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Attitudes On The Role Of Nutrition In GP Training

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Abstract

Aim

Nutrition is the leading cause of chronic disease globally, yet it is unknown how much nutritional education GP trainees receive. The aim is to identify GP trainee attitudes to nutrition and compare with the programme directors who deliver this training.

Methods

A multicentre online survey questionnaire of 542 GP trainees in Ireland and 63 programme directors over 2 weeks in September 2019. ANOVA analysis was used to determine if there was agreement between programme directors and trainees.

Results

13 GP training schemes participated, with 93 trainees (16%) and 9 (14%) programme directors answering the survey. There was consensus and agreement between trainees and programme directors for the following; it is the role of the GP to promote a healthy diet; there are barriers to optimal nutritional management; there would be interest in further education. ANOVA analysis found that there was agreement from directors and trainees in the assertion that nutritional education to date is not adequate.

Discussion

There is agreement between GP trainees and their programme directors that the nutritional educational component of GP training is an unmet need. This study highlights the need for an improvement in nutritional education to maximise the management of chronic disease in Irish general practice.

Introduction

Diet has now overtaken tobacco as the number one cause of death and disability in many developed countries and diet is now the third highest mortality risk factor in Ireland.[1,2] Healthy Ireland reports 60% of Irish adults and 25% of Irish children are now overweight or obese, with the incidence of Type 2 diabetes predicted to double from 6.5% to 13% by 2050. [3] GPs are ideally placed to provide nutritional advice to patients to improve the dietary behaviours of individuals and populations. A recent systematic review of nutrition in medical education found a gap between the nutritional knowledge, skills, and attitudes needed for adequate care and the nutritional education provided to medical students.[4] Nutrition is not traditionally a major component of undergraduate medical training, and there is a paucity of Irish literature assessing the nutritional knowledge of medical students or postgraduate doctors. While there are validated tools to assess the nutritional knowledge of doctors, there are no validated surveys assessing their attitude to the role of nutrition in chronic disease. It is not known whether GP trainees in Ireland feel they are adequately prepared to deal with the nutritional component of chronic disease management. It is also unknown whether GP training scheme programme directors feel that trainees have adequate nutritional training.

The central question being asked in this survey is whether there is sufficient nutritional education for GP trainees according to trainees themselves and their programme directors. A further question being asked is if there is significant differences in the perception of medical nutritional training between trainees and programme directors. It is hoped that this study will identify GP trainee's current knowledge, attitudes and practice of nutrition in primary care.

Methods

GP training schemes in Ireland were invited to have their trainees and programme directors answer an online survey over a 4 week period in September 2019. There are 14 GP training schemes in Ireland with a total of 579 trainees and 63 programme directors. The survey consisted of 5 consent questions followed by 16 Likert scale questions for GP trainees and 11 Likert scale questions for programme directors. Likert scale questions can be used to measure agreement, consensus, dispersion, or polarization among respondents. Consensus was determined by constructing ordered rating scales and implementing Tastle and Wierman's measure of consensus.[5] By way of interpretation a score of 1 represents perfect uniformity and a score of 0 represents perfect bimodality, or lack of agreement. To complement agreement a measure of which way the answer tilted was determined via the arithmetic mean of the Likert score (the recommended statistic for interval data).

The questions were extrapolated from a pilot study presented by this papers author in 2018 in the North East GP training scheme. Final questionnaire design and scripting were conducted by the authors of this paper. The questions were uploaded to an online survey platform. A link to the survey, alongside ethical approval and study information, was distributed to all consenting GP training schemes via email 14th September 2019 and a reminder email was sent after 2 weeks.

The data was collected anonymously, and the results downloaded for subsequent analysis and interpretation for consensus and direction.[5,6] The survey was then closed and the source data deleted. ANOVA analysis was used to test if there was significant differences in mean answer score between directors and trainees to the question: " Is there sufficient nutritional training available to trainee GPs?".[7]

Results

13 of the 14 training schemes consented to distributing the questionnaires to their trainees and programme directors. 97 GP trainees answered the survey, and all respondents gave full consent and completed the full survey. There was an even representation of trainees with 16% year 1, 25% year 2, 28% year 3 and 30% year 4. All respondents had graduated since 2006, with 67% graduating between 2011-2015.

Table 1: *GP Trainee Survey Results.*

Question	Consensus Score	Likert Arithmetic Mean
My role as a GP is important in supporting and encouraging my patients to follow a healthy diet.	0.79	4.65
I have a clear understanding of what a healthy diet for my patients should entail.	0.79	3.99
I feel that current dietary guidelines based on the Food Pyramid are a useful source of information for both professionals and patients.	0.64	3.18
I feel confident identifying and managing any nutrition-related problems of my patients.	0.68	2.98
I feel chronic diseases such as Type 2 diabetes can be reversed in primary care.	0.79	4.03
I feel chronic diseases such as Coronary Artery Disease can be reversed in primary care.	0.62	3.19
I feel there are barriers preventing optimal nutritional management of patients that I see.	0.78	4.19
I feel that dietitians should be primarily responsible for managing a patient's nutritional advice and management.	0.63	3.16
I feel there is adequate access to refer a patient to a dietitian when needed.	0.75	2.03
My medical education to date has been adequate in preparing me to manage the nutritional component of chronic disease management for patients.	0.68	2.19
I would be interested in further training in nutrition with respect to the prevention and management of chronic disease.	0.70	4.46

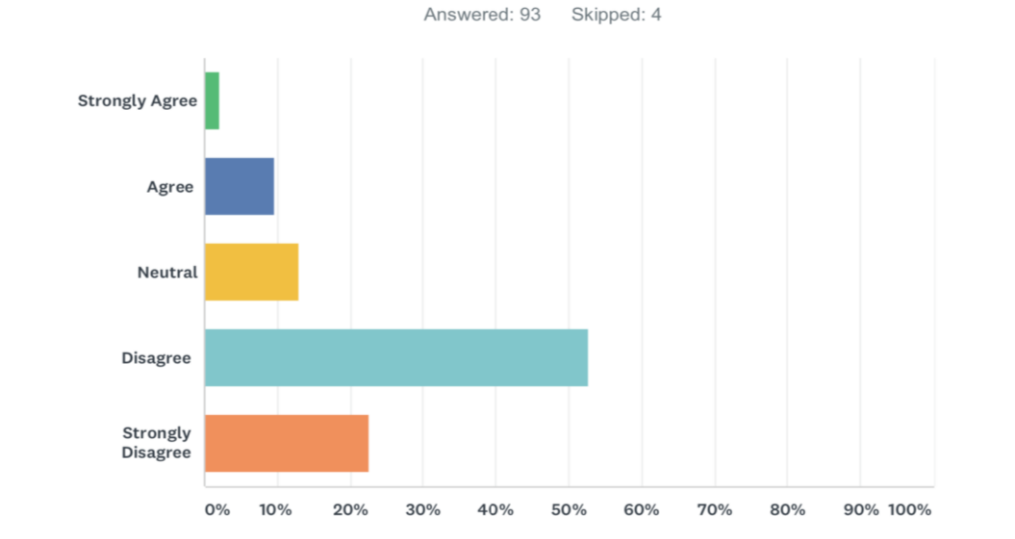
97% of trainees agreed that it was the role of the GP to encourage a healthy diet with strong statistical consensus (0.79) and strong agreement with a mean arithmetic Likert score of 4.65 (table 1).

This represented the strongest agreement shown in the survey and demonstrated consensus with the programme directors who also had strong agreement (4.7) and strong consensus (0.87) to this question. 80% of trainees agreed they felt confident what a healthy diet consisted of, yet when asked if they felt confident in identifying and managing nutritional related problems with patients there was consensus (0.68) around neutrality (2.98). There was also consensus and agreement when asked if they felt the food pyramid was a useful source of information for patients or professionals.

The majority of trainees either sometimes (46%) or seldom (33%) included a dietary history routinely for patients with chronic disease, and only 10% always do so and 10% never do. 99% of trainees indicated they would include a dietary history in a diabetes consultation and 85% of respondents would include a dietary history for cardiovascular disease consultation, with fewer for depression (40%), COPD (16%) and arthritis (16%). 83% of trainees agreed that type 2 diabetes could be reversed in the primary care setting, with strong consensus and likert arithmetic mean to strong agreement (4.03).

There was very strong consensus (0.78) and strong agreement (4.19) when trainees were asked if they felt there were barriers preventing optimal nutritional management of chronic disease. Insufficient time (82% of respondents), insufficient knowledge (52%), patient factors (58%) and resources (58%) were cited as important factors. There was strong consensus and disagreement when asked if they had adequate access to a dietitian.

Figure 1. *Survey Question 20: My medical education to date has been adequate in preparing me to manage the nutritional component of chronic disease management for patients.*



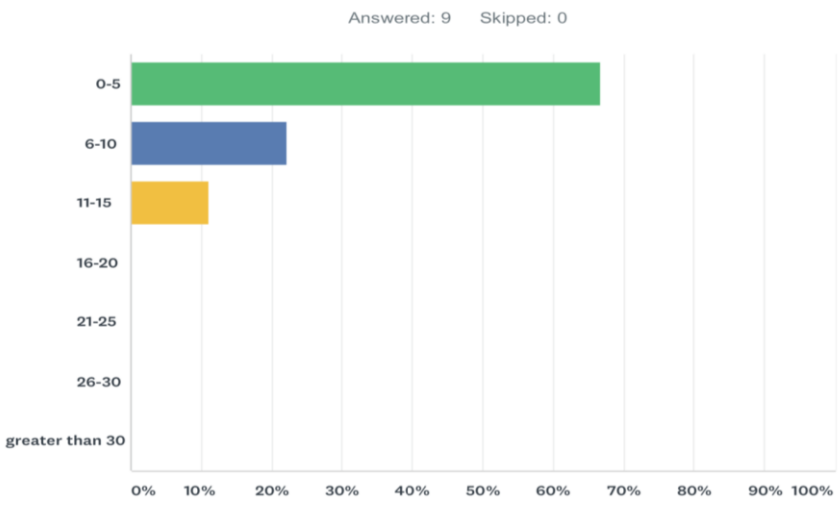
Trainees had low consensus (0.68) and were neutral (2.19) that their medical education with respect to nutrition was adequate to date. There was very strong agreement (4.46) and strong consensus (0.7) when trainees were asked if they would be interested in further further training in nutrition. There was also agreement from the programme directors to this statement (3.7) and strong consensus (0 .78).

Table 2. *Programme Director Survey Results.*

Question	Consensus Score	Likert Arithmetic Mean
The role of the GP is important in supporting and encouraging patients to follow a healthy diet.	0.84	4.7
I feel that current dietary guidelines based on the Food Pyramid are a useful source of information for both professionals and patients.	0.71	3.3
I feel chronic diseases such as Type 2 diabetes can be reversed in primary care.	0.70	4.1
I feel chronic diseases such as Coronary Artery Disease can be reversed in primary care.	0.68	3.3
I feel GP Trainees have adequate training on nutrition in their GP training.	0.76	2.9
I feel there are barriers preventing optimal training on nutrition to GP trainees.	0.71	3.3
I feel undergraduate medical education should be adequate without further training on nutrition during the GP training scheme.	0.65	2.4
I would be interested in delivering further training on nutrition to GP trainees.	0.78	3.7

A total of 9 programme directors consented to and completed the full survey. All respondents agreed that is the role of the GP to encourage patients to follow a healthy diet (table 2). As with the trainees there was disagreement as to whether the food pyramid was a useful tool for advising patients and professionals (consensus but poor agreement). 78% agreed Type 2 diabetes was potentially reversable in the community setting, with a similar pattern of consensus and agreement to the trainees. Only one programme director stated that there was mandatory nutritional training on their scheme, and 67% admitted to less than 5 hours of nutrition training over the 4-year programme (figure 2).

Figure 2. *Survey Question 11: Approximately how many hours of tuition are devoted to nutrition over the 4 year programme?*



ANOVA analysis tests for differences amongst groups to see if their mean is different. The p-value for the test is 0.911 which is above the 5% critical value. There is not sufficient evidence to reject the Null Hypothesis that their means are equal. This means that the answers provided by GP trainees and Program directors are quite similar to each other and that they likely come from the same distribution. We can conclude that there is agreement and similarity in the answers provided by directors and trainees and that they are not statistically different from each other.

Discussion

Many international studies have investigated the theme of nutrition in medical education, yet there is limited literature available with respect to general practitioners. To the authors' knowledge, this study is the first Irish survey to comprehensively assess knowledge and attitudes to nutrition in primary care. This study highlights an unmet need in GP training where both trainees and programme directors are in agreement and consensus that the nutritional educational component of GP training is currently inadequate. This is consistent with international evidence.[4] Chronic diseases have a profound public health burden, and many could be prevented and potentially reversed with the appropriate lifestyle interventions. The most common cause of mortality in Ireland is from cardiovascular disease. The only randomised controlled trial intervention in the medical literature that has been shown to reverse cardiovascular disease in a dose dependent fashion is a lifestyle-based intervention based on a healthy diet.[8] Furthermore, there is compelling data to suggest that diabetes can be reversed in primary care (DIRECT trial), although trainees and programme directors did appreciate same.[9] Other chronic diseases such as depression, COPD and rheumatoid arthritis have been shown to be potentially treated by dietary interventions, yet few trainees admitted to including diet in their history taking for these conditions.[10] The results imply that the lack of skills, knowledge, and confidence in the guidelines may have been due to most responders having inadequate training.

Strengths of this study include the large number of trainees responded and answered the survey in full, thus the results could be perceived as a powerful mandate to request further training. There was representation from a variety of scheme locations and trainee experiences. Comparing data from trainees to programme directors helped to give a balance to the central theme of the study. Limitations of this study include potential positive self-selection bias, with responders who were enthusiastic about diet and nutrition perhaps more likely to participate. There is a lack of standardised questionnaires in the medical literature asking doctors about their perception of the importance of nutrition which would have been a useful tool. Access to respondents was only available via administration of the training schemes so it was not possible to ensure whether all of the survey invitations were sent out or received.

While further work is needed to assess precisely where and how trainees would benefit from further nutritional training, this study at the very least highlights an unmet educational need. There are scant FDA or EMA approved medications licensed for obesity and their real-world efficacy is poor.

The number one cause of death remains cardiovascular disease which is driven by a number of modifiable and non-modifiable risk factors, predominantly lifestyle related. Cancer Research UK estimates that obesity is now the second leading cause of cancer after tobacco.[11,12] This study suggests that nutrition is not represented in the curriculum for GP trainees in Ireland to a degree reflective of its importance. More importantly there are a number of barriers preventing it being present in the consultation. One potentially modifiable barrier is that of trainee education, alongside undergraduate education and continuing professional development. The aetiology of the chronic disease epidemic is complex and multifactorial and addressing it involves input from stakeholders at all levels. The GP is ideally placed with their trusted role in the community and frequent contact with a variety of patients with and without chronic disease to make a brief yet meaningful interventions throughout the working day.[13] Advances in pharmacological solutions now represent significant increasing healthcare costs with diminishing returns. Moreover, since the major driver of death and disability is lifestyle mediated more emphasis must be placed on the evolving modality of lifestyle medicine going forward.

In conclusion, this study highlights the need for an improvement in nutritional education to maximise the management of chronic disease in Irish general practice that would be welcomed by both trainees and programme directors.

Ethical Approval:
Granted by ICGP.

Declaration of Conflicts of Interest:
Dr Sean Owens and Dr John Allman are volunteer members of the charity Irish Doctors for the Environment and volunteer members of the organisation Plant Based Doctors Ireland. Dr Austin O'Carroll was the GP trainer for Dr Sean Owens 2018-2019.

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