

Effect of Topical Application of Alcohol 70% versus Distilled Water on Umbilical cord stump separation time and Bacterial Colonization among Neonates at El Manial Maternity Hospital- Cairo University: Randomized Control Trial

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Abstract

Aim of this study was to compare the effect of two different cord care regimens: distilled water and alcohol 70% on umbilical cord stump separation time and occurrence of bacterial colonization among neonates. *Design* was a randomized control trial design. *Setting* was the postpartum unit at El Manial University Hospital. *Sample* a total of 100 neonates were randomly selected immediately after admission to the postpartum unit according to certain criteria. The sample was randomly assigned into two groups (50 neonates each) group A (study group) who received cord care with Distilled water, and group B (control group) who received cord care with Alcohol 70%. *Tools* data were collected by using structured interviewing questionnaire and follow up schedule developed by researchers. *Procedure* data collected through Interviewing, implementing cord regimens, and Follow up & evaluation. *Results* of the present study indicated that, no statistically significant differences between groups were found in relation to maternal sociodemographic characteristics. The mean age was 24.86 ± 2.43 years for mothers in alcohol group while it was 24.92 ± 3.07 years for mothers in Distilled water group. Also, no statistically significant differences between groups were found in relation to neonatal characteristics. The mean gestational age was 38.60 ± 1.08 weeks for neonates in alcohol group while it was 38.92 ± 1.15 weeks for neonates in Distilled water group and the mean neonatal weight was 2919.00 ± 192.96 gm for neonates in alcohol group while it was 2898.00 ± 315.08 gm for neonates in Distilled water group. However, separation of umbilical cord stump occurred early for neonates in the Alcohol group Vs neonates in the Distilled water group (6.70 ± 1.03 days & 7.92 ± 1.08 days respectively), there was statistical significance difference between groups regarding occurrence of bacterial colonization. High percent of neonates in the Alcohol group had bacterial colonization (48%) Vs 10% of neonates in the Distilled water group ($p < 0.001$). Acimtobacter (gram negative bacilli), and Staphylococcus aureus colonization were high in neonates who received cord care with alcohol 70% than in neonates received cord care with Distilled water ($P = 0.004$; and $P = 0.06$ respectively). *The study concluded that*, cleaning the cord stump with Distilled water eradicates the colonization more than cleaning with alcohol 70%. Although, cleaning the umbilical cord with distilled water delays the umbilical cord separation as opposed to alcohol 70%, the length of umbilical cord separation still within the recommended period of separation. *Recommendation*, to get enough evidence to support the clinical decision making the further studies were recommended in the following issues: the comparison between these two topical methods of cord care on larger sample size; and disseminate the advantages of cord care with distilled water among health care providers and postpartum mothers.

Subject: Human, neonates

Key words: Distilled water, umbilical cord stump separation time, Bacterial Colonization