Nutritional Therapy for Hyperlipidemia and Obesity: Office Treatment Integrating the Roles of the Physician and the Registered Dietitian

GAIL C. FRANK, RD, MPH, DrPH
New Orleans, Louisiana

Although the physician is responsible for treating a patient with hyperlipidemia and obesity, the registered dietitian can serve an important role in the health care process within the physician’s private practice. The dietitian defines eating behavior goals for patients at increased risk of heart disease, imparts skills and knowledge to the patient for improved quality of life and risk reduction and monitors and reports success or failure of the efforts to the physician. Developing an integrated approach benefits not only the physician and the registered dietitian, but also the patient with elevated risk factors.

An effective nutrition service within a private physician’s office can be planned to include the dietary components for treating hyperlipidemia and obesity. Several assumptions must be made to initiate a collaborative effort between the physician and registered dietitian. Each should agree that 1) hyperlipidemia and obesity are major risk factors of disease and modifiable, 2) a change in eating behavior is an integral part of the medical management of the patient with hyperlipidemia and obesity, 3) trained professionals should perform nutrition care services to increase effectiveness of therapy, 4) there must be interaction between the physician and registered dietitian to establish and implement a sound program, and 5) identifiable costs are linked to nutrition care services. In the long run, such collaborative efforts become the best insurance that cost-effective strategies exist in a private practice.

Dietary Objectives

The dietary components that have been shown to influence serum lipids are total energy or caloric intake, total fat, saturated fat, dietary or exogenous cholesterol, alcohol and fiber. Table 1 outlines dietary change needed to reduce lipids recommended by the American Heart Association. A specific recommendation is not given for fish oil at this time; substituting low-fat fish for fatty meat is a much healthier approach than gorging on greasy foods and taking fish oil capsules to wash out the fat. The use of fish helps to achieve the 10% polyunsaturated fat recommendation.

Table 1. Dietary Modifications for Reduction of Serum Cholesterol (adapted from American Heart Association)

<table>
<thead>
<tr>
<th>Percent of Energy</th>
<th>Diet</th>
<th>Saturated Fat</th>
<th>Protein</th>
<th>Carbohydrate</th>
<th>Dietary Cholesterol (mg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>30</td>
<td>10</td>
<td>15</td>
<td>55</td>
<td>300</td>
</tr>
<tr>
<td>II</td>
<td>25</td>
<td>7</td>
<td>15</td>
<td>60</td>
<td>200</td>
</tr>
</tbody>
</table>

The Adult Treatment Panel of the National Cholesterol Education Program has outlined practical dietary recommendations to reduce blood cholesterol levels of patients ≥20 years of age. It is the recommendation of the panel that dietary therapy “should not be prematurely disregarded” and for most patients “should be continued at least 6 months before deciding whether to add drug treatment” (1). The treatment involves a two-step plan. Step One recommends an intake of saturated fat of <10% of calories, total fat of <30% of calories and dietary cholesterol of <300 mg/day. Step Two emphasizes further reduction in saturated fat intake to <7% of calories and in dietary cholesterol to <200 mg/day. The American Heart Association has developed guidelines to change eating patterns by altering dietary components in two steps (Table 2), gradually reducing exogenous cholesterol, saturated and total fat, increasing carbohydrate and stabilizing protein. Both steps promote weight loss in the overweight patient by eliminating excess total calories (1).

The two steps are sensible and realistic, but effective implementation guidelines have been missing. The challenge is to make the dietary modifications a reality in the daily lives of patients. An operational time line, such as that in Table 3, for a three phase program is recommended to simplify the
Table 3. Timeline for Introducing Selected Dietary Components for Management of Hyperlipidemia in a Private Physician's Office

<table>
<thead>
<tr>
<th>Activity/Instruction</th>
<th>Monthly Consultation Visit</th>
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<tbody>
<tr>
<td></td>
<td>Phase I (months)</td>
</tr>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Assessment*</td>
<td></td>
</tr>
<tr>
<td>Anthropometric</td>
<td>X</td>
</tr>
<tr>
<td>Record of food intake</td>
<td>X</td>
</tr>
<tr>
<td>Computerized analysis of food intake</td>
<td></td>
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<tr>
<td>Lipid/lipoprotein determination</td>
<td></td>
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<tr>
<td>Instructions</td>
<td></td>
</tr>
<tr>
<td>Energy reduction</td>
<td>x</td>
</tr>
<tr>
<td>Fat modification</td>
<td></td>
</tr>
<tr>
<td>Total fat</td>
<td>x</td>
</tr>
<tr>
<td>Fat ratios</td>
<td>x</td>
</tr>
<tr>
<td>Cholesterol</td>
<td></td>
</tr>
<tr>
<td>Alcohol</td>
<td>X</td>
</tr>
<tr>
<td>Complex CHO</td>
<td>x</td>
</tr>
<tr>
<td>Fiber</td>
<td></td>
</tr>
</tbody>
</table>

*Initial visit after evaluation of serum lipids/lipoproteins.

Challenge. Further, alteration of dietary components can be targeted to alter the lipid or lipoprotein aberration (2).

No less than 3 months should be allowed for achievement of each phase. Not all patients can make the dietary changes and retain them as a new, preferred eating behavior even within 3 months, but given a total of 9 months, the result of a serious effort can be noted at an annual check-up. A time line can blend instruction with measurement for evaluating both dietary and biochemical objectives, a combination that helps the physician and registered dietitian to monitor each patient's goals and progress.

**Treatment Approaches to Enhance Dietary Objectives**

Behavioral approaches should be carefully planned to fit into a treatment time line and to appeal to the patient in light of his or her personal characteristics and geographic area—ethnic foods, festivals, opportunities for physical activity and so forth. The key is to be selective and specific about change in eating behavior. Four essential components of a treatment program include: 1) a 1 year time line, 2) a computerized food intake analysis, 3) a weight and cholesterol grid, and 4) sound educational materials.

The physician and the registered dietitian should agree on the treatment program and make a diligent effort to make no changes in it until 6 to 10 patients have completed it. The two main reasons physicians give for not initiating nutritional services are perceived lack of patient interest and expectation or nonadherence (3). A structured program provides direction for the patient and permits evaluation by the clinician and registered dietitian.

**Computerized analysis of food intake.** Assessment has two purposes. First, it indicates adherence to dietary change through a reduction in lipid levels. Second, it is an educational tool to direct further change. Computerized analysis of usual food intake is a practical way to evaluate dietary adherence. Using a computerized analysis system, one can ask and answer these questions: "Is total fat approaching 30% of the total energy intake? Is there an increase in complex versus simple carbohydrates?" The DINESystem, a computerized data base that clinicians and patients have used fairly extensively, produces a record for the medical chart and a handout for the patient. The handout is tangible and helps the patient to refine and alter specific food choices before the next office visit (4).

Participants tend to consume set meals once they find foods and recipes they like within the allowed food list. The first follow-up food record should be incorporated on the timeline about 2 weeks after the initial consultation (Table 3). The record may illustrate a common practice noted among my patients—to consume packaged 300 to 400 kcal meals, which they buy, freeze and cook in the microwave oven within a few minutes in the evening or at work. Although the sodium content may be prohibitive (in excess of 750 to 1,000 mg per meal) and the fat type may be more saturated than desired, the frozen meals are practical. Fish and fowl can be selected to reduce saturated fat and if sodium intake during the remainder of the day can be avoided. When possible, patients should be allowed to make gradual changes and food choices they can live with daily rather than be forbidden from trying new alternatives and food products. Aiding patients to make cumulative changes increases the likelihood of dietary success rather than failure. It also increases the likelihood that patients will continue to come in for office visits because they know a receptive rather than a restrictive environment exists.

The weight and cholesterol grids. This is another important component of treatment. Although physicians and reg-
istered dietitians have been charting weights for decades, the patient does not seem to be motivated by "pounds off." A weight chart can be an effective teaching tool. For example, on initial dietary instruction, chart the patient's current weight and project the weight at 6 or 9 months. Using 2 lb (0.9 kg) weight loss per week, place an asterisk on the graph 6 months in the future, showing a projected 24 lb (11 kg) weight loss. Retain one copy for the chart and give the patient a copy. Recommend that the patient tape the chart near his or her scale at home and once a week graph his or her weight. This technique shifts the responsibility for weight loss to the patient. Further, it defines a manageable goal, rather than merely saying, "You have to lose weight." The same instructional technique can be used with a cholesterol grid.

Educational materials. Among the many diet books on the market, recommend the nutritionally sound ones so that those interested and skilled patients can make sizable, long-term changes in their eating patterns. The American Diabetes Association/American Dietetic Association "Exchange List for Meal Planning" is an excellent guide for energy, fat and fat modifications (5). The American Heart Association's Dietary Treatment of Hypercholesterolemia is a detailed manual for patients (6). By using "The New American Diet" (7) as a blueprint for formulating specific staging of fat changes, the dietitian can help the patient achieve an eating behavior with no more than 20% of the total energy obtained from fat. Consumption of fish, not fish oil supplements, is espoused and the book recommends a three-step progression to a permanent dietary pattern low in fat and high in complex carbohydrates.

Third Party Reimbursement

Defined, standardized and cost-effective nutritional services are more likely to be covered by third parties than are those that are new or undefined. The American Dietetic Association supported a survey in 1983 to document the current status of third party reimbursement for nutrition care services (8).

Medicare provides coverage and reimbursement for outpatient clinic and home health nutrition care if "incident to a physician service." For coverage in outpatient clinic settings, an employee-employer relation must exist and the physician must be present when the service is furnished. The service must be of the type usually provided in the physician's office and the physician bills for the service.

Because Medicaid gives each state freedom to define operational terms of reimbursement for nutritional services, payment practices vary widely. In several fiscally conservative states, Medicaid reimbursement for nutrition services may be provided if the doctor submits claims as physician services. A registered dietitian is then reimbursed by the physician.

For Blue Cross/Blue Shield and commercial carriers, no state currently allows a registered dietitian to submit for direct reimbursement because provider "numbers" are not granted to registered dietitians. Further, nutrition services are considered monolithic, with no subdivision of services. With subdivision, coverage and reimbursement might be even more restricted. Obesity therapy especially has been identified as receiving minimal to no reimbursement. On the other hand, several commercial carriers offer a broad spectrum of coverage and many reimburse select nutrition services. In effect, the health care system must include nutrition care costs for the total management of hyperlipidemia and obesity.

Summary

Clinical therapy for hyperlipidemia and obesity mandates dietary changes. The rationale for modification of specific dietary components becomes more impressive with each decade, as research and epidemiologic studies continue. Treatment modalities should be based on lipid patterns and lipid aberrations. Intervention methods should become practical and behaviorally motivating for patients. The current must be receptive, with sophisticated interaction between the physician and registered dietitian. Third party reimbursement trends should be considered, but should not deter nutrition care services essential for medical management of the individual with heart disease.

The excellent editorial assistance of Virginia Howard, Louisiana State University Medical Center, is gratefully appreciated.

Suggested Reading


References

Detection and Management of Brain-Heart Interrelations

ROBERT S. ELIOT, MD, FACC

Denver, Colorado

Although our bodies retain the mechanisms for handling the physical threats that faced primitive mankind, today we face more abstract stresses and challenges. In modern times, the physiology for chronic vigilance or acute alarm is rarely beneficial and often can be harmful. New information on brain-heart interrelations and their mechanisms, effects and management has burgeoned in the last 2 decades. We now know that the brain produces 10,000 neuropeptide hormones that turn on and off various physiologic functions, in essence writing prescriptions for the body that can determine health or illness. The importance of this new information to clinical application is based on three types of observations: field observations, animal studies, and clinical investigations.

Field Observations

My first field observations of the cardiovascular effects of mental stress were as a consultant at Cape Kennedy where a high rate of sudden cardiac death was noted among the young aerospace engineers and technicians (1). Surprisingly, necropsy did not show blocked coronary vessels as was expected. Instead the vessels appeared fairly normal, but some of the myocardial fibers were ruptured. The fibers appeared to be in an overcontracted state, which causes a special kind of lesion called contraction band lesions or coagulative myocytolysis.

In addition to the high incidence of sudden cardiac death at Cape Kennedy, we found a high incidence of anxiety, depression and divorce (1). Indeed, 68% of the foremen and managers at the Cape had the same test results as did a group of psychoneurotic individuals on outpatient psychotherapy. Yet, obviously they were not "crazy." After an 8 year investigation, we reached the conclusion that these men had suffered psychologic and physiologic damage related in strong measure to their work stress and to the negative incentive program under which they labored. Because of budget cuts, after each successful launch, 15% of the workers were laid off. In a work-oriented society, one's worth and value are determined on the basis of occupation. Thus, it was not the 70 h weeks needed for firing rockets that was killing them, it was the fear of being fired themselves.

Bjorn Falkow noted that his extensive studies of animal behavior paralleled what we had observed. In animals that struggle and perceive they cannot win, the physiology and metabolism change with fatal consequences. He called the phenomenon the "struggle-defeat syndrome."