

# Direct observation of the nutrition care practices of Australian general practitioners

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## ABSTRACT

**INTRODUCTION:** Nutrition care refers to nutrition-related advice or counselling provided by health professionals in an attempt to improve the nutrition behaviour of patients.

**AIM:** The aim of this study was to describe the practices of a sample of Australian general practitioners (GPs) when providing nutrition care to adult patients.

**METHODS:** Eighteen GPs (13 male, 5 female) were observed by fourth-year medical students during their general practice rotation. Each GP was observed for five consultations that included nutrition care, totalling 90 observed consultations. In each consultation, students completed a 31-item nutrition care checklist of nutrition care practices that could feasibly occur in a standard consultation. Each practice was marked with either a 'yes' (completed), 'no' (did not complete) or 'completed by practice nurse prior to or after the consultation'.

**RESULTS:** Twenty-eight nutrition care practices were observed at least once. The most frequently observed practices were measuring and discussing blood pressure (76.7%; n=69), followed by general questions about current diet (74.4%; n=67). Approximately half of the consultations included a statement of a nutrition-related problem (52.2%; n=47), and the provision of nutrition advice that focused on a nutrient (45.6%; n=41) or food group (52.2%; n=47). Consultations with male GPs, as well as GPs with more than 25 years of experience, were associated with an increased number of nutrition care practices per consultation.

**DISCUSSION:** The GPs performed nutrition care practices in varying frequencies. Further research is required to identify the most effective GP nutrition care practices to improve the nutrition behaviour of patients.

**KEYWORDS:** Chronic disease; family practice; general practitioners, nutrition therapy

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## Introduction

General practitioners (GPs) are increasingly responsible for the care of patients with chronic conditions such as cardiovascular disease and Type 2 diabetes, as well as lifestyle-related comorbidities such as overweight and obesity, hypertension and hyperlipidaemia.<sup>1</sup> Nutrition is important in the prevention and management of many chronic conditions.<sup>2</sup> Nutrition care refers to the provision of nutrition-related advice and counselling by a health professional in an attempt to improve the nutrition behaviour of patients.<sup>3</sup> However, the optimal method of GPs providing nutrition care to patients has not been investi-

gated systematically, and their role in providing nutrition care is unclear.

Patients intentionally consult GPs for nutrition advice,<sup>3,4</sup> and trust the nutrition advice provided by GPs even more than other health professionals.<sup>5</sup> Furthering understanding of the nutrition care practices of GPs will contribute to evidence of GPs' influence on patients' health outcomes relating to lifestyle-related chronic disease, and may inform the scope of practice for GPs in this context. This short report describes the nutrition care practices of 18 Australian GPs, including the specific practices they performed when providing nutrition care to patients.

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## Methods

The nutrition care practices of 18 GPs were recorded through direct observation of consultations between January and June 2012. Eighteen fourth-year medical students were assigned a 'Nutrition Care Activity' to complete in observation of their supervising GP while on a general practice rotation. Each supervising GP was affiliated with Griffith University and provided informed consent, and listed their gender and years of experience as a GP. The Nutrition Care Activity involved completing a nutrition care checklist on the first five patient consultations that the student observed in which nutrition was discussed in relation to weight management, Type 2 diabetes, cardiovascular disease, general healthy eating or in relation to a specific nutrient such as sodium, calcium, or iron. Consultations for acute medical problems or with patients under the age of 18 years were not included. Each student completed the checklists while observing the same GP, totalling 90 observed consultations of 18 GPs.

The nutrition care checklist was developed after a review of relevant literature to identify specific nutrition care practices. All practices that were identified as being possible in a standard consultation were included in the checklist. The checklist was reviewed by three GPs, and feedback was provided on the face validity of the checklist. The final checklist comprised 31 practices and each practice was marked with either a 'yes' (completed), 'no' (did not complete) or 'completed by practice nurse prior to or after the consultation'. Each student participated in a pre-rotation training workshop to standardise procedures.

All analyses were conducted using the SPSS statistical software package version 21.<sup>6</sup> The gender and age of participating GPs was compared to the Australian Institute of Health and Welfare Workforce Data<sup>7</sup> using a Chi-square Goodness-of-Fit analysis and one-sample *t*-test, respectively, to test for representation of the sample. The gender of the participating GPs was compared to the number of years in practice, using a Pearson's Chi-square test. Frequency statistics were calculated for each nutrition care practice. The gender and number of years in practice of GPs was com-

pared to frequencies of nutrition care practices using Pearson's Chi-square tests. Statistical significance level was set at  $p < 0.05$ . The study protocol was approved by the Griffith University Human Research Ethics Committee (PBH/46/11/HREC).

## Results

Thirteen male (72%) and five female (28%) GPs were observed for a total of 90 consultations; their mean age was 51.3 ( $\pm 7.9$ ) years. When compared to the demographics of the Australian general practice workforce,<sup>7</sup> the proportion of male GPs in the sample was higher ( $p = 0.016$ ), but the mean age was similar ( $p = 0.994$ ). The GPs had been practising for 23.2 ( $\pm 7.3$ ) years and no association was found between the gender of the GPs and the number of years in practice ( $p = 0.239$ ). All practice suburbs were located in metropolitan regions in South East Queensland, Australia.

The frequencies of nutrition care practices observed in the 90 consultations are outlined in Table 1. Twenty-eight of the 31 practices were observed at least once in a consultation. The most frequently observed practices were measuring and discussing blood pressure (76.7%;  $n = 69$ ), followed by general questions about current diet (74.4%;  $n = 67$ ). In over half of the consultations, the GP stated a nutrition-related problem (52.2%;  $n = 47$ ). The most commonly stated nutrition-related problems were excess food or energy intake ( $n = 19$ ), and inadequate iron or vitamin B12 intake ( $n = 6$ ). Nearly half of the consultations included nutrition advice that focused on a nutrient (45.6%;  $n = 41$ ). The most common nutrient-related advice was to reduce fat intake ( $n = 14$ ) and reduce carbohydrate intake ( $n = 9$ ). Over half of the consultations included nutrition advice that focused on a food or food group (52.2%;  $n = 47$ ). The most common food-related advice was to increase fruit and vegetable intake ( $n = 18$ ) and increase lean red meat intake ( $n = 12$ ). A nutrition-related strategy was suggested to patients in approximately one-quarter of consultations (25.6%;  $n = 23$ ). The most common strategies were to avoid takeaway foods ( $n = 5$ ) and consume smaller portions of meals ( $n = 5$ ).

The GP requested the patient to attend a follow-up consultation to review their nutrition progress in approximately one-third of consultations

(30.0%; n=27). Most follow-up timeframes were either four weeks (n=10), two weeks (n=5) or one week (n=4) from the original consultation. Although over a third of consultations included a discussion about referring the patient on to another health professional for further nutrition care (n=36.7%; n=33), only one-quarter of consultations resulted in a referral (25.6%; n=23). The most common health professional referral was to a dietitian (n=20), followed by a diabetes educator (n=3).

## WHAT GAP THIS FILLS

**What we already know:** General practitioners are increasingly responsible for the care of lifestyle-related chronic conditions such as cardiovascular disease and Type 2 diabetes. Nutrition is important in the prevention and management of these conditions.

**What this study adds:** This study describes the practices of 18 Australian general practitioners when providing nutrition care to patients. These findings allow GPs to consider the effect of nutrition care on patients' nutrition behaviour and subsequent health outcomes.

Table 1. Observation frequency for each nutrition care practice over 90 consultations

Nutrition care practice	Yes n (%)	Completed by the practice nurse n (%)*
1. Did the GP discuss or ask the patient how they feel about their current weight?	52 (57.8%)	–
2. Did the GP ask the patient what their weight is?	29 (32.2%)	–
3. Did the GP measure the patient's weight?	39 (43.3%)	13 (14.4%)
4. Did the GP ask the patient about their parents' health?	10 (11.1%)	–
5. Did the GP ask the patient about their weight history?	44 (48.9%)	–
6. Did the GP ask or measure the height of the patient?	31 (34.4%)	10 (11.1%)
7. Did the GP calculate or determine the BMI of the patient?	34 (37.8%)	10 (11.1%)
8. Did the GP measure the patient's waist circumference?	11 (12.2%)	8 (8.9%)
9. Did the GP measure the patient's hip circumference?	0 (0%)	–
10. Did the GP calculate or determine the patient's waist-hip ratio?	0 (0%)	–
11. Did the GP measure the patient's sum of skin folds?	0 (0%)	–
12. Did the GP measure the patient's blood pressure?	69 (76.7%)	8 (8.9%)
13. Did the GP discuss the patient's blood pressure reading?	69 (76.7%)	–
14. Did the GP arrange to measure the patient's serum cholesterol levels?	37 (41.4%)	–
15. Did the GP discuss the patient's cholesterol levels?	45 (50.0%)	–
16. Did the GP perform a systematic dietary assessment? (diet history)	10 (11.1%)	–
17. Did the GP ask the patient general questions about their current diet?	67 (74.4%)	–
18. Did the GP ask the patient about any family influence on their diet? (shopping, cooking)	24 (26.7%)	–
19. Did the GP ask the patient about the cooking methods they use when preparing foods?	15 (16.7%)	–
20. Did the GP ask the patient about any other influences on their diet? (work, social life)	34 (37.8%)	–
21. Did the GP state a 'nutrition-related problem'?	47 (52.2%)	–
22. Did the GP provide nutrition advice which focused on a nutrient?	41 (45.6%)	–
23. Did the GP provide nutrition advice which focused on a food/s?	47 (52.2%)	–
24. Did the GP suggest any strategies for the patient to implement the nutrition advice?	23 (25.6%)	–
25. Did the GP suggest a nutrition-related supplement to the patient?	13 (14.4%)	–
26. Did the GP discuss the interaction between the patient's current diet and medication?	9 (10.0%)	–
27. Did the GP provide the patient with a nutrition-related information handout?	15 (16.7%)	–
28. Did the GP request the patient to book a follow-up appointment relating to nutrition?	27 (30.0%)	–
29. Did the GP discuss referring the patient to another health professional for further nutrition care?	33 (36.7%)	–
30. Did the GP refer the patient to another health professional for further nutrition care?	23 (25.6%)	–
31. Did the GP refer the patient to any other health service or organisation (e.g. 'Lighten Up' programme, commercial weight loss programme, community health organisation)	1 (1.1%)	–

GP General practitioner

\* Refers to nutrition care practices completed by a practice nurse immediately prior to or after the consultation

Table 2. Effect of GP gender on nutrition care practices in 90 consultations\*

Nutrition care practice	Consultations with male GPs (n=65) vs female GPs (n=25)	p-value
Did the GP ask or measure the height of the patient?	30 (46.2%) vs 1 (4.0%)	p=0.001
Did the GP calculate or determine the BMI of the patient?	32 (49.2%) vs 2 (8.0%)	p=0.001
Did the GP discuss the possibility of referring the patient to another health professional for further nutrition care?	30 (46.2%) vs 3 (12.0%)	p=0.003
Did the GP refer the patient to another health professional for further nutrition care?	22 (33.8%) vs 1 (4.0%)	p=0.004

GP General practitioner

\* Only nutrition care practices that are significantly associated with GP gender are shown

An association was found between the frequency of some nutrition care practices and the gender and experience of participating GPs. Male GPs were significantly more likely to perform four of the nutrition care practices, as shown in Table 2. GPs with more than 25 years' experience were significantly more likely to perform eight of the nutrition care practices, as shown in Table 3.

### Discussion

The aim of this study was to describe the nutrition care practices of a sample of Australian GPs. The findings of this study are important considering the increasing demand on GPs to provide nutrition care to patients with lifestyle-related chronic conditions. The GPs in this sample performed many nutrition care practices in varying frequencies. Some practices, such as asking general questions about diet, occurred as frequently

as routine measurements such as measuring blood pressure. Other nutrition care practices, such as measuring a patient's waist circumference, occurred in less than one-quarter of consultations that related to nutrition.

When compared to the nutrition care process (nutrition assessment, nutrition diagnosis, nutrition intervention and nutrition evaluation),<sup>8,9</sup> the GPs' approach to nutrition care provision appeared to focus on nutrition assessment and each of the successive components were performed less frequently. Interestingly, GPs are able to improve patients' nutrition behaviour after providing brief nutrition care in standard consultations.<sup>10</sup> As a result, the completion of the nutrition care process may not be required by GPs in order to elicit improvements in patients' nutrition behaviour. This suggests that the role of GPs in providing nutrition care may involve advocating for nutri-

Table 3. Effect of general practice experience of GP on nutrition care practices in 90 consultations

Nutrition care practice	Consultations with GPs with less than 25 years' experience (n=45) vs GPs with more than 25 years' experience (n=45)	p-value
Did the GP measure the patient's weight?	14 (31.1%) vs 35 (77.8%)	p=0.004
Did the GP ask the patient about their parents' health?	0 (0%) vs 10 (22.2%)	p=0.001
Did the GP ask the patient about their weight history?	16 (35.6%) vs 28 (62.2%)	p=0.011
Did the GP calculate or determine the BMI of the patient?	11 (24.4%) vs 23 (51.1%)	p=0.020
Did the GP perform a systematic dietary assessment?	1 (2.2%) vs 9 (20.0%)	p=0.007
Did the GP ask the patient general questions about their current diet?	29 (64.4%) vs 38 (84.4%)	p=0.030
Did the GP ask the patient about any family influence on their diet?	6 (13.3%) vs 18 (40.0%)	p=0.004
Did the GP ask the patient about the cooking methods they use when preparing foods?	3 (6.7%) vs 11 (24.4%)	p=0.044

GP General practitioner

\* Only nutrition care practices that are significantly associated with GP general practice experience (more than 25 years' experience) are shown

tion, rather than needing to complete the total nutrition care process.

From a health services perspective, Australian GPs have an important role in providing nutrition care to patients with lifestyle-related chronic conditions. For example, latest data suggests that Australian GPs provide over 123 million consultations each year, and nearly 5 million of these consultations involve discussions relating to nutrition.<sup>1</sup> Considering the size of the general practice workforce and the frequency of nutrition care practices observed in this study, GPs are likely to be performing nutrition care practices at a significant rate.

This study has three important points for consideration. Firstly, the participating GPs were supervising-GPs, and may have a higher interest in teaching. These GPs may therefore provide more detailed nutrition care compared to GPs who are not involved in student supervision. Secondly, it is possible that the presence of a student observer resulted in GPs modifying their nutrition care practices, which may have overestimated the frequency of practices. Finally, this study utilised brief observations to describe the nutrition care practices, and it is possible that the GPs had provided components of nutrition care in a previous consultation, which was not identified in this study.

In conclusion, this sample of Australian GPs performed many nutrition care practices in consultations, at variable frequencies. As a result, GPs may be providing variable nutrition care to patients with lifestyle-related chronic conditions. This information contributes to the evidence regarding the current role of GPs in providing nutrition care to patients.

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## COMPETING INTERESTS

None declared.