

Title: Antenatal Corticosteroid Administration Rates in Fetuses <1500 grams after Improved Medication Access in Triage.

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Background: Maternal antenatal corticosteroid injections given during preterm labor and delivery help to reduce the morbidity and mortality of the preterm fetus. Per ACOG, “Corticosteroid administration before anticipated preterm birth is one of the most important antenatal therapies available to improve newborn outcomes” (1,2,3). The administration of steroids prior to delivery lowers the newborn’s risk for respiratory distress, intracranial hemorrhage, necrotizing enterocolitis and death (1). Although maximum benefit is obtained after completing a full course of antenatal corticosteroids which takes 24 hours; receiving only a partial course can still greatly reduce neonatal morbidity and mortality and provide significant benefit to the fetus (1,2,3). This is especially true in very premature newborns or babies born less than 1500g.

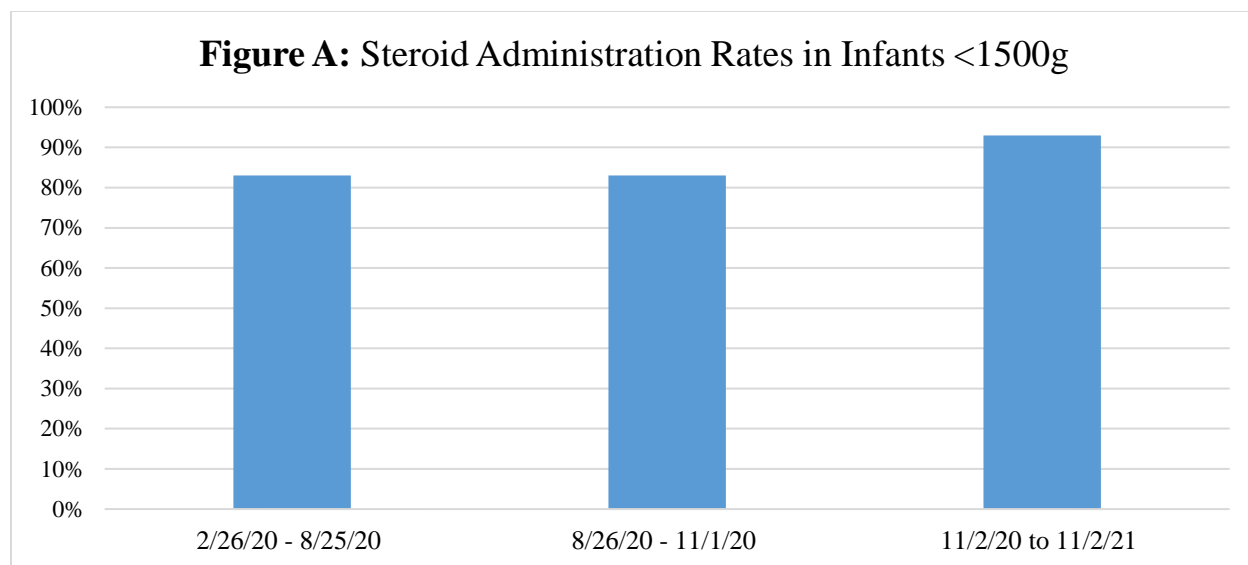
Objective: The purpose of this study is to monitor if improved access to these vital medications in the triage area of Labor and Delivery improves first dose corticosteroid administration rates in fetuses born <1500 g.

Methods: This quality improvement study was performed by comparing the rates of first dose antenatal corticosteroid administration in patients that delivered at our institution with a singleton neonate weighing less than 1500g before and after interventions. The first intervention of this project was to supply intramuscular betamethasone and dexamethasone to the automated medication dispensing system in the triage area for more timely staff access and administration. The second intervention was the pharmacy approval-overriding feature given to the nurses to expedite the process further and improve maternal administration rates. We looked at 6 months of data (29 patients met criteria) prior to the first intervention then 2 months of data (12 patients met criteria) for the first intervention and one year of data(86 patients met criteria) after the second intervention.

Results: The pre-intervention period had a successful steroid administration rate of 83%. This included 24 of 29 patients receiving at least 1 dose of dexamethasone or betamethasone prior to delivery.

The second period of investigation was during the initial intervention phase during 8/26/20- 11/1/20 date. The medication was made available in the automated medication system in the triage area. 10 of 12 patients received at least 1 dose of dexamethasone or betamethasone prior to delivery or 83%.

The third and final period of the investigation dating from 11/2/20-11/2/21. During this time, corticosteroids were available in the medication system in the triage area and pharmacy approval was not necessary to access this medication. It was easily dispensed and accessed by nurses during emergent situations. This included 80 of 86 patients receiving at least 1 dose of dexamethasone or betamethasone prior to delivery. An improvement in maternal antenatal corticosteroid injections rates was observed after both interventions were implemented from 83% to 93% (p= 0.007).



Conclusion: The antenatal corticosteroid administration rates in mothers after supplying the triage area of Labor and Delivery with steroids readily available in the automated medication delivery system improved the administration rate by 10% or 8 newborns. However, the intervention only worked when the nurses were allowed to override the pharmacy approval process to improve the timing and number of fetus less than 1500g that received at least one dose of corticosteroids.

References

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