

Evaluation of nutritional quality and microbial contamination of enteral feeding solutions in hospitalized patients referred to neurosurgical ICU of Poursina Hospital in Rasht

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Article abstract:

Background and Aim: The aim of this study was to evaluate enteral feeding solutions used in trauma patients in terms of their nutritional quality and microbial contamination.

Materials and Methods: Enteral feeding solutions prepared in the hospital were collected during 3 months. Microbial counts of solutions and macronutrient contents were evaluated and compared with food tables. One sample t test was used for comparing data with the predicted values.

Results: Energy and protein contents of 27 enteral feeding solutions prepared in different days were in range of 26.04-87.25 kcal and 1.33-8.44 g/100 ml, respectively; their mean values were 59.23 ± 2.5 and 4.46 ± 0.3 respectively. There was a significant difference between laboratory results and predicted values based on food tables. Coloni count of aerobic and coliform, 4 h after preparation of 22 solutions, were reported to be $2 \times 10^6 \pm 2.9 \times 10^5$ and $8.9 \times 10^5 \pm 6.8 \times 10^5$ CFU / g respectively and were much higher than FDA permitted value.

Conclusion: The results showed that the real energy of solutions was less than the predicted values, so the energy intake of the patients is affected. In addition,

these solutions had higher bacterial contamination than the allowed amount.

Keywords: Enteral Nutrition; Nutritional Quality; Microbial Contamination; Colony Count, Microbial; Trauma Patients; Intensive Care Units