

Knowledge and Practice of Caregivers about Oil Massage for Newborns

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Abstract

Introduction: Massaging the newborn has been a tradition in India and other Asian countries since time immemorial. The practice has been prevailing in the community of Bangladesh. This study was designed to find out the knowledge, attitude and practice of caregivers about oil massage to their babies.

Aim of the study: The aim of the study was to observe the knowledge and practice of oil massage of infants among caregivers.

Methods: This cross-sectional descriptive study was conducted at the Out Patient Department of Pediatrics, Sir Salimullah Medical College, Mitford Hospital, Dhaka, Bangladesh. A total of 146 infants and their individual caregivers were selected from those who attended the Pediatric OPD of Sir Salimullah Medical College, Mitford Hospital, Dhaka, during the period of July 2010 to June 2011.

Result: Among the infants, 56.8% were male and 43.2% were female. Over 90% of the infants were full term, and 144 out of 146 infants were given oil massage. 39% of the babies were given oil massage twice per day, while 37% were given oil massage three times per day.

Conclusion: The frequency of oil massage to infants by their caregivers is very high in the present study. Caregivers believe that oil massage can prevent cold, improve skin condition and produce sound sleep. Majority of the caregivers gave oil massage 2-3 times daily to the babies.

Keywords: Oil, Massage, Massage therapy, Thermoregulation, Caregiver

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I. Introduction

Massaging the newborn has been a tradition in most Asian countries since time immemorial.^{[1],[2]} Effect of massage on growth in preterm infants was known from studies using either massage alone as a form of tactile stimulation or massage with some type of vegetable oil.^[1] Various oil-based preparations have been used depending on the regional availability.^[2] However, oils used may vary from potentially beneficial to potentially toxic categories.^[3] There has been a recent surge in massage therapy among parents and professionals in the Western world.^[2] Evidence exists supporting the benefits of touch and massage therapy. Massage has several positive effects in terms of weight gain, better sleep-wake pattern, enhanced neuromotor development, better emotional bonding, reduced rates of nosocomial infection and thereby, reduced infant mortality.^[2] Weight gain is the most consistent parameter associated with massage therapy in neonates. It was observed that infants who received massage had 21% greater weight gain. The weight gain was observed to be 47% greater in another study on preterm infants. In a review, it was summarized that massage therapy has led to weight gain in preterm infants when moderate pressure massage was provided.^[4] Infants who receive massage therapy are generally more alert and spend less time in sleep. Preterm infants receiving massage therapy show better infant behavior on the behavior scale in terms of orientation, range of state, and autonomic stability. Massage with some forms

of oil serve nutritional purpose as well. Topically applied oil to preterm skin (thin and vascular) can be absorbed systemically and serve nutritional purposes. It was observed that children massaged regularly with sunflower oil and coconut oil had significantly higher serum triglyceride levels.^[2] In the colder regions like Nepal, where children are at risk of hypothermia post-delivery, oil massage improved the thermoregulation in the body by decreasing the convection losses, reducing the risk of hypothermia during the 2 hours after birth by almost 50%. However harmful effects like physical injury and increased risk of infection were also encountered when massage performed inappropriately.^[2] Benefits of massage emollient may include improved skin condition and barrier function, resulting in reduced loss of trans epidermal water and improved thermoregulation; absorption of fatty acids, contributing to improved nutrition; better somatic growth, neuro-development and infant parent bonding; and improved skin integrity and reduced risk of nosocomial infection.^{[4],[5]} Researchers suggested that the practice of infant oil massage could have substantial public-health benefit if caregivers and health professionals conducting deliveries are motivated to this practice with inexpensive, readily-available oils.^[4] The practice of oil massage has been prevailing in the community of Bangladesh. But there is no sufficient data on this practice in our country. This study was conducted to find out the knowledge and practice of mothers/caregivers about oil massage to their babies. It will be helpful to disseminate the necessary information about oil massage which ultimately eradicate the bad practices existing in the community and also will be helpful for further study about oil massage to the infants.

II. Objective

General Objective

- To learn about the knowledge of oil massage for newborns among caregivers.
- To about the practice of oil massage for newborns among caregivers.

III. Methods

This cross-sectional descriptive study was conducted at the Out Patient Department of Pediatrics, Sir Salimullah Medical College, Mitford Hospital, Dhaka, Bangladesh. The study duration was one year, from July 2010 to June 2011. All the mothers/caregivers of infants who attended Pediatric OPD of Sir Salimullah Medical College, Mitford Hospital, Dhaka during the study period were initially selected for this study. Purposive sampling technique was used to select a total of 146 caregivers from the initial selection. The caregivers were interviewed with a predesigned structured questionnaire. Informed written consent was taken from each caregiver, and the study protocol was approved by the "Ethical Review Committee" of Sir Salimullah Medical College, Dhaka.

Inclusion Criteria

- All the mothers/caregivers of infants attending the pediatric OPD of Sir Salimullah Medical College, Mitford Hospital, Dhaka.
- Caregivers of infants who were in charge of only 1 infant each
- Patients who had given consent to participate in the study.

Exclusion Criteria

- Caregivers of seriously ill infants
- Unable to answer the criteria question.
- Unwilling to participate in the study.

IV. Results

Table 1: Age distribution of studied babies (N=146)

Age Group	Number	Percentage
0-4 months	52	35.5
5-8 months	40	27.4
9-12 months	54	37
total	146	100

The mean \pm SD age of the babies was 6.04+3.97 months. The age range of the babies was 8 days-12 months. Fifty-four (37.0%) participant babies were in age group 9-12 months, 52(35.6%) babies in age group 0-4 months and 40(27.4%) in age group 5-8 months.

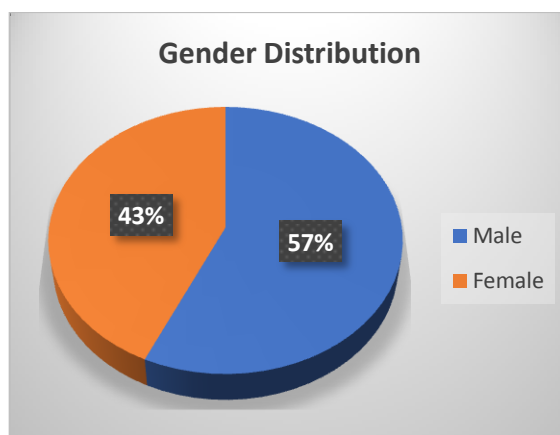


Figure 1: Gender distribution of infants (N=146)

Among the participants 83(56.8%) babies were male and 63 (43.2%) babies were female. The male-female ratio is 1.3:1

Table 2: Gestational maturity of studied babies (N=146)

Gestational age	Number	Percentage
Term	133	91.1
Preterm	13	8.9

Among the infants, majority (91.1%) were full-term babies, while 8.9% were preterm.

Table 3: Place and mode of delivery of studied babies (N=146)

Mode of delivery	C/S		NVD		total	percentage
	Number	Percentage	Number	Percentage		
Public hospital	46	31.5	18	12.3	64	43.8
Home	0	0	60	41.1	60	41.1
Private Clinic	16	11	5	3.4	21	14.4
Maternity clinic	0	0	1	0.07	1	0.7
Total	62	42.5	84	57.5	146	100

Among the 146 studied infants 64(43.8%) were delivered at public hospital, 46(31.5%) by cesarean section and 18(12.3%) by normal vaginal delivery (NVD); 60(41.1%) infants were delivered at home by NVD; 21(14.4%) babies were delivered at private clinic, 16(11.0%) by cesarean section and 5(3.4%) by NVD and 1(0.7%) baby was delivered by NVD at maternity clinic.

Table 4: Education of the caregivers (N=146)

Caregivers' Education	Number	Percentage
Illiterate	24	16.4
Up to Class V	47	32.2
Class VI to VIII	40	27.4
Class IX to XII	35	24
Total	146	100

About 32.2% caregivers were educated up to class V, while 16.4% were illiterate. There were no caregivers having education level >class XII.

Table 5: Care givers' Occupation (N=146)

Caregivers' Occupation	Number	Percentage
House Wife	141	96.6
Service	5	3.4

One hundred forty-one (96.6%) care givers were house wives and 5(3.4%) were service holder.

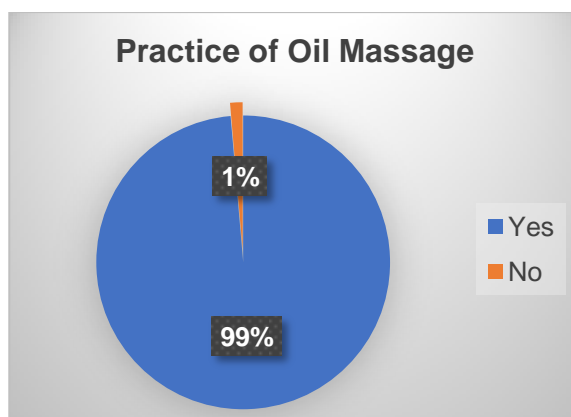


Figure 2: Practice of oil massage (N=146)

One hundred forty-four (98.6%) children were massaged with oil and only 1.4% babies were not massaged with oil.

Table 6: Mode of delivery of oil massaged babies (N=144)

Mode of Delivery	Number	Percentage
Caesarian section	62	43.06
Normal vaginal delivery	82	56.94
Total	144	100

Among the 144 studied babies 56.94% babies were born normally, and 43.06% born by Lower Uterine Caesarian Section (LUCS)

Table 7: Timing of first application of oil massage (N=144)

Timing of first application	Caesarian section babies (n=62)		Normal Vaginal delivery babies (n=82)	
	Number	Percentage	Number	Percentage
Immediately after birth	0	0	11	13.41
By 12 hrs	2	3.23	15	18.29
By 24 Hrs	4	6.46	19	23.17
By 48 Hrs	3	4.83	6	7.32
By 72 Hrs.	7	11.29	11	13.41
After 72 hours	46	74.19	20	24.4

Among the caesarian babies, 74.19% babies were given oil massage after 72 hours of birth, while among the vaginal delivery babies, only 24.4% babies were given oil massage after 72 hours of birth.

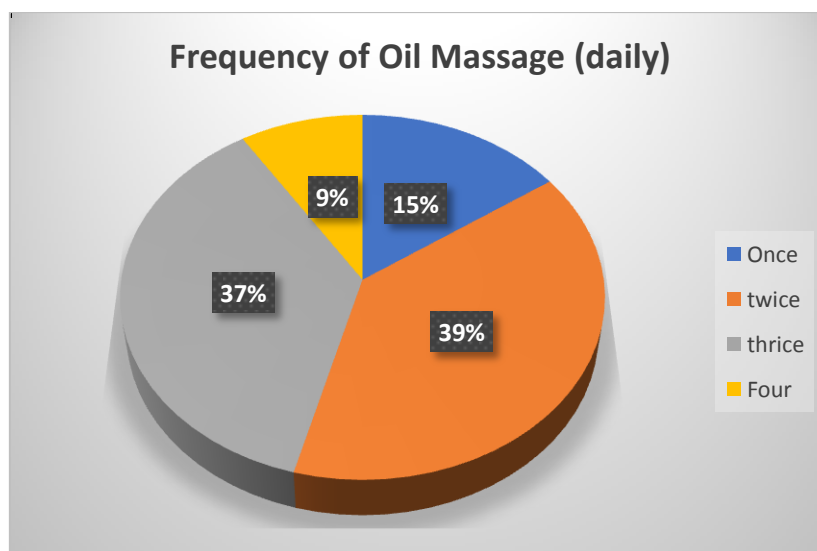


Figure 3: Pie chart showing frequency of massage in 24 hours (n=144) Majority of the babies were massaged twice (38.89%) and thrice (36.81%) daily.

Table 8: Conception of caregivers about the benefit of oil massage (N=144)

Reason of application	Number	Percentage
To improve the condition of the skin	19	13.19
To improve the overall health of the baby	3	2.08
To prevent Cold	108	75
Other causes	6	4.17
Causes not known	8	5.56
For sound sleep	16	11.11

The conception of caregivers regarding the benefit of oil massage were to prevent cold in 108 (75.0%) cases, followed by to improve the condition of the skin in 19(13.19%) cases, for sound sleep 16(11.11%) cases, to improve the overall health of the body 3(2.08%) cases.

Table 9: Attitude of caregivers about oil massage (N=144)

Attitude about oil massage	Number	Percentage
Good	133	92.36
Bad	3	2.08
Not known	8	5.56
Total	144	100

The attitude about oil massage was good in 133(92.36 %) caregivers, 3(2.08 %) think bad and 8(5.56%) do not know whether the oil massage is good or bad.

V. Discussion

To explore the knowledge and practice of oil massage among the infant caregivers of our demographic, a total of 146 caregivers were interviewed. For the better understanding of this study, only the caregivers who were in charge of one infant each, and no more, were interviewed for this study. The mean \pm SD age of the babies was 6.04 ± 3.97 months with male-female ratio of 1.3: 1. In the present day, about 41% babies were born at home & most of them came from urban and rural areas (83.1%). A study conducted in the Sylhet district found that about 90% babies were born at home, which was similar to our findings.^[6] About 32.2% caregivers were educated up to class V, while 16.4% were illiterate. Only 24% of the caregivers had education higher than class IX. These findings were consistent with the findings of a study by Ahmed.^[3] In their study, 38% caregivers were educated up to class V including 10 % illiterate one. In the present study, over 90% of the babies were full term, while only 8.9% were pre-term babies. This might be due to the selection criteria, where infants who were seriously ill or of low birth weight were excluded from the study. In the present study, 42.5% of the infants had birth by caesarean section, while 57.5% had normal vaginal delivery. A total of 43.8% had delivery at a public

hospital, among which, 31.5% were caesarean, and 12.3% were normal delivery. 41.1% infants were delivered at home by normal delivery, while 14.4% of babies were delivered at private clinic, 16(11.0%) by cesarean section and 5(3.4%) by NVD and 1(.07%) baby was delivered by NVD at maternity clinic. Among the caregivers of the 146 babies, 96.6% were housewives, and the remaining few were service workers. This was mainly due to the demographic of Bangladesh, and majority of the deliveries taking place at home through normal delivery. Further inquiries also showed a big portion of the housewives were mothers or grandmothers of the infant. Among the 146 caregivers, 144 were giving oil massage to the infant, while only 2 participants did not give oil massage. The 2 infants who did not receive oil massage were under the care of aunts, with no direct maternal relation to the infant. Among the caesarean section infants, 74.19% were given oil massage after 72 hours of birth. None of the caesarean babies were given oil massage immediately after birth. This might be a result of the mode of delivery for those infants, as infants of caesarean section are kept under observation during the primary hours after birth. Among the normal vaginal delivery babies, 75.60% were given oil massage within 72 hours of birth and 13.41% immediately after birth. This was similar to multiple studies where oil massage was given to a large portion of study infants immediately after birth.^{[3],[6]} The present study found that most of the babies (75.70%) were massaged for two or three times a day. These findings were in agreement with the findings of another study by Mullany.^[7] In their study, they found that oil was usually applied two or three times a day in 80% babies. Alam et al (2008) also found that oil massage to the babies was applied two or three times a day.^[6] The conception of caregivers regarding benefit of oil massage was to prevent cold, to improve the condition of skin, to improve the overall health of the baby, have sound sleep, relax joints, make expectoration of sputum easy. About 75% caregivers gave their opinion that oil massage prevents cold. These findings are consistent with findings of other studies.^{[3],[6],[7]} In the study by Mullany, they found that the most common reasons given for applying oil massage to the skin of newborn were to make the babies strong, keep the baby healthy, to keep the baby warm and to make the babies skin look good.^[6] In another study by Ahmed, various reasons of oil application were found, but the principal reasons were to keep the baby warm, prevent infections, improve the condition of skin or the overall health of the baby. Regarding attitude of caregivers, the present study revealed that most of the caregivers (92.36%) think of oil massage is good for baby and 71.5% believe that oil massage is useful for the baby. Several authors are in agreement with the findings of the present study.^{[3],[6],[7]} The authors explained the mechanisms why oil massage was beneficial for the babies. Some authors focused more on the effects of oil massage using different types of oil for the babies. The study by Mullany suggested that mustard oil goes straight into the baby's skin and good for the baby.^[6] However, recent evidence suggests that mustard oil may have detrimental effects, particularly for preterm infants or for those whose skin barrier function is otherwise sub-optimal.^[9] In the study by Kulkarni, it was explained that oil massage results in improved thermoregulation by decreasing heat loss through skin. Massage therapy has been shown to improve the skin barrier function.^[2]

Limitations of the Study:

The study was conducted in a single hospital with small sample size. So, the results may not represent the whole community. Lack of a control group also hampered the analysis of presented data.

VI. Conclusion

The frequency of oil massage to infants by their caregivers is very high in the present study. Caregivers believe that oil massage can prevent cold, improve skin condition and produce sound sleep. Majority of the caregivers gave oil massage 2-3 times daily to the babies.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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