



Background and Problem

Global neonatal mortality is close to 3 million babies/year (Owusu et al.) Neonatal mortality rate in Ghana is approximately 21 deaths per 1000 live births (UNICEF In Ghana, a newborn dies every 10-15 minutes (Adjei et al.) Neonatal mortality rate at the local hospital is 9 deaths in 1024 live births (Linda Ablorh, personal communication, March 15, 2023) Problem is high neonatal mortality rate in Ghana, demonstrating the need for proper resuscitation during the first 60 seconds of life

Purpose of the Project

Purpose is to reduce the neonatal rate with asphyxia complications with neonatal resuscitation training (Abdo et al., 2019; Lemma et al., 2022) With proper training of resuscitation, the present standard of care may be improved

Clinical Questions

The clinical questions that were addressed, were if there was any statistical significance between the Apgar and Thompson asphyxia scores pre-and post intervention of the teaching of the resuscitation course, Helping Babies Breathe to the healthcare professionals at the hospital in Africa. The second question was to address if there was any significant change in the neonatal mortality rate. The last question is to address if there are any significance to the scores of the pre-and post-test scores of participants before and after training of the course Helping Babies Breathe.

Methods

Quantitative Quasi-experimental design Convenience sample Tools: Apgar and Thompson asphyxia scale Statistical Test used for the Apgar scores of the neonate: Two Sample t- test Statistical Test used for the Thompson scores of the neonate: Independent t- test

Data Analysis

Table 1 Apgar Scores. Independent Samples Test. Levene's Test for Equality of Variances. t-test for Equality of Means. Significance. Mean Difference. Std. Error Difference. Lower. Upper. 95% Confidence Interval of the Difference.

Table 2 Thompson Scores. Group Statistics. Mean. Std. Deviation. Std. Error Mean. prepost pre. post.

Independent Samples Test. t-test for Equality of Means. Significance. Mean Difference. Std. Error Difference. Lower. Upper. 95% Confidence Interval of the Difference.

Paired Samples Statistics. Mean. N. Std. Deviation. Std. Error Mean. pretest. posttest.

Paired Samples Correlations. N. Correlation. One-Sided p. Two-Sided p. pretest & posttest.

Results

Apgar scores of the neonates performed at one minute and five minutes Before and after intervention, Helping Babies Breathe Course Two sample t- test Results: Mean 1.333/1.2800 N=27 pre-intervention and N=50 post-intervention Change Score: One sided p= .346 which is more than .05.

Not statistically significant. Variance is not assumed due to no baby demographics and sample was convenient not random.

Thompson asphyxia scale

Independent t test

Results: One sided p= .114 more than .05.

Not significant. Variances not assumed. Did show clinical significance due to change in medical care.

Score of 30 with first two neonates pre-intervention and six with four neonates. Appeared to be more sensitivity in the post-intervention. Pre- and Post- test score in the written tests taken by the participants during the Helping Babies Breathe course

Results: N= 34 participants Mean of scores pre=17.6176 post=17.8529 (No improvement shown) One sided p=0.180 more than .05. Not statistically significant. Nurses recently having updated nursing school education. Many nurses have had a neonatal resuscitation course.

Conclusions

- Helping Babies Breathe shows the importance of the Golden Minute. Education can be provided to healthcare professionals to improve the resuscitation process. The neonate cannot have any delay of oxygenation. The educational program must include the potential complications that can occur as a result of a delay of ventilation. The seriousness of the complications can be life-threatening and have lifelong disabilities to the neonate and consequences for the entire family. The healthcare professionals must be aware of and prepared for complications that would precipitate occurrence of asphyxia in the neonate and detrimental occurrences involving the mother. There should be more detailed information about medical history obtained from the mother, regarding her pregnancy and the delivery process. The course Helping Babies Breathe should be offered as a refresher course every six to eight months routinely. The DNP project was designed to reduce complications of neonatal asphyxia, in the West Africa

Recommendations and Implications for Practice

- Nursing schools should include the teaching of proper neonatal resuscitation. The students should be taught the importance of the 60 seconds after birth that is so vital for life. The complications of asphyxia are preventable in most cases if the neonates are oxygenated. All staff that is involved in the care of neonates should be trained and continuously had refreshing teaching classes to maintain the level of the ability to resuscitate a neonate and be prepared with every birth, at any location. The healthcare professionals at the hospitals must follow a mother through the process of labor and be prepared for the potential of a delivery that produces an asphyxiated neonate. The hospital should have emergency equipment ready for every birth. Government should provide funding for emergency equipment for every hospital.

References

R., Halil, H., Kebede, B., Anshebo, A., & Gejo, N. (2019). Prevalence and contributing factors of birth asphyxia among the neonates delivered at Nigist Eleni Mohammed Memorial Teaching Hospital, Southern Ethiopia: A cross-sectional study. BMC Pregnancy and Childbirth, 19(1). https://doi.org/10.1186/s12884-019-2696-6 Adjei, G., Darteh, E. M., Netey, O. A., & Doku, D. (2021). Neonatal mortality in the central districts of Ghana: Analysis of community and composition factors. BMC Public Health, 21(1). https://doi.org/10.1186/s12889-021-10156-6 Bhagwani, D. (2016). To study the correlation of Thompson scoring in predicting early neonatal outcome in post asphyxiated term neonates. Journal of Clinical and Diagnostic Research, 10(11). https://doi.org/10.7860/jcdr/2016/22896.8882 Bolding, A., Solvag, A., & Nakstad, B. (2018). Outcomes following neonatal cardiopulmonary resuscitation. Tidsskriftet. Eckerd, N. A. (2015). Nursing for the kingdom of God. Journal of Christian Nursing, 32(4). https://doi.org/10.1097/cnj.000000000000205