Effectiveness of oil massage on weight gain among pre-term neonates in selected pediatric hospitals, Hyderabad

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Corresponding Author:
Ms. Deepa Prince,
Supervisor, NICU, Vijay Marie Hospital, 500020 - India

Submitting Author:
Ms. Deepa Prince,
Supervisor, NICU, Vijay Marie Hospital, 500020 - India

Other Authors:
Dr. Jyothi Prince,
Lecturer, Maternity Nursing Department, College of Nursing, King Saud Bin Abdulaziz University for Health Sciences - Saudi Arabia
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Author(s): Prince D, Prince J

Abstract

Improved technology and treatment modalities have enhanced the outcomes of pre-term infants yet have increased the days they spend in the Neonatal Intensive Care Unit, thus are subjected to a highly stressful environment and to intensive invasive and painful treatments necessary for their survival. The aim of the study was to assess weight gain without the therapeutic intervention of oil massage among pre-term neonates. 60 Pre-term neonates, recruited from Fernandez Hospital, Hyderguda through simple random sampling. The investigator has prepared a tool with two sections. Part A: Demographic characteristics of pre-term babies, Part B: Fenton’s Growth Chart. 29 (96.7%) pre-term babies in the control group gained low weight (0gms – 100gms) and 1 (3.3%) gained moderate weight (101gms – 200gms) while 18 (60.0%) pre-terms in the experimental group gained moderate weight and 11 (36.0%) gained high weight gain (201gms – 300gms). The study concluded that Oil application has a potential to improve weight gain and cause less weight loss in first seven days in low birth weight neonates

Introduction

Improved technology and treatment modalities have enhanced the outcomes of pre-term infants yet have increased the days they spend in the Neonatal Intensive Care Unit, thus are subjected to a highly stressful environment and to intensive invasive and painful treatments necessary for their survival. They also lack the tactile stimulation that they would otherwise experience in the womb or in general mothering care. Pre-maturity accounts for a large number of admissions to the NICU. Most pre-term babies lose weight during the first three to four days of life and loss is up to a maximum of 10 to 15% of the birth weight. They regain their birth weight by the end of second week of life. Excessive weight loss, delay in regaining the birth weight or slow weight gain suggest that either the baby is not being fed adequately or he is unwell and needs immediate attention. Nature massages the baby in the womb where contractions rhythmically squeeze and push. After birth, massage enhances bonding, improves sleep patterns, stimulates circulation, improves digestion, facilitates food absorption and results in faster weight gain. Low birth weight is one of the main determinants of neonatal and postnatal morbidity. Massage is more methodological touch intended to stimulate the child. Healthcare providers have hypothesized that babies who are touched a lot grow better. Touch stimulates growth promoting hormone and increases the enzyme activity that makes the cells of the vital organs more responsive to the growth promotion effects of the hormone, thus making the child gain weight and provide higher chances of survival.

Aim:

1. To assess weight gain without the therapeutic intervention of oil massage among pre-term neonates in control group in selected pediatric hospitals.
2. To assess weight gain with the therapeutic intervention of oil massage among pre-term neonates in experimental group in selected pediatric hospitals.
3. To determine the association of pre-term weight gain and selected demographic variables in control and experimental group in selected pediatric hospitals.
4. To evaluate the effectiveness of oil massage on weight gain among pre-term neonates in control and experimental group in selected pediatric hospitals.

Materials and Methods

60 Pre-term Neonates, recruited from Fernandez Hospital, Hyderguda through simple random sampling. The investigator has prepared a tool with two sections. Part A: Demographic characteristics of pre-term babies, Part B: Fenton’s Growth Chart. (Figure 1, 2)

Inclusion Criteria:

This study includes pre-term neonates:

Weighing between 1000 gms – 1500 gms on 5th or 6th postnatal day
Who are hemodynamically stable
- Gestational age between 29 wks – 32 wks
- Whose parents have given consent

Results

Analysis of demographic variables
All (100%) pre-term neonates belonged to the age of 6 – 10 days. 29 (48.3%) pre-term neonates were born to primi mothers, 30 (50%) were male and female, 23 (38.3%) from a Hindu background, all (100%) belonging to high class, 33 (55%) with a birth weight of 1.31kgs – 1.60kgs, 32 (53.3%) born to mothers aged between 26 – 30yrs, 29 (48.3%) born at a gestational age of 30 weeks, 28 (46.7%) of the first birth order and all (100%) nourished by feeding technique. (Table 1)

Comparison of weight gain in the control and experimental group
29 (96.7%) pre – term babies in the control group gained low weight (0gms – 100gms) and 1 (3.3%) gained moderate weight (101gms – 200gms) while 18 (60.0%) pre – terms in the experimental group gained moderate weight and 11 (36.%) gained high weight gain (201gms – 300gms).
The mean weight difference in the control and experimental group is 77.33 and 280.67 showing a significant increase in the mean difference. The paired ‘t’ – test was computed to find out the effectiveness of oil massage on weight gain among pre-term neonates. The tabulated value 2.045 for df 29 shows that the change in weight is significant. The calculated t – value is more than the table value at the level of 0.05 probability. (P< 0.05)

Findings on association between the knowledge and demographic variables:
The test result proves that there is no significant association between the weight gain and demographic variables among pre-term babies.

DISCUSSION

Oil massage significantly increases the weight of the pre-term neonates. The present study is in agreement with Saeedi R, Gholami M, Dinpvar SH, Kabirian M (Iran, 2011), who conducted a quasi – experimental study to evaluate the effect of massage on weight gain with coconut oil in pre-term infants. Findings showed that they observed a higher weight gain over seven days in the neonates that received coconut oil massage (212.40 ± 240.28 gms) than that in the massage only (7.39 ± 96.68 gms) and control groups (28 ± 224.4 gms). Further, the difference in weight gain between the massage-only and the control groups was insignificant. The study concluded that massage with coconut oil has a positive effect on weight gain in pre-term newborns.8

Present study was also in consistent with Arora J, Kumar A, Ramji S (2005), conducted a randomized control trial to study the effect of oil massage on growth and neuro-behavior of pre-term babies. Eligible neonates were randomized to one of the three groups (a) massage with oil (b) massage without oil and (c) no massage. After 10 days of intervention, weight gain in the oil massage group (365.8 +/- 165.2g) was higher compared to the only massage group (290.0 +/- 150.2g) and no massage group (285.0 +/- 170.4g) showing that oil massage increases weight of pre-term neonates.8

Similarly, Jagdish Kumar et al (Uttar Pradesh, 2010), who conducted a randomized control trial to study the effect of oil massage on growth in pre-term babies. Eligible neonates were randomized to one of the two groups (a) Oil massage along with standard care of low birth weight (b) Standard care of low birth weight without massage. At seven days, less weight loss (7.80 ± 9.8 gms) was observed in babies in oil massage group compared to control group (21.52 ± 19.4 gms) (p = 0.003). The study concluded that Oil application has a potential to improve weight gain and cause less weight loss in first seven days in low birth weight neonates.9

Similarly, a study can be replicated on a large scale and for a longer duration for more accurate results
- An observational study can be conducted regarding the protocol for infant massage in various hospitals
- A comparative study can be conducted on the efficacy of various massage techniques

CONCLUSION

Being the important care giver in the health care delivery system, nurses play a crucial role in reduction of neonatal mortality. They are the backbone of neonatal care services, who constantly monitor and care for the sick neonates. Therefore they have a very responsible role in the care of newborns. Based on the findings of the study it can be concluded that olive oil massage significantly increases weight gain in pre-term neonates.

References
Illustrations

Illustration 1

Conceptual Frame Work based on Nursing Process Model

![Conceptual Frame Work based on Nursing Process Model](image1)

Illustration 2

Schematic representation of research design

![Schematic representation of research design](image2)
Illustration 3

Table 1

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