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"A Study to Evaluate the Effectiveness of Structured Nursing Intervention On Knowledge and Practice Regarding Prevention of Neonatal Hypothermia in Lbw Babies Among Staff Nurses in Selected Hospitals at Bhuj–Kachchh, Gujarat."

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paediatric nursing

Abstract

Hypothermia during the new born period is widely regarded as a major contributor cause of significant morbidity in developing countries and, at its extreme, mortality. High prevalence of hypothermia has been reported from countries with the highest burden of neonatal mortality, where hypothermia is increasingly gaining attention and significance as a critical intervention for new born survival. The world health organization adopted thermal control among the essential components of new born care. **Objective:** An experimental study to assess effectiveness of structured nursing intervention on knowledge and practice regarding prevention of neonatal hypothermia in LBW babies among staff nurses in selected hospitals at Bhuj- Kachchh, Gujarat. **Methodology:** The study consists of 60 staff nurse in GK General Hospital at Bhuj - Kachchh, Gujarat. Content validity of the tools was ensured by verifying it with expert from the field of Nursing. Purposive sampling technique was used for this study. The instrument for the data collection was a structured knowledge questionnaire related to knowledge and structured five rating scale for practice regarding prevention of hypothermia in LBW babies. **Results:** There is a significant association between post-test level of knowledge and practice and demographic variable age, sex, qualification, area of work, year of experience and source of information.

Key word: Neonatal hypothermia, Low Birth Weight, Effectiveness, Evaluate, Knowledge

1. Introduction:

Hypothermia during the newborn period is widely regarded as a major contributor cause of significant morbidity in developing countries and, at its extreme, mortality. High prevalence of hypothermia has been reported from countries with the highest burden of neonatal mortality, where hypothermia is increasingly gaining attention and significance as a critical intervention for newborn survival.

Low birth weight is a term used to describe babies who are born weighing less than 5 pounds, 8 ounces (2,500 grams). An average newborn usually weighs about 8 pounds. A low-birth-weight baby may be healthy even though he or she is small. But a low-birth-weight baby can also have many serious health problems. Low birth weight is most often caused by being born too early (premature birth). That means before 37 weeks of pregnancy. Another cause of low birth weight is a condition called intrauterine growth restriction (IUGR). This occurs when a baby does not grow well during pregnancy.

Process of thermoregulation: Neonates are easily affected by temperature variation. Thermoregulation is important for both term and preterm neonates because they have to adapt from intrauterine life to extra uterine life during transition. In fetal life, placenta acts as heat to maintain and produce heat for his own. At birth, the infant adapts from warm womb's temperature to external environment which can be 10 to 20 degree Celsius cooler and evaporative heat loss is about 200cal/kg per minute with fall of skin temperature about0.3 degree Celsius per minute. Neonate have limited energy source for temperature regulation. Thermoregulation is maintained by the process of heat production or gain and heat loss. Heat loss in neonate occurs by evaporation, conduction, convection and radiation. Heat loss by evaporation occurs immediately after birth if the baby is not dried and not covered adequately. Neonate may loss heat by conduction, i.e. direct contact with cooler object or surface. Heat loss by convection take place, when the baby is placed in the cooler air movement is present there. Cooler the object and closer it is to the neonate, the greater the heat by radiation.

2. Need of study:

Prevalence of neonatal hypothermia and its associated factors in East Africa, a total of 12 potential studies with 20,911 participants were used for the analysis. The pooled prevalence of neonatal hypothermia in East Africa was found to be 57.2% (95%CI; 39.5–75.0). Delay in initiation of breastfeeding (adjusted Odds Ratio(aOR) = 2.83; 95% CI: 1.40–4.26), having neonatal health problem (aOR = 2.68; 95% CI: 1.21–4.15), being low birth weight (aOR =2.16; 95%CI: 1.03–3.29), being preterm(aOR = 4.01; 95%CI: 3.02–5.00), and nighttime delivery (aOR = 4.01; 95% CI:3.02–5.00) were identified associated factors which significantly raises the risk of neonatal hypothermia. The prevalence of neonatal hypothermia in Eastern Africa remains high. Delay in initiation of breastfeeding, having a neonatal health problem, being low 4 birth weight, preterm, and nighttime delivery were identified associated factors that significantly raises the risk of neonatal hypothermia. The WHO stated that approximately 125 million infant born every year, 8 million die before reaching one year of life due to various complication among that about 2.5% newborn die due to hypothermia. NFHS-4 data reveals the true picture, under 5 mortality in India is 50 and infant mortality rate of 41 per 1000 live births. Preventing low body temperature at birth in preterm and low birth weight babies may be important for survival and long term outcomes. Babies rely on external help to maintain temperature, particularly in the first 12hours of life. For vulnerable babies born preterm or at low birth weight, abnormally low body temperature (hypothermia) is a worldwide issue across all climates and has been linked to a variety of complication including death. Preventive action is taken by reducing heat loss and/or providing warmth through external heat sources. Precautionary steps routinely include ensuring a warm delivery room; drying immediately after birth, especially the head; wrapping in pre warmed dry blankets (including the head); pre- warming surfaces; and eliminating draughts.

3. Objectives:

To evaluate the effectiveness of structured nursing intervention on knowledge and practice regarding prevention of neonatal hypothermia in LBW babies among staff nurses in selected hospitals.

4. Methodology:

A pre experimental design with one group pre-test and post – test was adopted to evaluate the effectiveness of structured nursing intervention on knowledge and practice regarding prevention of neonatal hypothermia in LBW babies among staff nurses at selected hospitals. This study conducted among 60 staff nurses in selected hospitals of Bhuj- Kachchh, Gujarat. For the assessment of level of knowledge and practice Structured Knowledge Questionnaire and Structured Five Point Rating Scale was used. **Findings:** As per, pretest knowledge score, 75% (45) of staff nurses had inadequate knowledge and post-test knowledge score reveals that, 55% (33) of staff nurses had adequate knowledge. As per, pretest practice score, 70% (42) of staff nurses had unsatisfactory practice. Post-test practice score reveals, 18.33% (11) of staff nurses had unsatisfactory practice. The obtained 't' value for pre and post-test level of knowledge is t=11.43 and for practice is t=8.90 which is statistically highly significant at $p<0.001$ level (df = 59: table value is p =3.46). **Conclusion:** It can be concluded that majority of staff nurses were having moderately adequate knowledge and satisfactory practice regarding prevention of neonatal hypothermia in LBW babies after administration of Structured Nursing Intervention. Structured Nursing Intervention may help the staff nurses to improve the skills about the patient care and to reduce the mortality.

Findings: As per, pretest knowledge score, 75% (45) of staff nurses had inadequate knowledge, 18.33% (11) of staff nurses had moderately adequate knowledge, whereas 6.67% (04) of staff nurses had adequate knowledge. Post-test knowledge score reveals that, 55% (33) of staff nurses had adequate knowledge, 25% (15) of staff nurses had moderately adequate knowledge and only 20% (12) of staff nurses had inadequate knowledge.

As per, pretest practice score, 8.33% (05) of staff nurses had satisfactory practice, 21.67% (13) of staff nurses had moderately satisfactory practice, whereas 70% (42) of staff nurses had unsatisfactory practice. Post-test practice score reveals, 51.67% (31) of staff nurses had satisfactory practice, 30% (18) of staff nurses had moderately satisfactory practice and only 18.33% (11) of staff nurses had unsatisfactory practice.

The mean score of pretest level of knowledge is 8.33 and SD value is 3.62. The mean score of post-test level of knowledge is 13.82 and SD value is 6.20. Mean difference is 5.49. The obtained 't' value is t=11.43 which is statistically highly significant at $p<0.001$ level (df = 59: table value is p =3.46).

The mean score of pretest level of practice is 19.72 and SD value is 6.26. The mean score of post-test level of practice is 29 and SD value is 7.37. Mean difference is 9.28. The obtained 't' value is t=8.90 which is statistically highly significant at $p<0.001$ level (df = 59: table value is p =3.46).

There is a significant association between post-test level of knowledge and practice and demographic variable age, sex, qualification, area of work, year of experience and source of information.

5. Conclusion:

It can be concluded that majority of staff nurses were having moderately adequate knowledge and satisfactory practice regarding prevention of neonatal hypothermia in LBW babies after administration of Structured Nursing Intervention. Structured Nursing Intervention may help the staff nurses to improve the skills about the patient care and to reduce the mortality.

Reference:

1. Biruk Beletew, Ayelign Mengesha, Mesfin Wudu & Melese Abate, Prevalence of neonatal hypothermia and its associated factors in East Africa; BMC Pediatrics (2020) Vol: 20; Pp: 148.
2. Emma M McCall, Fiona Alderdice, Henry L Halliday, Sunita Vohra, and Linda Johnston, 2018; Interventions to prevent hypothermia at birth in preterm and/or low birth weight infants; Cochrane Database Syst Rev; Vol: 2; Page No: 1-3.
3. ParulDatta “Pediatric Nursing”4th edition Published by Jaypee Brothers Medical Publishers20 Aug 2017 page no.78-80
4. Philip A, Sarin J, KumarY. International journal of Health Science and Research (www.ijhsr.org) Vol.9; Issue: 7 July 2019
5. Qazi M et al., Int J Res Med Sci.2019 may;7(5):1727-1732 www.msjonline.org
6. Qazi M, Saqib N, Raina R. knowledge regarding prevention of hypothermia in newborns among mothers in Northern India. Int J Res Med Sci 2019; 7:1727-32.