Introduction: Sepsis is one of the main causes of mortality in patients in Intensive Care Units. As a result of the systemic inflammatory response and of the decrease of the aerobic metabolism in sepsis, the oxidative stress occurs. Vitamin A is recognized by the favorable effect that it exerts on the immune response to infections and antioxidant action. Objective: To bring new elements for reviewing of the nutritional support addressed to critically ill patients with sepsis, with emphasis to vitamin A. Methods: Critically ill patients with sepsis had circulating concentrations of retinol, B-carotene, thiobarbituric acid-reactive substances (TBARS) and C-reactive protein (CRP) measured in Medicosurgical Intensive Care Unit in the city of Rio de Janeiro, Brazil. The patients were divided into two groups: patients who were receiving nutritional support and those without support. At the act of the patient’s admission, APACHE II score was calculated. Results: 46 patients were studied (with diet n = 24 and without diet n = 22). Reduced levels of retinol and B-carotene were found in 65.2% and 73.9% of the patients, respectively. Among the patients who presented lower concentrations of CRP it was found higher B-carotene inadequacy (64.8%) and 50% of retinol inadequacy. There was no significant difference as regards retinol, TBARS and APACHE II levels among the patients with and without nutritional support. However, higher levels of CRP (p = 0.001) and lower levels of serum B-carotene (p = 0.047) were found in patients without nutritional support. Conclusions: Septic patients presented an important inadequacy of retinol and B-carotene. The present study bring elements to the elaboration/review of the nutritional protocol directed to the group studied, especially as regards vitamin A intake.

Keywords
Sepsis, Retinol, B-carotene, Vitamin A, Oxidative stress, Critical care, C-reactive protein.