Self-perceived nutrition competency and nutrition knowledge in medical students in Sligo University Hospital.

Jordan Carty, Liam Clarke, Laura Keaver and Catherine Mc Hugh.

1. Introduction

Malnutrition is **a global burden**, with 1.9 billion individuals categorised as overweight or obese, 462 million adults classed as underweight, and 45% of children under the age of five dying from undernutrition (1). According to the World Health Organization, **malnutrition is an excess, imbalance, or deficiency in an individual's intake of nutrients and/or energy** (1). Deaths from chronic disease related to malnutrition are the **leading cause of death worldwide** (2).

Malnutrition places a burden on the Irish Healthcare system with 145,000 people estimated to be malnourished or at risk of malnutrition at any one time (3). Malnutrition accounts for **10% of the annual Irish Healthcare cost** (3).

95% of the public believe doctors to be experts in nutrition, despite public belief, research has shown that 90% of physicians were not confident in providing nutritional advice, and 70% of medical students (MS) and doctors reported having <2 hours of nutrition education whilst in medical school (4)(5)(6). It is important that MS have a good understanding of nutrition to **prevent, manage and treat disease**. At present there is **no mandatory nutrition education in medical schools** (7).

This study aims to assess self-perceived nutrition competency and nutrition knowledge in MS in Sligo University Hospital using a General Nutrition Knowledge Questionnaire (8) **and a Validated NUTritional COMPetence Tool** (9).

2. Methods

Survey 1: General Nutrition Knowledge Questionnaire (GNKQ)(8).

Survey 2: Validated NUTritional COMPetence Tool(9).

Data Distribution: Surveys administered to medical students via tutors.

Data Collection: Data collected in password protected file available only to researchers.

Data Analysis: Data analysed using IBM SPSS Version 26.

Data Analysis: Questionnaires Scored Pearsons Chi Squared Test Single Sample T-Test

Figure 1: Methods used to conduct study.

3. Results

Table 1: Breakdown of participants by age group, gender, and year in medical school.

Category	*Subcategory*	*Number of participants*	*Percentage of participants (%)*
Age			
	24 or younger	*24*	*85.70%*
	25-34	*4*	*14.30%*
Gender			
	Male	*11*	*39.30%*
	Female	*17*	*60.70%*
Year			
	Year 3	*20*	*71.40%*
	Year 4	*7*	*25%*
	Year 5	*1*	*3.60%*

Table 2: Breakdown of MS Pearsons Chi Squared Test and Single Sample T Test for NUTcomp Tool and GNKQ. *=significance at p=0.05 **=significance at p=0.01 N/A=Not Applicable.

		Knowledge of expert nutrition advice	**Knowledge of healthy food choices**	**Knowledge of health problems related to diet and weight management**
Confidence in nutrition knowledge	*Pearson Correlation*	*.585**	*.834***	*N/A*
	Sig. (2-tailed)	*0.011*	*<.001*	*N/A*
Confidence in nutrition skill	*Pearson Correlation*	*.701***	*N/A*	*N/A*
	Sig. (2-tailed)	*<.001*	*N/A*	*N/A*
Confidence in nutrition communication and counselling	*Pearson Correlation*	*.800***	*.865***	*.749***
	Sig. (2-tailed)	*<.001*	*<.001*	*0.002*
Attitude towards nutritional care	*Pearson Correlation*	*.628***	*N/A*	*.462**
	Sig. (2-tailed)	*0.002*	*N/A*	*0.035*

4. Discussion

Most participants were female *(60.7%)* and were 24 years old or younger *(85.7%).* MS in their 3rd year *(71.4%),* 4th year *(25%),* and 5th year *(3.6%)* of study in medical school were included in this study.

MS confidence in nutrition knowledge had significant positive corelations with MS knowledge in expert advice *(R=0.585),* and MS knowledge of healthy food choices*(R=0.834)* respectively. There is a significant relationship between MS confidence in nutrition knowledge and MS knowledge in expert nutrition advice *(p=0.01),* and MS knowledge of healthy food choices *(p=<0.001)* respectively. **This suggests MS confidence in nutrition knowledge is affected by MS knowledge of expert advice and knowledge of healthy food choices.**

There are significant positive correlations between MS confidence in nutrition skill and MS knowledge of expert nutrition advice *(R=0.701).* There was also a significant relationship between MS knowledge of expert nutrition advice and MS confidence in nutrition skill *(p= <0.001).* **This suggests MS confidence in nutrition skill is affected by MS knowledge of expert nutrition advice.**

Significant correlations were discovered between MS confidence in nutritional communication and counselling, and MS knowledge of expert advice, knowledge of health food choices, and knowledge of health problems related to diet and weight management *(R=0.8), (R=0.865), (R=0.749)* respectively. There was also a significant relationship between MS knowledge of expert advice, knowledge of healthy food choices, and knowledge of health problems related to diet and weight management and MS confidence in nutritional communication and counselling *(p= <0.001), (p= <0.001), (p=0.002),* respectively. **This suggests MS confidence in nutritional communication and counselling is affected by MS knowledge of expert advice, knowledge of healthy food choices, and knowledge of health problems related to diet and weight management.**

MS attitudes towards nutritional care had significant positive correlations with MS knowledge of expert advice, and knowledge of health problems related to diet and weight management *(R=0.628), (R=0.462). MS* attitudes towards nutritional care had significant relationships with MS knowledge of expert advice, and knowledge of health problems related to diet and weight management *(p=0.002), (p=0.035).* **This suggests MS attitudes towards nutritional care is affected by MS knowledge of expert advice, and knowledge of health problems related to diet and weight management.**

5. Conclusion

Several aspects of **MS knowledge of nutrition** as assessed by the GNKQ were shown to **affect MS self-perceived nutritional competence** as assessed using the NUTCOMP Tool.

MS could benefit from **mandatory nutrition education modules** in medical school to improve MS self-perceived nutritional competence and patient outcomes.

6. Acknowledgements and References

We would like to thank all medical students who participated in our study. We would also like to thank the Medical Academy and Sligo University Hospital for allowing us to conduct our research. We would like to thank ATU Sligo for allowing us to use their resources. We would also like to thank our supervisors Ms. Laura Keaver and Prof. Catherine Mc High for their guidance.

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