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RESEARCH ARTICLE

EFFECT OF TOPICAL APPLICATION OF BREASTMILK ON UMBILICAL CORD SEPARATION TIME AMONG NEWBORN - A PILOT STUDY.

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Abstract

During the intra-uterine life the umbilical cord serves as an only one source for nutrition, energy and growth of the fetus but, during extra uterine life the umbilical cord stump serves as a commonest site for the spread of infection due to warmth and blood circulation over it. The country like India having most area of lower economic status requires the easily available, cheap and convenient method which mothers themselves also can perform to prevent the occurrence of infection. Hence, this study was conducted to evaluate the effect of application of breastmilk on separation time of umbilical cord among newborn. **Methodology:** The Quasi experimental Posttest only control group design was used to do the pilot study using a quantitative approach. The study was conducted at Raj Nursing Home, Anand and Himalaya hospital, Anand. Convenient sampling technique was used to select 10 newborns in experimental group & control group (5 in each). The tool of data collection included validated checklist of neonatal bio-demographic variables and of physiological parameters of signs of cord separation. The data collection tool was divided into 2 sections which are Observation checklist of Neonatal variables, existing condition of cord (at birth) and observation checklist on physiological parameters signs of cord separation. **Results:** The data was analyzed using descriptive and inferential statistics. The result shows there is reduction in umbilical cord separation time of experimental group (mean 4.8 days) as compared to control group (7.4 days). This shows there is an impact of topical application of breastmilk on umbilical cord separation time. **Conclusion:** There is significant reduction in umbilical cord separation time due to topical application of breastmilk on umbilical cord. Hence, topical application of breastmilk can be used as a cheapest, easily available natural therapy for reduction of umbilical cord separation time.

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Introduction:-

During intra uterine life the umbilical cord provides nutrition through only one connection between placenta and growing fetus by feto-placental blood circulation. Soon after the birth the cord was cut down. The unhealed umbilical cord stump becomes commonest portal for infection through direct entry of the pathogen invasion. Delay in the cord detachment may increase the risk of bacterial infection.

In developing countries like India there are certain factors which can affect the cord infection and detachment like social customs, environmental cleanliness, hygiene of the newborn, bacteriologic profile, and bathing of newborn.

As per Mohammad Golshan and Nemmatizadeh Hossein one million neonates die due to umbilical cord infection.¹ Most of these mortalities occur in developing countries. According to World Health Organisation (WHO) report 300,000 neonates die annually due to tetanus infection, and umbilical cord is the leading route for such an infection.

Breastmilk is having the growth factors namely transforming growth factors alpha and beta (TGF-A & TGF-B) and the insulin like growth factors 1 and 2 (IGF-1 AND IGF-2). These factors involves in tissue repair and wound healing of the cells.²

There are various cord care practices which include use of traditional herbs mixed with cooking oil or water that has been used to wash an adult woman's genitals or application of ash, breast milk, and fluid from pumpkin flowers, powder ground from local trees, cow dung, ghee and saliva that may be applied to the cord area and which may be harmful.³

As the human milk doesn't cost anything, is readily available to the baby and is sterile as well as easy to apply on the umbilical cord stump. It is important to explore the possibility of using human milk topically to protect infants from umbilical cord infection in developing countries.⁴

As cord infections should be preventable in most cases, it is important to identify best cord care practices to reduce neonatal mortality and morbidity and offer an alternative to widespread potentially harmful traditional practices. So, this study was conducted to evaluate the effect of topical application of breastmilk on umbilical cord separation time.

Material And Methods:-

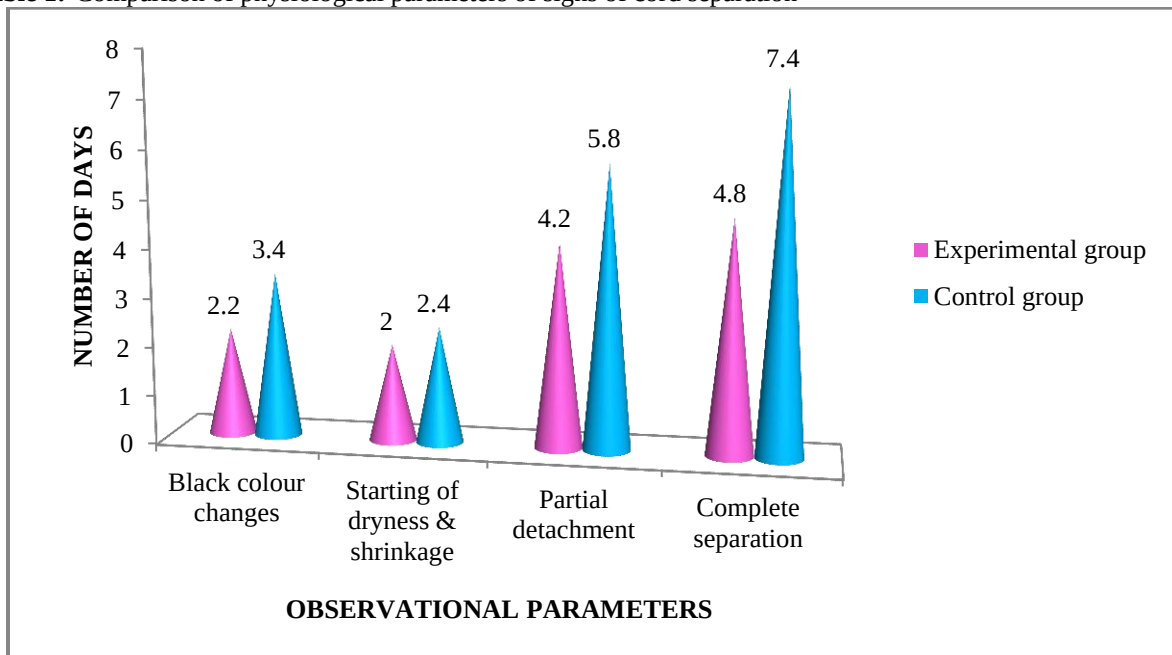
The Quasi experimental Posttest only control group design was used to do the pilot study using a quantitative approach. The study was conducted at Raj Nursing Home, Anand and Himalaya hospital, Anand. Using convenient sampling technique 10 newborns were selected for experimental group & control group (5 in each). The tool of data collection included validated checklist of neonatal bio-demographic variables and of physiological parameters of signs of cord separation. The data collection tool was consisting of 2 sections which were Observation checklist of Neonatal variables, existing condition of cord (at birth) and observation checklist on physiological parameters signs of cord separation.

Existing condition of umbilical cord stump was assessed for both experimental and control group followed by topical application of breastmilk over umbilical cord stump for experimental group participants twice a day and no intervention for control group until the cord fell off. The umbilical cord stump was assessed based on physiological parameters every day until the cord fell off for both the group.

Result:-

The data was analyzed using descriptive and inferential statistics. Analysis of the data was done with the use of two sample t- test and one way ANOVA. The overall Study concluded that the topical application of breastmilk reduces the umbilical cord separation time.

The comparison of Physiological parameters signs of cord separation of experimental and control group shows as following:

Table 1:-Comparison of physiological parameters of signs of cord separation**Comparison of partial detachment of the umbilical cord stump**

Using two sample T-test and CI the data was analyzed at P-value 0.036. There was significant difference in mean between both the group 4.2 days (experimental group) and 5.8 days (control group).

Comparison of complete separation time of umbilical cord stump:

Using two sample T-test and CI the data was analyzed at P-value 0.035. The study result showed that there was short umbilical cord separation time of experimental group (mean 4.8 days) as compare to (mean 7.4 days).

Conclusion:-

There was marked short duration of umbilical cord separation time of newborns receive topical application of breastmilk. Hence, the topical application of breastmilk can be used as a cheapest, easily available and the method which mothers also can use in order to shorten the umbilical cord separation time.

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