Abstract

Introduction: Infants with low birth weights are provided with hospital nutrition support to enhance their survivability and body weights. However, different hospitals have different nutrition support formulas. Therefore, the effectiveness of these nutrition support formulas should be investigated. Objective: To assess the effect of hospital nutrition support on growth velocity and nutritional status of low birth weight infants at Al-Noor hospital, Saudi Arabia. Methods: A cross-sectional study was conducted between October, 2010 and December, 2012. Three hundred newborns were recruited from Al-Noor Hospital in Makkah city, Saudi Arabia. Infants were selected according to their birth weights and were divided equally into three groups; (i) Low Birth Weight (LBW) infants (1501-2500 g birth weight), (ii) Very Low Birth Weight (VLBW) infants (1001-1500 g birth weight) and (iii) Extremely Low Birth Weight (ELBW) infants (<1000 g birth weight). Data were collected at birth and at discharged. Infants’ weights were recorded and growth velocity was calculated. Some biochemical tests and mineral levels were measured. Results: Body mass index values of VLBW and ELBW groups were lower (p < 0.05) than LBW group. The growth velocity of infants in all groups ranged between 8.7 to 10.2 g/kg/d with no differences (p > 0.05) were observed among groups. Serum calcium, phosphorus and potassium levels at discharge were higher (p < 0.05) than that at birth for ELBW and VLBW groups; while sodium level decreased in ELBW group to be within normal ranges. Albumin level was improved (p < 0.05) in ELBW group. Conclusion: Health care management for low birth weight infants in Al-Noor Hospital was not sufficient to achieve normal growth rate for low birth weight infants, while biochemical indicators were remarkably improved in all groups.

Keywords

Low birth weight, Hospital nutrition support, Growth velocity, Biochemical tests.