



An Evaluation of Confidence in Nutrition Education in Physician Assistant Programs in the United States

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Introduction

It has been well-established that diet plays a critical role in multiple chronic conditions, including hypertension, dyslipidemia, diabetes, and obesity.¹ With 45% of all Americans suffering from at least one chronic disease, the need to incorporate nutrition education into healthcare schools has never been greater.² To address this, a single, nationwide survey evaluating PA students' perceptions of the nutrition education offered by their programs and their resultant confidence in providing nutrition counseling to patients was conducted. We hypothesized that PA students who received less than 25 hours of nutrition education, as recommended by the National Academies Press, during PA school would lack the confidence to provide nutritional education to their patients.⁴

Research Question: Do PA students feel confident in their nutritional education and their ability to educate future patients on nutrition recommendations?

Methods

We surveyed PA students from accredited PA programs in the U.S. Survey questions were developed via literature review and prior validated surveys with the author's permission.^{5,6} Questions consisted of demographic information, hours spent on nutrition education during PA school, confidence in providing nutritional education to patients with diabetes mellitus (DM), hypertension (HTN), hyperlipidemia (HLD), and obesity (Likert scale 1= not confident through 5= extremely confident), barriers to nutrition education, and satisfaction with nutrition education. The data was analyzed using IBM SPSS statistics (Version 28). Chi-square statistics was used to analyze PA student confidence compared to nutritional hours. This study received approval by Seton Hall University IRB (# 2022-267).

Barriers to Nutrition Education	Percentage (%) of PA Students
Time constraints	56.9%
Low priority	21.8%
Inadequate exposure to material	14.2%
Professors' knowledge of nutrition topic	3.8%
Poor quality of material	0.8%
Other	2.1%

Table 3. PA students' perceptions of barriers to receiving adequate nutrition education in PA curriculums

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Results

Of the 285 responses received, 46 were excluded, leaving 239 surveys in the final analysis. The average age of participants was 26.3. Participants' characteristics are shown in **Table 1**.

PA Student Characteristics	Number of PA Students	Percentage (%) of PA Students
Gender		
Females	186	77.8%
Males	52	21.8%
Prefer not to say	1	0.4%
Year in PA School		
First Year	118	49.4%
Second Year	116	48.5%
Third Year	5	2.1%
Undergraduate Major		
Nutrition Related	10	4.2%
Healthcare Related	94	39.3%
Other Science	126	52.7%
Other/Miscellaneous	9	3.8%
Nutrition Hours		
0 hours	40	16.7%
1-5 hours	96	40.2%
6-10 hours	44	18.4%
11-15 hours	11	4.6%
16-20 hours	10	4.2%
21-25 hours	5	2.1%
>25 hours	17	7.1%

Table 1. Characteristics of PA Students

Chi-square statistical analysis (**Table 2**):

- ❖ There was no statistically significant association between the number of hours spent on nutrition education and confidence in educating future patients on DM (chi-square = 13.9, $p = .303$) or obesity (chi-square = 16.7, $p = .158$).
- ❖ There was a statistically significant association between the number of hours spent on nutrition education and confidence in educating future patients on hypertension (chi-square = 36.5, $p < .001$) and hyperlipidemia (chi-square = 23.2, $p = .025$).

Chronic Conditions	Chi-Square	P-Value	Somer's d
Hypertension (HTN)	36.5	<.001*	.214
Hyperlipidemia (HLD)	23.2	.025*	.207
Obesity	16.7	.158	.193
Diabetes (DM)	13.9	.303	.160

Table 2. Chi-Squared analysis of PA Student confidence in nutrition education of chronic diseases compared to hours of nutrition education in PA school.

Discussion

Based on these results, majority of PA students in this study spent less than 10 hours on nutrition education during PA school, which was consistent with prior research.^{4,7,8} Further interpretation of confidence showed that there was no correlation between participants' confidence in providing nutritional education to future patients regarding diabetes and obesity compared to the number of nutrition hours participants had received in PA school. However, there was a significant correlation between the number of hours spent on nutrition education in PA school and the students' perceived confidence in providing nutritional education to future patients regarding hypertension and hyperlipidemia. Moreover, the correlation of each of the chronic diseases to the number of hours spent on nutrition education in PA school had a low predictive ability, indicating that participants' confidence in providing nutrition education to their future patients may or may not depend on the number of nutrition hours provided in PA school.

Conclusion

We recommend that PA programs increase the number of hours of nutritional education to a minimum of 25 as recommended by National Academies Press.⁴ Additionally, by incorporating a separate course into the PA curriculum which covers major disease topics endemic in the US, such as diabetes, hypertension, hyperlipidemia, and obesity, PA students' confidence in providing nutrition education to their patients may increase and allow them to better serve the community in reducing the burden of chronic disease.

Limitations

Limitations include low response rate, small sample size, research time constraints, and high amount of first-year student response rate.

Acknowledgments

We would like to thank Leslie Rippon Ph.D., ATC, and Wendiann Sethi, Ph.D. for assisting with the analysis of this study.

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