



Service Priorities and Programmes
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Submitting author: Ms Wan Ming LEE

Post title: Nurse Consultant, Queen Mary Hospital, HKWC

A nursing educational program on a new oxygen supplement titration protocol for preterm infants

Wong YYA (1), Lee SL (1), Lee WM (1), Chung SY (1), Wong KY (1), Lee HY (1), Yam SS (1), Yip ML (1), Chun CK (1), Woo KM (1)

(1) Department of Paediatrics and Adolescent Medicine, Queen Mary Hospital

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Introduction

There had been studies to support that keeping preterm infant's oxygen saturation within a desirable range may decrease complications such as retinopathy of prematurity (ROP) and chronic lung disease. A retrospective review of oxygen saturation monitor readings at the computer information system was carried out in Neonatal Intensive Care Unit (NICU) of Queen Mary Hospital (QMH) in December 2012. It showed that 15.2% of the readings indicated excessive oxygen supplement and junior nursing colleagues with experience less than 5 years were responsible for over most of these reading. It called for educating junior nursing colleagues in oxygen titration in preterm infants. Training need for this group of nurses was identified and an educational program was conducted to enhance staff's knowledge in oxygen management for premature babies, in order to make behavioral changes.

Objectives

To enhance nursing staff's knowledge in oxygen management for premature babies through a nursing education program

Methodology

An oxygen supplement titration protocol was devised at NICU of QMH in January 2013. This was followed by an educational program between January to June 2013. It consisted of one-on-one teaching of the concept of desirable oxygen saturation range and practical skills in the oxygen titration strategy by four trainers. The teaching materials were standardized based on the literature review and the newly devised oxygen supplement titration protocol which was approved by medical and nurse consultant of neonatal unit. A pre-test and post-test design was used to measure the knowledge attained by the participants of the education program. All the nursing staff attended the education program would complete a quiz with the same five questions before and one week after the implementation of the protocol. All the five questions were related to the concept of providing oxygen supplement to preterm infants, when and how to adjust oxygen supplement according to the protocol and how to select the desirable oxygen saturation range for the preterm infants according to their

gestational age. Each question carried 20 marks. The score of the quiz before and after the education program for all nurses that attended were also calculated and compared.

Result

Result: There were a total of 57 full time nursing colleagues working at NICU at QMH at the study period. Twenty six had clinical experience less than or equal to 5 years from the year of graduation(range from 6 months to 5 years) and all attended the education program. The total score of correct questions ranged from 20 to 100 before the program. The mean of the total score for correct questions for the whole group increased from 36.9 to 82.4 ($p < 0.00001$) Conclusion: The study shows that the one-on-one education program was effective in improving the knowledge of oxygen supplement in preterm infants in the junior nursing staff working at NICU. More studies are required to evaluate whether the effect will be sustainable and whether the knowledge conferred will help the nurses to turn into clinical practice.