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## **Nutritional Approaches for Coronary Artery Disease: Survey of Cardiologists Reveals Insufficient Recommendation of Very Low-Fat Diets** **A Report from the Physicians Committee for Responsible Medicine** **February 2006**

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### **Introduction**

Very low-fat vegetarian diets have been used successfully to treat and even reverse coronary heart disease.<sup>1,2</sup> But do cardiologists counsel their patients to adopt these diets?

To answer that question, researchers sought physicians who listed their primary or secondary specialty as cardiology and were willing to participate in a survey related to their customary practices. The survey questions were aimed at determining potential barriers to and opportunities for ordering or recommending a very low-fat ( $\leq 15$  percent of calories) vegetarian diet for eliminating or slowing the progression of coronary artery disease.

The researchers e-mailed a brief multiple-choice survey to a sample of 1,135 physicians. Of those willing to be surveyed, 82 percent routinely ordered dietary changes for their cardiac inpatients. Thirty-two percent cited being very familiar and 59 percent cited being somewhat familiar with research supporting the use of very low-fat cardiac diets. However, 63 percent never or rarely order/recommend this diet, 23 percent sometimes order/recommend this diet, and only 13 percent often or always order/recommend this diet. Of those physicians who do not routinely order or recommend this diet, 48 percent cited concern about patient preference and 52 percent cited their perception that the patient was not likely to comply with the recommendation.

Knowledge and familiarity on the part of the cardiologists who responded was not a major limiting factor for ordering or recommending the very low-fat cardiac diet, but concern over patient preference and compliance with this diet appeared to be a significant factor. It is important to note that research strongly supports the acceptability of very low-fat vegetarian diets.

### **Background**

Cardiovascular diseases remain leading causes of morbidity and mortality in the United States for both men and women.<sup>3</sup>

Research supports the use of very low-fat ( $\leq 15$  percent of calories) vegetarian diets for controlling blood lipid concentrations, retarding disease progression, and reversing coronary artery disease. Regression of coronary heart disease has been observed with this type of diet as part of a comprehensive program of lifestyle changes, as measured by quantitative coronary arteriography<sup>2</sup> and cardiac positron emission tomographic scans.<sup>4</sup> No studies have consistently demonstrated the arrest and reversal of coronary artery disease with higher-fat diets. Although these research results have been available for over a decade and have been used with great success by some physicians and patients, very low-fat vegetarian diets are not yet routinely encouraged by most of the medical community.

The purpose of this survey was to determine whether cardiologists commonly recommend very low-fat plant-based diets for patients and to identify barriers to their use.

### **Methods**

An e-mail request sought physicians treating cardiac patients. An initial list of 1,135 physicians was derived from a purchased list compiled from both national and local medical associations. All physicians from these lists who had listed their primary or secondary specialty as cardiology and had an e-mail address were sent an e-mail survey. The introductory e-mail that accompanied the survey asked only those physicians who treat cardiac inpatients to answer the questions. Those not treating such patients were asked not to respond.

The survey was a multipage Web-based document available on a third-party Web site (cultivateresearch.com), with open-source technology known as PHPSurvey as the underlying infrastructure. Data were collected and analyzed. A response rate and an estimated margin of error for the entire sample and subgroups were calculated. Frequency counts for all close-ended questions and alphabetized lists of responses for all open-ended questions were compiled. The project was approved by Independent Review Consulting Inc., an independent institutional review board located in Corte Madera, Calif.

The key questions addressed in the survey were:

1. Are cardiac physicians involved with recommending or ordering diets for their inpatients?
2. Based upon physician perception, what department or individual has the greatest influence on diet selection?
3. What are physicians' dietary preferences for their patients?
4. How familiar are physicians with the research to support both the standard cardiac diet ( $< 30$  percent of calories from fat) and the very low-fat vegetarian diet ( $\leq 15$  percent of calories from fat) for patients who are diagnosed with coronary artery disease?
5. What percentage of institutions surveyed offer a very low-fat plant-based dietary option to inpatients?
6. What are the primary reasons offered for rarely or never ordering a very low-fat vegetarian diet (i.e., what are the primary barriers)?
7. What dietary recommendations do they make for their patients on discharge? Is this different from their inpatient orders?

## Results

From the 1,135 total survey e-mail inquiries, 44 physicians indicated that they treated hospitalized cardiac patients and were willing to participate in a survey of their practices. The respondents practiced throughout all regions of the United States.

Most respondents were experienced physicians: 38 percent had 21 or more years in practice, 59 percent had six to 20 years in practice, and only one physician (or 2 percent of the respondents) had three to five years in practice. A large majority (82 percent) routinely write diet orders for their inpatient cardiac patients. Eighty-six percent preferred to order and recommend the standard low-fat cardiac diet as compared with a 7 percent preference for the very low-fat vegetarian diet. Seven percent indicated their preference for a diet other than these two, but did not specify the type of diets ordered.

Thirty-two percent indicated being very familiar and 59 percent somewhat familiar with research supporting the use of very low-fat cardiac diets, indicating that perceived familiarity with research on very low-fat vegetarian diets was not a main barrier to ordering them. However, 63 percent never or rarely order/recommend this diet, 23 percent sometimes order/recommend this diet, and only 13 percent often or always order/recommend this diet.

Fifty-seven percent of responding physicians reported that the institution or institutions in which they worked rarely or never offered this diet. Hospital dietary offering practices and physician dietary recommendations were significantly correlated ( $P < .01$ ; chi-square value of 35.0536).

Asked to choose all barriers that apply, physicians not routinely ordering or recommending very low-fat diets most commonly cited two reasons for not doing so: concern about patient preference (48 percent of respondents) and the perception that the patient was not likely to comply with the recommendation (52 percent of respondents).

Other perceived barriers to routinely ordering the very low-fat diet were as follows: lack of supportive research (20 percent of respondents); lack of knowledge about the research (23 percent of respondents); lack of institutional support (11 percent of respondents); and perception that dietary services could not provide appropriate food (27 percent of respondents).

Physicians' post-discharge dietary recommendations were similar, with 80 percent of respondents preferring the standard low-fat diet compared with 14 percent who preferred the very low-fat diet. The cardiologists ranked themselves as having the greatest influence over the content of inpatient dietary orders (79.5 percent of respondents) and also saw themselves as being highly influential after patients were discharged from the acute care setting (52.2 percent of respondents). Another 22.7 percent of respondents indicated that patient preference was the primary influence on diet selection once the patient left the hospital.

## Discussion

Although physicians have a significant influence on patient diet selection, other factors clearly influence this decision. Critical barriers noted were lack of availability of very low-fat vegetarian options in the hospital, the perception that the patients would not comply with recommendations, and concerns about patient preferences.

Certainly, lack of availability may be a major factor limiting the ordering of very low-fat vegetarian diets for patients in the hospital. It is unknown whether increased availability alone would significantly increase the ordering of these diets.

Future research could clarify these issues and increase physician and consumer education about the benefits and acceptability of very low-fat vegetarian diets. Studies have shown that the acceptability of very low-fat cardiac diets used for treating cardiovascular disease or other chronic conditions is comparable to the acceptability of other therapeutic diets similar to the standard cardiac diets.<sup>5-7</sup> For example, one recent report showed that a major diet overhaul is easier than many physicians might imagine. In a weight-loss study that also looked at the acceptability of a low-fat vegetarian diet for weight loss, 93 percent of the overweight post-menopausal women (n = 28) in the study rated their new vegetarian diet as “good,” “moderately good,” or “extremely good.”<sup>7</sup> Another study showed that, in a group of 250 young women who had tried both energy-restricted weight-loss diets and vegetarian diets, the median duration on an energy-restricted diet was four months, while the median duration on a vegetarian diet was 24 months.<sup>8</sup>

Hospital administrators and dietary departments would likely also benefit from education about the benefits of providing very low-fat diets to patients with cardiac conditions and other health problems. Patient satisfaction levels are a major concern to administrators, and food service concerns are often at the top of the list of complaints in patient satisfaction surveys. Educational materials for patients and the general population highlighting the clear health benefits of a very low-fat diet may increase the demand for this option.

### **Limitations**

The study was not intended to be representative of the larger cardiology community but rather a means to determine what cardiologists thought about very low-fat cardiac diets. To obtain a greater sample size, future surveys could be administered at a national or regional cardiology meeting.

### **Conclusions**

Coronary artery disease is an important public health problem. Very low-fat vegetarian diets offer an effective and inexpensive approach to preventing and treating cardiac diseases, but this diet is not yet used frequently by cardiologists. The findings of this survey shed some light on the barriers that must be overcome to increase the use of this diet and thereby improve patient health and reduce suffering from cardiovascular disease.

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