

# “EFFICACY OF KSHIRBALA TAILA ABHYANGA ON LOW BIRTH WEIGHT NEONATES FOR WEIGHT GAIN”

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## Abstract

**Objective:** The purpose of this study was to evaluate efficacy of kshirbala taila abhynaga on weight gain of LBW babies.

**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 (  $p=0.005$ ). 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.

**Key Words:** *Low birth weight, Abhyanga, weight gain.*

## Materials and methods

A randomized open clinical trial was conducted on LBW neonates whom were delivered to Bharti Hospital. Sample size was 30.

Eligible participants included 30 newborns that had gestational age of 33-37 weeks, birth weight of 2000-2499 grams, who were without birth asphyxia and hypoxic ischemic insults, 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, and necrotizing enterocolitis

Neonates were randomly assigned to two groups. In group one, 15 neonates massaged in morning a day 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 researcher. Compliance of mothers was checked regularly by the researchers during stay of newborns at hospital. Abhyanga method- Comfortable, lukewarm massage oil (ksheerbalaTail) used. [Mother was trained and advised to store the oil in a plastic flip-top and warm it by holding the container under running hot water for a few minutes] Mother was trained for massage as: dip her fingertips into the warm oil and apply lightly to the entire body; Wait for 4-5 minutes to let some of the oil absorbed by skin, massage the entire body, applying even pressure with the whole hand-palm fingers. Apply light pressure on sensitive area such as abdomen or heart. Use more oil & spend more time where nerve ending are concentrated such as soles of the feet; Palms of the hands along the base of the fingernails. Circular motions over rounded areas such as head or joints & straight strokes on straight areas such as arms & legs .after massage relax for 10-15 min.

Growth parameters of all neonates were measured 45 days after starting of body massage, a." 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.

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 inter observer variations, all measurement were made in Bharti hospital . The primary end points were efficacy in increase mean of weight, height and head circumference that evaluated at the end of intervention, at age of one month . Secondary outcome was clinical side effects in duration of follow up.

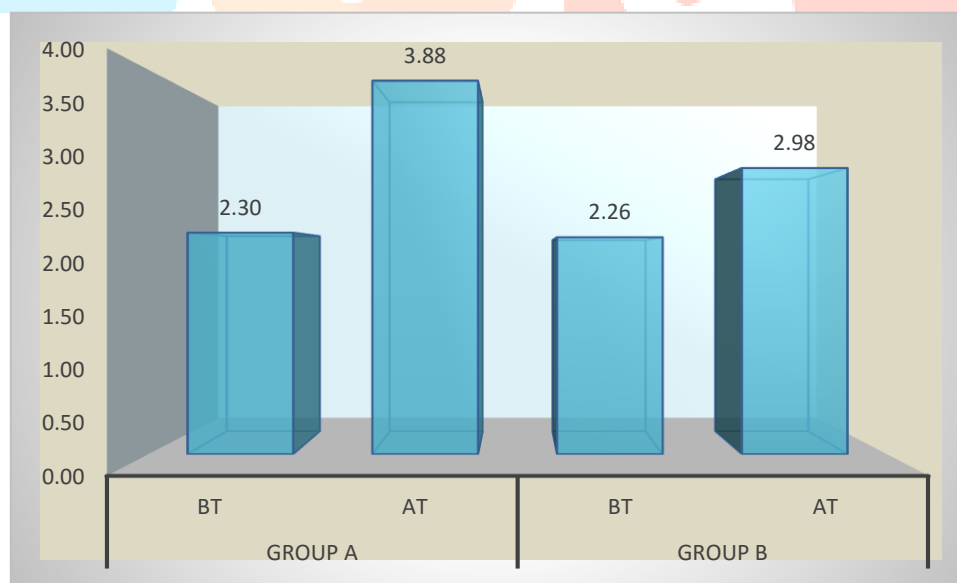
Variables such age, sex, gestational age, route of delivery, age and educational level of mother were carefully recorded by medical records of mother and neonate. "Gestational age was calculated using the first day of the last normal menstrual period, . Informed consent was taken from parents and the study has been approved by the Ethical Committee of Bharti University of Medical Sciences, Katraj,pune

### Statistical analysis

The data were analyzed using 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.

### Observations

| Weight  |    | Mean | SD   | SE   | t-Value | P-Value | % Change |
|---------|----|------|------|------|---------|---------|----------|
| Group A | BT | 2.30 | 0.09 | 0.02 | -63.823 | 0.000   | 68.6     |
|         | AT | 3.88 | 0.13 | 0.03 |         |         |          |
| Group B | BT | 2.26 | 0.15 | 0.04 | -30.847 | 0.000   | 31.9     |
|         | AT | 2.98 | 0.23 | 0.06 |         |         |          |



### 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 to 39 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. 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.

## 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.

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 updhātu of mansa dhātu, 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. 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.

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 fontanelles on the scalp; provides way for percolation of the oil which nourishes the majja dhātu (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 Ingredients of Ksheerbalataila by virtue of their lekshana properties removes unwanted depositions from skin.

## CONCLUSION

Abhyanga (Massage) is one of the entity of newborn care as per ancient Acharyas; which is very scientific and very effective to gain weight, reduces pain, enhances

Based on the result of this study, body massage increased mean of weight of low birth weight neonates at the age of one and half months and it can be used as a simple effective and safe non-medical intervention that can improve weight gain velocity of low birth weight infants.

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