**ABSTRACT**

**Effectiveness of Kangaroo Care versus Conventional Care among Preterm Neonates aged less than 36 weeks weighing below and equal to 2000 grams on RAM Cannula Continuous Positive Airway Pressure:**

**A Randomized Controlled Trial**

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**BACKGROUND:** Preterm infants are at risk for developing Respiratory Distress Syndrome (RDS) leading to alveolar collapse from surfactant deficiency. They are given oxygen support using RAM cannula continuous positive airway pressure (RCPAP) designed to keep alveoli open. Kangaroo care is a novel practice in reducing hypothermia, apnea, and bradycardia for preterm infants, by mimicking the environment in-utero.

**OBJECTIVES:** This study aims to determine the effectiveness of kangaroo care in reducing morbidity and mortality rate among preterm neonates on RCPAP.

**METHODOLOGY**: This is a prospective, non-blinded, randomized controlled trial which was conducted in the Neonatal Intensive Care Unit over one year. Seventy preterm neonates weighing 1000 – 2000 grams, aged < 36 weeks with an Apgar score of > 7 at the first and fifth minute of life requiring RCPAP due to respiratory distress were included. Thirty-five subjects were randomly assigned to Kangaroo care group and thirty-five subjects to conventional care group. Maternal and neonatal characteristics were obtained. Outcomes determined were the length of RCPAP use, length of oxygen support, morbidity, mortality, sepsis, and length of hospital stay. Data were analysed using mean and standard deviation, independent sample T-test and percentage-frequency distribution.

**RESULTS**: The subjects in the kangaroo mother care (KMC) group had better thermoregulatory control during KMC (p-value 0.00). Results for oxygen saturations before (p-value 0.01), during (p-value 0.00), and after KMC (p-value 0.01) were found to be statistically significant. The mortality rate is higher at 8.57% among the conventional care group. Patients in the KMC group had a lower incidence of air leak syndromes (p-value 0.043), necrotizing enterocolitis (p-value 0.016), and late onset neonatal sepsis (p-value 0.014) which are statistically significant. The actual length of time the patient was on RCPAP (p-value 0.000) and oxygen support (p-value 0.000) are significantly less for the KMC group as compared to the conventional care group.

**CONCLUSION**: Kangaroo mother care provided to preterm neonates on RAM cannula continuous positive airway pressure significantly decreases the duration of oxygen support and RCPAP. Physiologic responses such as temperature during the KMC position together with oxygen saturations before, during, and after the intervention, results revealed statistically significant differences. KMC also lowered the incidence of air leak syndromes, necrotizing enterocolitis, and late onset neonatal sepsis which were statistically significant.

**KEYWORDS:** Kangaroo Mother Care, Preterm Neonates, RAM Cannula Continuous Positive Airway Pressure, Oxygen Support