WORLD JOURNAL OF PHARMACEUTICAL RESEARCH
SJIF Impact Factor 8.074
Volume 7, Issue 08, 1256-1261. Research Article ISSN 2277–7105

EFFECT OF KSHIRBALA TAILA ABHYNGA ON INCREASE OF LOW BIRTH WEIGHT NEONATES GROWTH PARAMETERS: A OPEN CLINICAL TRIAL

Dr. Syed Meer Faisal Ali Meer Tilawat Ali*[1] and Dr. Satish R. Khatal[2]

[1]P.G. Scholar Dept. of Kaumarabhrutya, B.V.D.U. College of Ayurved, Pune.

[2]Ass. Professor of Kaumaryabhrutya, B.V.D.U. College of Ayurved, Pune.

Article Received on
27 Feb. 2018,

Revised on 19 March 2018,
Accepted on 09 April 2018

DOI: 10.20959/wjpr20188-11954

***Corresponding Author**
Dr. Syed Meer Faisal Ali Meer Tilawat Ali
P.G. Scholar Dept. of Kaumarabhrutya, B.V.D.U. College of Ayurved, Pune.

ABSTRACT

Objective: The purpose of this study was to evaluate efficacy of kshirbala taila abhynaga on growth parameters (length, height, head circumference and skin fold thickness) gain velocity of LBW. **Materials and Methods:** A randomized clinical trial study was conducted on LBW neonates whom were admitted to bharti hospital Hospital, pune. Neonates were randomly assigned to two groups. In group one, 15 neonates were received abhyanga one times in a day for consecutive 45 days by their mothers. In group two, intervention consisted of standard and routine care as control group. The primary endpoints were efficacy in increase of mean of weight, height and head circumference that were evaluated 45 days after intervention, at ages one and two months. Secondary outcome was clinical side effects. **Results:** In the body massage group, only weight at the age of two months was significantly higher than the control group (mean±SD: 3250±305 vs. 2948±121 gr, p=0.005). No adverse events were seen in the two groups. **Conclusion:** Body massage might be used as an effective and safe non-medical intervention for increasing of weight gain velocity in LBW preterm neonates.

KEYWORDS: *Low birth weight, Abhyanga, length, Height, Head Circumference, skin fold thickness.*

INTRODUCTION

"Low birth weight (LBW or birth weight of less than 2500 gr) is one of the main determinants of neonatal and postnatal morbidity 12. According to WHO statistics, the rate of

LBW is 17% in the whole world, 6% in industrialized countries, 21% in developing countries. LBW is caused by preterm birth, intrauterine growth retardation or both.

Body massage as a non-medical intervention might have positive effect on physical and developmental growth of preterm and LBW infants including weight gain, decreased stress behavior, promotion of neurologic and neuromotor development, better infant-parent emotional bonding, improved sleep, reduced rates of nosocomial infection and thereby, decreased mortality of hospitalized infants.

Massage therapy has not any harmful effects and it can increase weight gain velocity of more than 30 weeks of gestation and medically stable neonates by different mechanisms the purpose of this study was to evaluate efficacy of body massage on growth parameters (length, height and head circumference and skin fold thickness) gain velocity of LBW neonates.

MATERIALS AND METHODS

A randomized single-blind clinical, open-label, parallel group study was conducted on LBW neonates whom were delivered to bharti ayurved Hospital, pune. Eligible participants included 30 newborns that had gestational age of 33-37 weeks, birth weight of 1999 to 2.499 grams, who were without birth asphyxia and hypoxic ischemic insults, who were less than ten days, were medically stable and did not need any drug therapy and stayed in the hospital for at least 5 days after enrollment in the intervention. Exclusion criteria were multiple pregnancies, sepsis and meningitis, major congenital malformations, small for gestational age, chromosomal abnormalities, genetic syndromes, and serious complications such as intraventricular hemorrhage, severe respiratory distress, The trial used equal randomization and allocation ratio was 1:1 for the two groups (case and control).

Simple randomization was done. The intervention of abhyanga was delivered by mothers and primary and secondary outcomes were assessed by doctor. Neonates were randomly assigned to two groups. In group one, 15 neonates abhynaga was done for 45 consecutive days. In group two, intervention consisted of standard and routine care only as control group. Each mother was trained for technique of massage, in the first day after delivery by a doctor. Compliance of mothers was checked regularly by the researchers during stay of newborns at hospital.

"The abhyanga was done by mothers and each session massage was consisted ten minutes and for one times per day (in the morning,). Massage was given in infant who was in a prone and supine position it was carried out from the neck and over both shoulders, upper back and then each of the two upper and lower limbs was separately massaged (except for face and head). Then massage was done in a supine position, chest, abdomen, upper limb, lower limb, palms and sole massaged separately ten gentle strokes was used in each area the massage" Growth parameters (lenghth, height and head circumference, skin fold thickness) of all neonates were measured 45 days after starting of abhyanga, at ages of one month and two months." All babies were weighted by infant digital weighing scale with sensitivity of 10 gram without diapers. The weighting scale was calibrated at regular intervals. The supine crown heel length was measured on the infantometer with the help of an assistant to the nearest millimeter in the recumbent position. The weighing scale and infantometer were Germany made Seca.

Head circumference was measured using flexible non-stretchable tape measure which runs from the supraorbital ridge to the occiput in the path as the maximum occipitofrontal circumference. To obviate errors due to interobsever variations, all measurement were made in Shahid Sadoughi Hospital and by the interne of research. The primary endpoints were efficacy in increase mean of weight, height and head circumference that evaluated at the end of intervention, at ages of one month and two months. Secondary outcome was clinical side effects in duration of follow up.

Variables such age, sex, gestational age, route of delivery, age and educational level of mother were carefully recorded by medical records of mother and neonate. "Gestational age was calculated using the first day of the last normal menstrual period, estimated by obstetric sonography and the Dubowitz Scale". Informed consent was taken from parents and the study has been approved by the Ethic Committee of bharti vidyapeeth pune.

Statistical analysis

Chi-square test or Fisher exact test was used for data analysis of qualitative variables and mean values were compared using independent Student t-test. Differences were considered significant at p-values of less than 0.05.

RESULTS

Two patients were excluded from the study and the design and conduct of this trial was straightforward, and we did not have any losses to follow-up. Finally, 30 neonates including 20 baby girls and 10 baby boys with gestational age of 35 to39 weeks in two groups were evaluated. Comparison of some characteristics of the neonates is shown. which indicates that no statistically significant differences were seen from viewpoints of sex distribution, mean of gestational age, mean of birth weight, height and head circumference. In group A babies, there was total improvement in hc.cc and skin fold thickness in all included babies. After the application of "kshIrbala taila", in 11 babies, there was excellent improvement and in 3 babies there was good improvement and one baby have average improvement. All the parents were comfortable with the appearance, and the overall characteristics of the formulation. There were no immediate or delayed type of hypersensitivity reaction (erythema, edema, pruritus or urticaria), either observed by investigators or reported by the parents. There were no dropouts, and the overall compliance to the "kshIrbala taila" was excellent.

Table I.

	Group	N	Mean Diff	SD	SE	t-Value	P-Value
HC	Group A	15	2.82	0.43	0.11	3.872	0.001
	Group B	15	2.13	0.55	0.14		
CC	Group A	15	3.36	0.70	0.18	4.717	0.000
	Group B	15	2.42	0.33	0.09		
Length	Group A	15	6.47	1.17	0.30	0.916	0.368
	Group B	15	6.13	0.78	0.20		
Skinfold Thickness	Group A	15	2.90	0.48	0.12	3.813	0.001
	Group B	15	2.23	0.49	0.13		

DISCUSSION

Newborn care is one of the important basic cares and massage has been practiced in the past and present. It is effective and economically cheaper method is essential considering the economic status of the individuals. Prevention of neonatal morbidity is also a factor that has to be born in mind. The classical texts of Ayurveda, the care of newborn includes abhyanga, snana, jatakarma, etc. as part of routine care of newborn.[5]

In this study shows that guru, snigdha properties of ksheer balataila may take care of dhatupushti. Jeevaneeya (life promoting action) gana dravya indicative of their capability to bring out cell division i.e. they generate the healthier tissues. Twak (skin) is the updhatu of mansa dhatu, during abhyangya (application of oil) on the skin nourishes the cells and

improves subcutaneous fat (brown fat) on the body, which helps to maintain temperature and gain the body weight. Abhyanga increases in vagal activity, which in turn may lead to increased gastric motility and thereby weight gain.[6] By applying ksheerbala taila on the body, it regulates thermal control i.e. maintains body temperature (controls thermal loss) and improves circulation; thereby weight gain.

'Abhangaymchareet Nityam': Vata is predominant in the skin (sparsh ashraya); ksheerbala tail abhyang is vatashamak, it cleans the skin from any dirt (mrujaprad), improves the body complexion (varanprad), restores the natural immunity (vayadhikshmatva) ksheerbalataila is the best vatashamaka, thereby skin color, tone, texture improved.[7]

Head is the major part of the body for heat loss for the infant body, when oil apply on the head that is shiroabhangya prevent heat loss. The open anterior and posterior fontanels on the scalp; provides way for percolation of the oil which nourishes the majja dhatu (CNS system); which helps to brain growth and development of the baby. The bala tai abhyang improves physical strength, promotes excellence of body tissue that is dhatuposhan, relaxes muscle and useful in eliminating fatigue i.e. shramahar thereby induces sound sleep and improvement in daily activity. During abhyangya more oil and more time spend on the neuromuscular junctions thereby increases stimulation to muscle fibers and nerve endings so improves circulation in the body, relaxes muscle which induced sound sleep help to improve growth and development of the baby.

Some research on Ksheerbaia tail abhyanga showed that, ksheerbalataila contains Go-dugdha has the property of jeevana i.e. it will supply essential requirements, oxygen and nutrients etc. to all the vital tissues by improving the posture and encourages deep breathing and gas exchange. Also I ngredients of Ksheerbalataila by virtue of their lekhana properties removes unwanted depositions from skin.

REFERENCES

1. Ashtamga Hridaya Sootra Sthana Adhyaya 2/8, Chaukhambha Sanskrita Pratishthana Varanasi, Published, 2012; 26.
2. Ashtanga Samgraha Sharirasthana Adhyaya no 4/51 Editor Kaviraja Atrideva Gupta, Chaukhambha Krishnadasa Academy Varanasi Reprint, 2005; 296.
3. Ashtamga Samgraha Sharira Sthana Adhyaya 4/51 Chaukhmbha Sanskrita Pratishthana Varanasi, 2011; 296.

4. Kaviraj Ambikadutta Shastri. Susruta Samhita edited with ‘Ayurveda Tattva Sandipika’ Hindi commentary, Part-I (reprint year: 2005) and Part-II a(reprint year: 2004), Varanasi: Chaukhambha Sanskrit Sansthan, Varanasi.
5. Tiffany Field, Miguel Diego and Maria HernandezReif. Preterm Infant Massage Therapy Research: A Review. Infant Behav Dev. PMC Apr 1, 2011. APR 2010; 33(2): doi: 10.1016/j.infbeh.2009.12.004. cited on 08/08/13.
6. Ashtamga Hridaya Sootra Stha Adhyaya 2/8 Chaukhambha Sanskrita Pratishthana Varanasi, 2012; 26.
7. 2014; 2.
8. charak Samhita of Agnivesha by Kashinath Shastri, Chaukhamba Sanskrit Sansthan Varanasi reprint, 2007; Vol-I, vol-II.
9. Effects of massage & use of oil on growth, blood flow & sleep pattern in infants. Indian J Med Res, 2000 Dec; 112: 212-7 Agarwal KN, Gupta A, Pushkarna R, Bhargava SK, Faridi MM, Prabhu MK PMID:11247199 [Pub Med].
10. Newborncare WHO/FHE/MSM 93.2 Massage therapy may enhance immunity in preterm infants."PHYSorg.com, 13 Nov 2012.