute), respiratory rate (56.62 per minute), oxygen saturation (90.27 %) and weight (1957.69 gram) of neonates.the differences in total score between baseline and post administration for experimental group (6.30 point) and control group (2.65 point) were confirmed statistically highly significant ($p<0.001$). The findings of the study are in accordance with the findings of study conducted by (2001), this study has proven that tactile/kinesthetic stimulation has a significant effect on physiological parameters of low birth weight neonates.

In the present study at post 10th day after administration of tactile-kinesthetic stimulation ,the differences in total physiological score between baseline and post administration for experimental group (6.30 point) and control group (2.65 point) were confirmed statistically highly significant ($p<0.001$) .

After administration of tactile-kinesthetic stimulation the differences in total score between baseline and post 10th day after administration for experimental group (65.95 point) were much higher than control group (16.84 point) and that further confirmed statistically highly significant ($p<0.001$). Conducted a study to find out the effectiveness of oil massage on neurobehavioral responses of LBW babies. This study has proven that likewise tactile and kinesthetic stimulation or ,oil massage also have effect on the neuromuscular development of low birth weight.

In this present study average score for reflexes (35.29 point) noted after administration of tactile-kinesthetic stimulation among neonates of experimental group was significantly higher and improved as compared to baseline average score for reflexes (20.31 point) among neonates. The differences in total score for reflex among neonates of experimental group (14.98 point) between baseline and post 10th day were much higher than neonates of control group (1.08 point) and that further confirmed statistically highly significant ($p<0.001$). The findings of the study are comparable with the findings of study conducted by (2010), the study proved that massage gives better adaptive behavior and reflexes to newborns.

7.ACKNOWLEDGEMENT

The Author is thankful to administrative authority of NIMS University, Jaipur and SAIMS

College of Nursing & SAIMS Hospital from Indore City.

REFERENCES

1.Parthasarathy A. (2007). "Partha's Fundamentals of Pediatrics" (2nd ed.) New Delhi Published by Jaypee brothers medical publishers; P. P : 202,489

2.Bhat Rekha Swarna (2009). "Achar's Text book of Pediatrics"(4th ed.);Published by University press (India) Private Limited: P.P: 132-133, 157-158,

3.Johnson Robert (2008). "Managing Newborn Problems" (1st ed.) New Delhi Published by A.I.T.B.S.Publishers; P. P. :202,489

4.Choudhary A.K. (2013). " Factors associated with Low Birth Weight among Newborn in an Urban slum community in Bhopal, Indian Journal of Public Health; Vol. 57; Issue – 1; P.P. .20 – 24.

5. Chhugani Manju et.al (2014). "Therapeutic Touch Modalities and Premature Neonate's Health Outcome in Jamia Hamdard," journal of Neonatal Biology ; Vol.3 ;P.P:148

6.Dr. Ahmed Mobarak Amal et.al (2015). "Impact of Tactile Stimulation on Neurobehavioral Development of Premature Infants in Assiut City" Journal of Education and Practice ; Vol.6; P P:93-101

7. Jeng F.S. et.al (2008). "Compared the neurobehavioral performance at term between very low-birth weight (VLBW) infants and term infants" journal of developmental medicine and child neurology; Vol.3; P.P : 235-245

Publish Research Article
International Level Multidisciplinary Research Journal
For All Subjects

Dear Sir/Mam,

We invite unpublished Research Paper,Summary of Research Project,Theses,Books and Book Review for publication,you will be pleased to know that our journals are

Associated and Indexed,India

- International Scientific Journal Consortium
- OPEN J-GATE

Associated and Indexed,USA

- Google Scholar
- EBSCO
- DOAJ
- Index Copernicus
- Publication Index
- Academic Journal Database
- Contemporary Research Index
- Academic Paper Databse
- Digital Journals Database
- Current Index to Scholarly Journals
- Elite Scientific Journal Archive
- Directory Of Academic Resources
- Scholar Journal Index
- Recent Science Index
- Scientific Resources Database
- Directory Of Research Journal Indexing

Indian Streams Research Journal
258/34 Raviwar Peth Solapur-413005,Maharashtra
Contact-9595359435
E-Mail-ayisrj@yahoo.in/ayisrj2011@gmail.com
Website : www.isrj.org