TITLE: RAM Cannula (RAM) Versus Fischer and Paykel prongs (FPP) interface for nasal CPAP in preterm neonates with RDS in reducing the need for mechanical ventilation within 72 hours of life: A Randomised Non-inferiority Control Trial

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ABSTRACT:

INTRODUCTION: Nasal CPAP (NCPAP) has been the time tested strategy for treatment of preterm babies with RDS. Ram cannula, a type of short binasal prongs, though created initially for oxygen delivery, has been proven in studies in NICUs to decrease work of breathing, improve ventilation, and facilitate extubation.

AIMS AND OBJECTIVES: To compare the rates of nCPAP failure and incidence of nasal trauma with RAM® nasal cannula and other bi-nasal short prongs when used a primary mode of support for nCPAP delivery in preterm neonates between 28-34 weeks of gestation and weighing > 1000 grams with respiratory distress.

MATERIALS AND METHOD: This was a open labelled non-inferiority randomized control trial with 1:1 variable block computer generated randomization sequence consisting of study population of all inborn neonates with respiratory distress.

RESULTS: A total of 127 neonates were randomised to each of the two groups: RAM and Fischer and Paykel (FPP) and all underwent intention to treat analysis.The primary outcome of CPAP failure rate was 19.69% (25/127) with RAM versus 14.17% (18/127) with FPP.Secondary outcome nasal trauma significnatly less with RAM cannula as compared to FPP .

CONCLUSION: RAM cannula can be used with lesser nasal trauma, given the ease of application as a primary mode of respiratory support for respiratory distress syndrome in preterm neonates .