An innovative way to facilitate learning for students through three clinical simulations on malnutrition

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Introduction

This research project is the first of its kind to utilize standardized simulations to identify malnutrition and appropriate treatments in the UNC Nutrition and Dietetics curriculum. It is a unique method for teaching students about nutrition care in malnutrition and the importance of conducting nutrition focused physical examinations. The Academy of Nutrition and Dietetics has recognized the importance of expanded and varied learning opportunities by incorporating simulations as a modality for teaching. Simulations allow clinical skills to be practiced in an interactive way, to learn from making mistakes in a low risk setting all while increasing self-efficacy. Simulations provide a cost-effective means to enhance learning and to reduce the workload on preceptors.

Purpose

Demonstrate the efficacy of nutrition simulations for increasing the knowledge, confidence, and skills of dietetic students and interns while reducing preceptor burden.

Methods

A convenience sampling of undergraduate, and dietetic interns, (n = 31) were recruited. Participants completed pre/post surveys to assess knowledge and confidence in assessing malnutrition from viewing three nutrition simulations.

Sample of competency/knowledge pre-post survey questions (Likert Scale: Never, Rarely, Sometimes, Often, Always)

1. Can an individual who is of normal body weight or slightly under ideal body weight be malnourished?
2. Do you feel you can conduct a nutrition focused physical exam (NFPE) on a patient who is being screened for malnutrition?
3. What areas do you assess during a NFPE?
4. Why would you monitor fluid status in the ICU for malnourished patients?

Sample of self-efficacy pre-post survey questions (Likert Scale: Never, Rarely, Sometimes, Often, Always)

1. I am confident that I can convey empathy, warmth and support during an initial outpatient appointment.
2. I am confident explaining what a NFPE is to a patient.
3. I am confident that I could identify the areas to assess during a NFPE.
4. I am confident discussing long-term goals with a patient during an outpatient nutrition education session.

Results

31 participants completed the pre-and post-survey (female= 29, male= 2), mean age 22-26 years old and 84% caucasian. Difference in pre and post-test scores were analyzed. Higher scores on the post survey showed a statistically significant ($p < 0.05$) increase in knowledge and confidence in screening clinical malnutrition after viewing all 3 nutrition simulations. Results also illustrated that acquisition of knowledge and greater confidence occurred after watching and participating in the simulation activities.

Conclusions and Implications

Nutrition simulations are a viable, advantageous educational tool for use within university dietetic programs and supervised practice dietetic internships. They have the potential to positively impact knowledge, confidence, and skills in the assessment and diagnosis of malnutrition in a variety of clinical settings. This project clearly demonstrated a positive effect on students knowledge and confidence therefore clinical simulations should become a modality for teaching complex medical conditions.