

Nutrition, Viscosity, and Microbiological Analysis of Commercial Enteral Feeding (CEF) versus Blenderized Enteral Feeding (BEF) on Level III-Hospitals in Metro Manila, Philippines

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Many healthcare facilities and providers are reviewing protocols on the use of commercial enteral feeding (CEF) and blenderized enteral feeding (BEF) among hospitalized tube-fed patients for the improvement in delivery of enteral feeding. This study is a randomized complete block design (RCBD) that evaluated enteral feedings on Level-III government hospitals in Metro Manila, Philippines. The statistical tests used were T-test on two-way population, ANOVA with repeated measures and Pearson Correlation Coefficients. It was found out that the hospitals were beyond the standard range for relative humidity, room, refrigerator and food temperature. All macronutrients & micronutrients, except total fat and dietary fiber, were homogenous despite the differences in the recipes used (<1% CV). The actual nutrient concentrations of both BEF and CEF were found to be significantly different from the expected nutrient level (p<0.05), except for the concentration of protein (p=0.6667), total fat (p=0.0728), dietary fiber (p=0.0889), and calcium (p=0.2345). The viscosity of enteral feedings ranged from 5.62 cP to 3426 cP, wherein consistency of BEF is 300-fold greater than CEF samples. It was found out that a lower water content (r=-0.9999) and higher fiber (r= 0.9992) composition may lead to a more viscous enteral feeding (p<0.00001). There were detectable total plate count (BEF: p=0.0052; CEF: p=0.0402), total coliform count (BEF: p=0.0302; CEF: p=0.0007), and *Staphylococcus aureus* count (BEF: p=0.0003; CEF: p=0.0002) that increased significantly within 4 hours. In conclusion, there was a high degree of variability in nutrient composition and viscosity that was present between BEF & CEF. The results of the present study showed that there are more advantages in the use of CEF than BEF for the hospitalized tube-fed patients. Furthermore, possible contamination of enteral feeding was observed over time. Thus, specific policies and guidelines for the modification of the preparation and provision of enteral feeding shall be formulated.

Biography

Vanessa O. Ceballos has completed her degree in Master of Science in Clinical Nutrition at the age of 25 from the Philippine Women's University- School of Nutrition. She is a current professor in the said university who teaches Nutritional Biochemistry, Medical Nutrition Therapy, Basic Nutrition, and other professional courses in Nutrition and Dietetics. She is former senior clinical Nutritionist-Dietitian from the Holy Rosary of Cabuyao Hospital. Her interest is on clinical nutrition and holistic nutrition.

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