Effectiveness of Facilitated Tucking on Physiological and Behavioral Responses among Neonates Receiving Hepatitis B Vaccination

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Abstract

The study was conducted to evaluate the effectiveness of Facilitated tucking on Physiological and Behavioral responses among neonates receiving Hepatitis B vaccination. Quasi experimental non-randomized control group design was adopted for the study. The structured questionnaire was developed to collect the data. The sample were selected by purposive sampling technique and data collection was carried out among 60 neonates in a selected hospital. Pretest and posttest conducted before and after facilitated tucking. The finding reveals that the physiological responses of 't' value in heart rate was 3.01 respiration 1.52 and oxygen saturation 3.59 and behavioural responses of 't' value was 5.6 which significant at $p<0.05$. It shows that Facilitated tucking was effective in enhancing physiological and behavioral responses among neonates. There was a significant association between the age, gender, weight of neonates with physiological and behavioural responses. The study concluded that providing facilitated tucking was very effective in enhancing physiological and behavioral responses among neonates.

Keywords: *Effectiveness Facilitated Tucking, Physiological Response, Behavioral Response, Among Neonates, Hepatitis B Vaccination.*

Introduction

Newborn is the most crucial period in a child life. Every child is a gift from the God. The birth of the baby is a complex process. It is the wonderful and finest gift of nature. At the time of birth a newborn is still attached to the mother. The most profound physiological change required of the neonate is transition from fetal or placental circulation to independent respiration. The immediate adjustments include respiratory system, circulatory system and all the systems are trying to adjust to extra uterine life[10]. Normal newborn behaviour may develop at different rates but they still exhibit many of the same behaviour like sleep, cry, reflex, vision, hearing and breathing. Facilitated tucking is one of the simplest non-pharmacological and cost effective techniques replicate the condition of being in uterus[3]. This makes the newborn comfortable, more secure with direct response[9]. It facilitates self-regulation by decreasing the physiologic response like prolonged heart rate elevation that leads to the disequilibrium associated with pain and stress. Facilitated tucking improves the emotional security and reduces the pain perception[3].

Statement of the Problem: A study to evaluate the effectiveness of facilitated tucking on physiological and behavioral responses among neonates receiving Hepatitis B vaccination in a selected hospital at Kanyakumari District.

Objectives:

- To assess the pre test and post test level of physiological responses among neonates receiving Hepatitis B vaccination in study group and control group.
- To assess the post test level of behavioral responses among neonates receiving Hepatitis B vaccination in study group and control group.
- To evaluate the effectiveness of facilitated tucking on physiological and behavioral responses among

neonates receiving Hepatitis B vaccination in study group and control group.

- To associate the post test level of physiological and behavioral responses with the selected demographic variables in study group and control group.

Hypotheses:

H_1: There is a significant difference between pre test and post test level of physiological responses among neonates in study group and control group.

H_2: There is a significant difference between post test level of behavioral responses among neonates in study group and control group.

H_3: There is a significant association between posttest level of physiological and behavioral responses among neonates with the selected demographic variables in study group and control group.

Research Methodology

Research approach: The researcher utilized Quantitative research approach.

Research design: Quasi experimental non-randomised control group design was used in the study.

Research setting: The study was conducted at Health Centre, Kanyakumari District.

Population: Neonates receiving Hepatitis B vaccination.

Sample: Neonates between the age group of 0 to 28 days receiving Hepatitis B vaccination.

Sample size: 60 Neonates who are receiving Hepatitis B vaccination

Sample technique: Purposive sampling technique.

Description of Tool

The tool used in this study consisted of three parts

Part 1: In this part, structured questionnaire was used to collect the demographic variables such as age, gender, weight, mode of delivery, gestational age and position during sleep of neonates.

Part 2: This part of the tool consists of physiological parameters such as heart rate, respiratory rate and oxygen saturation was checked with the help of pulseoximeter. Scoring interpretation of physiological parameter is low, normal, high.

Part 3: This part of the tool consists of Modified Neonatal Infant Pain Scale to assess the behavioral responses of neonates. Modified Neonatal Infant Pain Scale. Scoring interpretation of behavioral parameter is state I, state II, state III.

Method of Data Collection:

Phase 1 Selection of Neonates: After obtaining initial permission from thePrincipal of St. Xavier's Catholic College of Nursing and Administrator of Health centre, participants were selected based on inclusion and exclusion criteria. The investigator obtained oral consent from the each mother of neonates and proceeded with the data collection.

Phase 2 Pre test of Neonates: Investigator gathered the demographic data from the mothers of neonates in both study and control group and the pulse oximeter was used to assess the physiological responses.

Phase 3 Intervention: Study group received Facilitated tucking and control group received hospital routine care. The intervention was given before Hepatitis B vaccination.

Phase 4 Post test: The post test was conducted after vaccination with pulse oximeter and Modified Neonatal Infant Pain Scale.

Results

Table 1: Comparison of mean, standard deviation and unpaired 't' test value of posttest level of physiological responses among neonates in study group and control group. N=60

S.No.	Variables	Group	Mean	SD	Unpaired 't' Test	TableValue
1	Heart Rate	Study Group	148.75	2.30	3.01*	0.360
		Control Group	143.95	3.80		

S.No.	Variables	Group	Mean	SD	Unpaired 't' Test	TableValue
2	Respiration	Study Group	49.32	2.18	1.52*	0.46
		Control Group	45.44	2.83		
3	Oxygen Saturation	Study Group	95.12	3.74	3.59*	0.68
		Control Group	92.9	3.82		

*Significant at p≤ 0.05

Table 2: Comparison of mean, standard deviation and unpaired 't' test value of posttest level of behavioral responses among neonates in study group and control group. N=60

S.No.	Variables	Group	Mean	SD	Unpaired 't' test	Table value
1	Behavioral Response	Study Group	2	1.06	5.6*	1.671
		Control Group	3.4	1.05		

*Significant at p≤ 0.05

Discussion

The study was done to determine the effectiveness of facilitated tucking on physiological and behavioral responses among neonates in a selected hospital. Based on data collected the mean score on the level of physiological responses in the study group heart rate was 148.75 and the unpaired 't' value was 3.01, which is significant at the level of p≤0.05, respiration 49.32 and the unpaired 't' value was 1.52, which is significant at level of p≤ 0.05, saturation (SPO2) 95.12 and the unpaired 't' value was 3.59, which is significant at level of p≤ 0.05 and level of behavioral response 2 and the unpaired 't' value was 5.6, which is significant at the level of p≤0.05. Physiological responses in control group heart rate was 143.95 and the unpaired 't' value was 3.01, which is significant at the level of p≤0.05, respiration 45.44 and the unpaired 't' value was 1.52, which is significant at level of p≤ 0.05, saturation (SPO2) 92.9 and the unpaired 't' value was 3.59, which is significant at level of p≤ 0.05 and level of behavioral response 2 and the unpaired 't' value was 5.6, which is significant at the level of p≤0.05. The association between the level of physiological and begavioral responses among neonates with selected demographic variables such as mode of delivery, gestational age and position during sleeping of the neonates indicated no association. The age, gender, weight of neonates showed a significant association.

Conclusion

The study concluded that providing facilitated tucking was very effective in enhancing physiological and behavioral responses among neonates. Therefore the investigator feels that Facilitated tucking was effective in enhancing physiological and behavioral responses.

Acknowledgement: I wish to thank God Almighty for all the blessings showered upon the beginning to till end of the research study. It is my privilege to express my sincere gratitude and heartfelt thanks to Dr. A. Reena Evency., Principal, Dr. G. Feby., Vice principal, Mrs. Shiny Mary., HOD, Mrs. Vinitha Sterlin., Assistant professor, Mrs. Beni Rosarin., Assistant professor in St. Xavier's Catholic College of Nursing, Chunkankadai, and my beloved parents, my loving husband,my dear daughter for their encouragement, support, valuable suggestion, and constant guidance of this study.

I special thanks towards all who have directly and indirectly helped me to complete this study and their support in each major step of the study.

Conflict Interest: There was no conflict of interest.

Source of Fund: Self

Ethical Clearance: The proposed study was conducted after the approval of the dissertation committee of St.

Xavier's Catholic College of Nursing. Prior permission was obtained from Administrator of Health Centre,Oral consent was obtained from mothers of neonates before starting data collection. Assurance was given to the mothers of neonates regarding the confidentiality of the data collected.

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