

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

Background, A major cause of death in developing countries is umbilical cord infections. **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 Maternity 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 and evaluation schedule developed by researchers. **Procedure,** data collected through Interviewing, implementing cord regimens, and Follow up and 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 percentage of neonates in the Alcohol group had bacterial colonization (48%) Vs 10% of neonates in the Distilled water group ($p < 0.001$). Acinetobacter (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 ($P = 0.004$; & $P = 0.06$ 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. **Recommendations,** to get enough evidence to support the clinical decision making, further studies were recommended in the following issues: the comparison between these two topical methods of cord care on larger sample size without inclusion criteria.; 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
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