

## Slicing and Dicing Nutrition, Disease and Health Determinants

**Purpose:** Of practicing physician assistants (PAs), 91% feel PA programs should place a greater emphasis on nutrition education.<sup>1</sup> Studies show that students and practicing PAs feel dissatisfied with their current nutrition knowledge and are unprepared to discuss nutritional concepts with patients,<sup>1,2</sup> Difficult at baseline, these discussions become particularly challenging when social determinants of health (SDoH) complicate care. To demonstrate the complex relationship between health disparities and nutritional habits, our learning activity integrated SDoH concepts and nutrition principles.

**Objective:** The overall aim was to improve students' knowledge, skills and comfort in working with vulnerable populations requiring nutritional interventions.

**Methods:** During academic year 2021-22, all second-year didactic PA students received classroom instruction on the effects of health disparities on nutritional status, food subsidy programs, and vulnerable populations prior to engaging in the experiential learning project.

For the project, self-selected groups randomly drew household demographics, an address in a known food desert, a cultural/ethnic consideration, and a medical diagnosis amenable to nutritional interventions. Students analyzed the "patient's" neighborhood considering environmental, transportation, housing, and food resources; designed culturally and medically appropriate recipes using the financial constraint of \$10/meal; presented a summary of their project to peers; and wrote personal reflections.

Students completed a retrospective pre-/post-survey using a 5-point Likert scale addressing:

- Knowledge of health disparities and how they impact nutritional status; dietary/nutritional principles; food subsidy programs; and food as medicine,
- Ability to identify food deserts and to perform a nutrition counseling session, and
- Comfort in providing disease-specific nutritional counseling and counseling patients about nutrition when the social situation is complicated by cultural or social barriers.

Wilcoxon signed rank test ( $\alpha=0.05$ ) was used to analyze responses.

**Results:** Thirty-three (33) out of 44 students voluntarily participated in the survey (75% response rate); however, 2 participants were removed secondary to missing data. There were statistically significant changes in pre- and post-intervention scores for all measures ( $p=0.05$ ). On average, there was a 45% improvement with the intervention across all domains (range 34% to 52%).

**Conclusion:** Nutrition is identified as an area of medical education that should be increased in curricula; however, only 40% of PA programs integrate concepts of food access and culturally competent nutritional advice for patients.<sup>1</sup> While nutrition counseling, especially when accounting for social or

cultural factors, initially may be intimidating for PA students, we found by offering students an experiential learning project that combined these factors, measurable improvements in knowledge, skills, and comfort could be attained."

Comments:

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