PHILIPPINE CHILDREN'S MEDICAL CENTER
Division of Neonatology

A META-ANALYSIS ON THE EFFECT OF URSODEOXYCHOLIC ACID AS AN ADJUNCT TO PHOTOTHERAPY IN THE MANAGEMENT OF UNCONJUGATED HYPERBILIRUBINEMIA AMONG NEONATES

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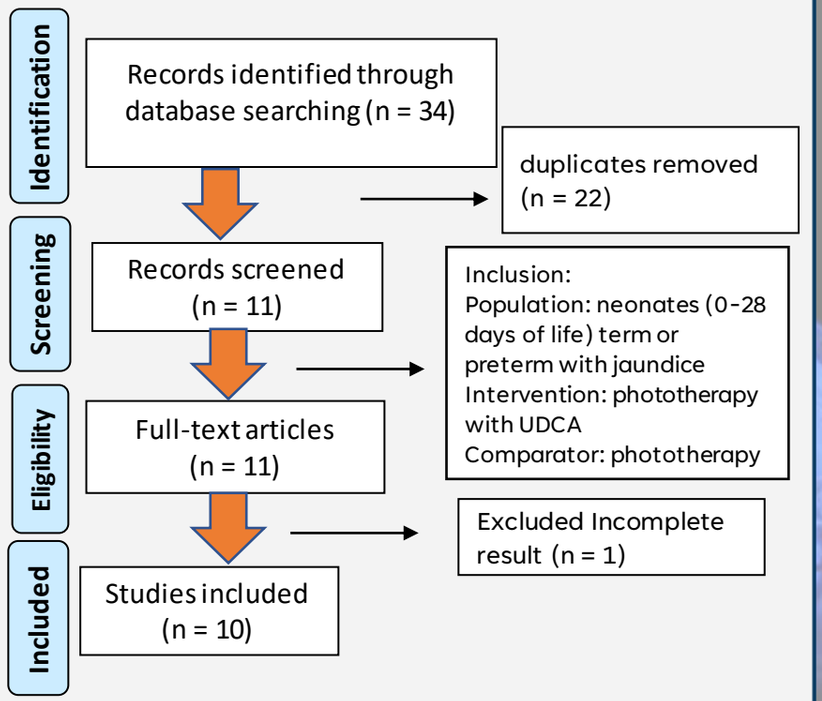
BACKGROUND

Jaundice is one of the most common symptoms seen in newborns. Worldwide it occurs in up to 60% of term and 80% of preterm newborns in the first week of life. Severe forms of hyperbilirubinemia may lead to lifelong sequalae, economic and social burden to the family.

OBJECTIVE

To determine the additive effect of ursodeoxycholic acid on phototherapy in the treatment of unconjugated hyperbilirubinemia in neonates

METHODOLOGY



Primary outcome: decrease in total serum bilirubin levels
Secondary outcome: duration of phototherapy, length of hospital stay and adverse reactions
Statistical analyses: conducted using STATA MP Statistical Software, Version 13, College Station, TX: StataCorp LP

RESULTS

Pooled Estimate on Total Serum Bilirubin between Experimental (Ursodeoxycholic Acid with Phototherapy) and Control (Phototherapy)

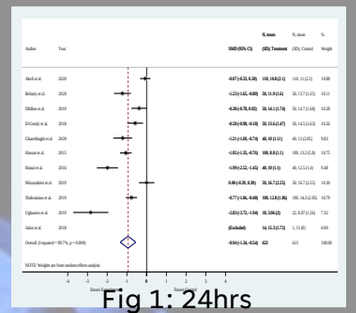


Fig 1: 24hrs

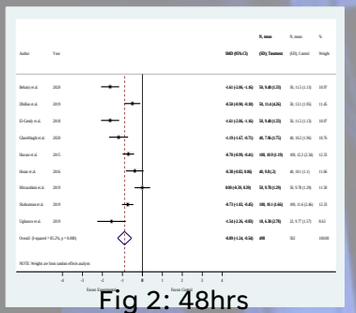


Fig 2: 48hrs

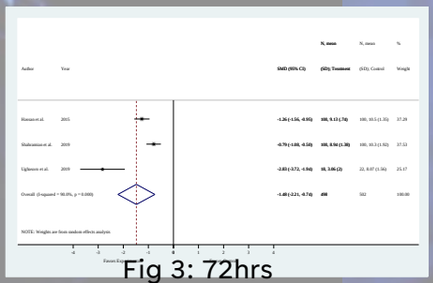


Fig 3: 72hrs

Data showed that patients on ursodeoxycholic acid with phototherapy have lower bilirubin levels on 24hrs, 48hrs and 72hrs from starting exposure compared to patients on phototherapy alone. This led to shorter duration on phototherapy and shorter hospital stay. There were no reported adverse reactions in both groups.

CONCLUSION and RECOMMENDATION

Ursodeoxycholic acid is a bile acid derivative and may safely be given as an adjunct to neonates with indirect hyperbilirubinemia. It enhances unconjugated bilirubin turnover by increasing its fecal disposal, thereby, decreasing duration of phototherapy and length of hospitalization.

KEYWORDS: jaundice, hyperbilirubinemia, phototherapy, ursodeoxycholic acid, UDCA, ursodiol