Nutrition practices of family physicians after education by a physician nutrition specialist$^{1-3}$

Karen Lazarus

ABSTRACT Although nutrition is an important part of medical care, nutrition education is not provided in most training programs for physicians in the United States, resulting in limited nutrition knowledge among physicians and limited nutritional care of patients. A nutrition education program was provided by a physician nutrition specialist in a family practice residency program. For 6 mo, the nutrition specialist provided the family physicians with recommendations for nutritional care for their patients. The effects of the education program on residents’ and faculty physicians’ nutrition knowledge and nutritional patient care, patients’ perceptions of the importance of nutrition, and physicians’ dietary patterns were determined by pre- and post-intervention nutrition exams for physicians and patients, patient questionnaires about attitudes toward nutrition, chart reviews, and physicians’ diet records. The nutrition education program resulted in an increase in physicians’ nutrition knowledge scores ($P < 0.01$) and an increase in the frequency with which physicians discussed nutrition and recommended diets for their patients ($P < 0.05$). This suggests that nutrition education by a physician nutrition specialist within a family practice residency program can be effective in increasing nutritional care provided to patients. Am J Clin Nutr 1997;65(suppl):2007S–9S.

KEY WORDS Family medicine residency, nutrition training, nutrition specialist, nutrition education

INTRODUCTION

The idea that nutrition is an important aspect of medical care dates back to the time of Hippocrates (1). It has been more than three decades since the Food and Nutrition Board of the National Academy of Sciences recommended that nutrition education be required in all medical school and residency curricula (2). However, nutrition education for medical students and physicians in the United States remains inadequate (3–7). In the United States, family practice has taken the lead among the specialties in recognizing the importance of nutrition education for residents. Nutrition curricular guidelines have been developed by the Society of Teachers of Family Medicine (8); however, even within this specialty, $<50\%$ of residency programs have a nutrition curriculum (9).

Several surveys investigated primary care physicians’ nutrition-related attitudes or practices (10–12). Physicians generally agree that nutrition is important in clinical practice (10) and that physicians should provide nutritional counseling (11), but they do not necessarily provide nutritional counseling to a great degree (10). Glanz et al (12) found that two-thirds of surveyed physicians claimed to personally provide nutritional counseling, but there was no indication of what proportion of patients were counseled.

There are many barriers to the inclusion of nutritional care in medical practice (4, 13), including lack of time (4, 13–15), low self-efficacy among physicians (13, 15, 16), and inadequate nutrition education (4, 13, 14, 17, 18). One reason for a lack of nutrition education is a limited availability of faculty members to teach nutrition (3–5, 16, 19).

A factor that has been determined to be important for effective nutrition training for physicians is the presence of a physician nutrition specialist to serve as a role model (3, 16, 20). A study was undertaken to determine the effect of a physician nutrition specialist in a family medicine residency program on residents’ and faculty members’ nutrition knowledge and patient care practices, on their patients’ nutrition knowledge and perceptions of the importance of nutrition, and on the physicians’ dietary patterns (15). This report focuses on the physicians’ nutrition knowledge and practices.

SUBJECTS AND METHODS

The seven faculty members and nine residents in the University of Alabama at Birmingham Department of Family Practice were included in the study. Their clinic patients aged $\geq 15$ y who were willing to complete the study’s data collection questionnaire were involved in the study. For 6 mo (November 1990 through April 1991), a physician nutrition specialist previewed charts of patients scheduled to be seen in the family practice clinic and provided the physicians with individualized recommendations for nutrition-related issues that should be discussed with the patients. The recommendations were provided in removable notes placed in the chart or by discussion with the primary physician.

Because many of the family physicians indicated that time limitations were a barrier to inclusion of nutritional counseling
in their patient interactions, a handout describing healthy dietary patterns that could be reviewed with patients rapidly was developed and distributed to each of the physicians. Methods for incorporating brief dietary recommendations into patient care within the time constraints of a clinic visit were also discussed with the physicians. The nutrition specialist provided nutritional counseling for patients when requested by the primary physician. The nutrition specialist also participated in family practice inpatient rounds once a week during the intervention and gave the family physicians one lecture on common nutrition-related diseases and current recommendations for healthy diets.

The components evaluated during the 2-mo preintervention and 2-mo postintervention and methods of assessment are listed in Table 1. Design and validation of the assessment tools are described in detail elsewhere (15).

Data analyses were performed with SPSS (release 4, 1990; SPSS Inc, Chicago). Physicians’ nutrition knowledge on pretests and posttests were compared by t tests for paired samples. Patients’ self-report data were compared by Pearson chi-square tests and patients’ nutrition test scores were compared by using independent-group t tests. Patients’ knowledge scores were also correlated (Spearman correlation coefficients) with those of their physicians. Pre- and postintervention chart review data were compared by Pearson chi-square tests. Physicians’ pre- and postintervention dietary data were compared by t tests for paired samples and Pearson chi-square tests.

RESULTS

Physicians’ and patients’ nutrition knowledge

There was a small but significant increase in nutrition knowledge scores among both physicians and patients (Table 2).

<table>
<thead>
<tr>
<th>TABLE 1</th>
<th>Components of study</th>
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<tbody>
<tr>
<td>Component evaluated</td>
<td>Method of assessment</td>
</tr>
<tr>
<td>Physicians’ nutrition knowledge</td>
<td>Written exams</td>
</tr>
<tr>
<td>Patients’ nutrition knowledge</td>
<td>Written exams</td>
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<tr>
<td>Patients’ perceptions of the importance of nutrition in health maintenance</td>
<td>Self-report questionnaires</td>
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<td>Frequency of physicians’ discussions of nutrition-related issues with patients</td>
<td>Chart reviews, patient questionnaires</td>
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<td>Physicians’ eating patterns</td>
<td>3-d Diet records</td>
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<tr>
<th>TABLE 2</th>
<th>Nutrition knowledge scores of family practice physicians and their patients before and after nutrition education intervention for physicians</th>
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<tbody>
<tr>
<td></td>
<td>Preintervention %</td>
</tr>
<tr>
<td>Physicians</td>
<td>73.1 ± 1.5 (14)</td>
</tr>
<tr>
<td>Patients</td>
<td>46.4 ± 1.3 (149)</td>
</tr>
</tbody>
</table>

† SEM on 60-item exam (40 clinical plus 20 practical knowledge items). n in brackets.

‡ Significantly different from pretest: P < 0.01. † Significantly different from pretest: P < 0.05.

Patients’ reports of nutrition care

There was a significant change in the frequency with which physicians asked their patients about diet or nutrition, as reported in patient questionnaires. There was also a significant change in the frequency with which physicians recommended diets for their patients (Table 3).

To control for the potential confounding effects of a nutrition-related diagnosis on physicians’ nutrition care practices, the patient questionnaire data were analyzed according to whether the patients reported a nutrition-related reason for the clinic visit (Table 4). The frequency of positive responses to the question, “Did your doctor ask you about your diet or nutrition today?” was significantly higher after intervention for patients without a nutrition-related reason for the clinic visit. Intervention also resulted in a significantly higher percentage of patients reporting that their physicians recommended a diet if they had a nutrition-related reason for the clinic visit.

<table>
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<tr>
<th>TABLE 3</th>
<th>Patients’ reports of nutrition care before and after nutrition education intervention for their physicians</th>
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<tbody>
<tr>
<td></td>
<td>Preintervention</td>
</tr>
<tr>
<td>Doctor asked about diet or nutrition</td>
<td>26.2 (115)</td>
</tr>
<tr>
<td>Doctor recommended diet</td>
<td>20.0 (135)</td>
</tr>
</tbody>
</table>

† Percentage of patients responding “yes.” n in brackets.

‡ Significantly different from preintervention, P < 0.05.

Chart reviews and physicians’ dietary patterns

There was a significantly (P < 0.05 lower frequency of referral of patients to the clinic dietitian after intervention compared with preintervention (5.8% compared with 10.0%). Chart documentation of discussion of nutrition was higher (13.8% compared with 11.4%) after intervention than before intervention, but the difference was not significant. There was no correlation between pre- or postintervention physicians’ nutrition knowledge scores and frequency of referral to the dietitian.

There were no significant differences in percentage of energy from fat, percentage of energy from saturated fatty acids, or cholesterol or sodium intakes before and after the interven-

<table>
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<th>TABLE 4</th>
<th>Patients’ reports of nutrition care before and after nutrition education intervention for their physicians, controlled for nutrition-related reason for clinic visit</th>
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<tbody>
<tr>
<td></td>
<td>Not nutrition-related visit</td>
</tr>
<tr>
<td></td>
<td>Preintervention %</td>
</tr>
<tr>
<td>Doctor asked about diet or nutrition</td>
<td>23</td>
</tr>
<tr>
<td>Doctor recommended diet</td>
<td>18</td>
</tr>
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</table>

† Percentage of patients responding “yes.”

‡ Significantly different from preintervention: P < 0.05.

†† Significantly different from preintervention: P < 0.01.
tion when all physicians’ intakes were examined. However, 67% of the residents \( (P < 0.05) \) improved their diets by decreasing their percentage of energy from saturated fatty acids.

**DISCUSSION**

The nutrition education intervention significantly increased nutrition knowledge of physicians and the likelihood that physicians would ask their patients about nutrition and make diet recommendations. In turn, patients’ nutrition knowledge also increased, as did their belief that it was important to follow a diet recommended by the physician for those patients who were seen by residents (15).

Most of the improvement in physicians’ nutrition knowledge scores occurred in the portion of the written exam that dealt with specific food choices as opposed to principles of nutrition. This is the information that patients need to improve their eating habits (21) and this was stressed in discussions between the nutrition specialist and the family physicians during the intervention.

Despite the patients’ poor nutrition knowledge, before intervention 52% of patients scored higher than the physician with the lowest score on the practical nutrition exam and 7% scored higher than the average physician. Therefore, physicians are not necessarily more knowledgeable about nutrition than their patients.

Interest in nutrition among the physicians in the Department of Family Practice was variable, as was receptiveness to the recommendations of the physician nutrition specialist. Most of the physicians believed that nutrition was important, but many of them claimed that their greatest barrier to including nutrition in patient care was a lack of time. A program emphasizing nutrition that stresses easy ways to provide practical information quickly may increase physicians’ beliefs that they can incorporate more nutrition in patient care.

Much of the nutrition education in family practice residency programs is provided by dietitians. If nutrition education in a residency program is provided by a physician nutrition specialist serving as a role model, this may help the physicians recognize that dietitians are not the only ones who can provide nutrition information to patients and that they should assume more responsibility for including nutrition in their own patient care.

The greatest effect of the nutrition education intervention was on the residents. This suggests that residency is an appropriate time for an intensive nutrition training program. The results of this study suggest that nutrition education by a physician nutrition specialist within a family practice residency program can be effective in increasing nutritional care provided to patients.

**REFERENCES**


