SECTION 1

Nutrition as preventive medicine

CHAPTER 1

Nutrition and the primary care clinician

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Counseling to change a patient's diet and lifestyle has the potential to play an important role in the nation's health promotion and disease prevention efforts in the twenty-first century. *Healthy People 2010* [1] nutrition objectives for primary care clinicians focus on attaining a target of 75% of physician office visits for hyperlipidemia, cardiovascular disease, or diabetes mellitus to include nutrition counseling. Recent clinical guidelines for hypertension, hyperlipidemia, obesity, and diabetes include specific nutrition and exercise-related recommendations to be implemented by primary care clinicians [2–5].

It has been well documented that the public sees primary care clinicians as credible and acceptable sources of lifestyle advice, including dietary information [6,7]. There is no lack of enthusiasm for dietary advice among patients in primary care [8]. The literature regarding the attitude of primary care clinicians towards dietary intervention is less clear. Some studies support a positive attitude while others suggest that primary care clinicians lack the inclination to provide dietary advice. Barriers include lack of time, lack of nutrition knowledge and confidence, poor patient adherance and lack of teaching materials [9,10]. In addition, translation of nutrition recommendations into practical dietary advice may be difficult. Changes to primary care practice need to include a greater focus on diet and lifestyle if nutrition-related diseases are to managed effectively and efficiently to ultimately decrease the burden on the health care system's limited resources [11]. These changes are appropriate given the amount of trust and credibility the public has in their primary care clinicians. Our dietary advice is potentially extremely important to patient outcomes [12]. Studies such as the Lifestyle Heart Trial, DASH, and Diabetes Prevention Program all demonstrate convincingly that intensive, lifestyle-based interventions are effective at reducing disease burden and risk [3,13,14].

What is the role of the primary care clinician with regards to nutrition?

While clinical encounters need to address what patients want (with a question such as, "What can I do for you today?"), we must also consider what the patient needs. "What can I do to help you become healthier?" is the "hidden" agenda for the primary care clinician. Our role in making a patient healthier is

influenced by the setting of the visit (office, home, hospital, or nursing home); by the reason for the visit (acute problem vs. chronic disease management vs. health maintenance); and by the life cycle stage of the patient. For example, when we see patients in the office, we have an opportunity to identify nutrition-related risks associated with their usual dietary intake. In the hospital, we have to ensure that their diet order promotes restoration of health while minimizing the potential for further deterioration. In the nursing home, screening for malnutrition and monitoring caloric intake are paramount. Home visits are a unique opportunity to assess how diet and lifestyle information is actually practiced.

When patients present for an acute problem we must assess the potential impact of that problem on their ability to maintain a healthy diet and monitor for problems that may be nutrition related. Patients seen for health maintenance should have a routine dietary screening and appropriate patient education. Those that have nutrition-related problems identified should have a plan generated to address that problem, part of which needs to be a follow-up visit to institute and monitor behavior change. Assessing patients' readiness to change is a critical component in this process [15,16], as discussed in detail in Chapter 15. Patients who come for chronic disease follow-up visits may benefit from significant change to their routine dietary intake and are often candidates for referral to a registered dietitian.

Reinforcement

The primary care clinician's role does not end when a referral to a nutritionist is given (just like when we refer to any specialist). We need to follow up on the nutrition consult, support the plan, and provide on-going guidance for the patient as they try to accomplish the established goals. For the infant and toddler, we need to teach parents an appropriate healthy diet to help maximize their child's growth and development while attenuating the impact of their genetic predisposition for disease. For older adults we need to screen for nutrition-related problems which affect ongoing health or a diet designed to mitigate the impact of chronic disease. For adult patients, we must help them to identify their potential disease risk and educate them about eating properly to minimize that risk or to maximize their day-to-day feeling of well being.

Giving advice

So, what is a healthy diet? What diet should primary care clinicians recommend to their patients? There is a lot of data showing that a low-fat, high fiber diet can be beneficial for long-term health promotion. On the other hand, a Mediterranean-style diet that is higher in monounsaturated fats, such as olive oil, than the typical American diet, has also been shown to be health-promoting. While it seems confusing at times, we can, in a variety of ways (as shown in the case examples) help patients to improve their diet. If weight control is an issue, a low-fat diet might be an easier way to accomplish caloric restriction

or patients may choose a low carbohydrate plan to induce more rapid weight loss.

The typical American diet is too high in calories, sugar, saturated fat, and salt and limited in fruits, vegetables, and low-fat dairy foods. Fewer than 25% of Americans get five servings of fruits and vegetables daily. Even among children, calcium intake is inadequate in almost half of 3–5 year olds, and 70% of 12–19 year olds [17].

To correct these imbalances, our patients need to cut down on portion sizes (larger portions served means more calories consumed) [18]; choose healthy snacks (fruits and vegetables rather than candy bars or chips); and reduce the consumption of products made with high fructose corn syrup (soda and sweetened fruit drinks) or sugar (cakes, cookies, and pastries). Greater use of herbs and spices will flavor foods with less salt and add some health promoting antioxidants. Clinicians can recommend low-fat milk and other low-fat dairy foods, lactose-free and soy products supplemented with calcium and calcium-fortified products (like orange juice). Prescribing a calcium supplement will help address a chronic inadequate calcium intake that is prevalent in our population and may reduce the risk of osteoporosis in the elderly. (See Chapters 12, 13 and Appendices G and H).

Screening and diagnosis: what should we be looking for?

What should be expected of the busy primary care clinician? The first step for any health maintenance and prevention visit should be to include screening for a family history of risk factors, such as obesity, cardiovascular disease or diabetes. Then it is useful to get a sense of the patient's meal and exercise patterns. This can be brief, and accomplished through the use of a simple questionnaire or by routinely asking two to three questions. Body mass index (BMI) should be calculated for everyone, including children and teenagers, followed by a discussion of how the patient's weight compares to norms. Use prevention visits as an opportunity to educate patients regarding the health effects of a lack of physical activity, the problems of large portion sizes, and the hazards of excess TV time. Challenge patients to consume more fruits and vegetables and to monitor their intake on a daily basis.

Help patients who need to lose weight by identifying community resources, websites and offer help, encouragement, and referral when indicated. Suggest MyPyramid.com [20] as a resource. These general suggestions are an excellent way to start discussing healthy diets. While it is clear that our patients with hypertension, diabetes mellitus, and hyperlipidemia need our best efforts to assist them with making effective lifestyle changes, it is not enough to limit our interventions to those patients who already have medical conditions that could have been prevented had they changed their behavior earlier. To achieve primary prevention, it is important to help those patients who are not eating what they should be or those not exercising regularly to begin doing so before they develop the health problems for which these behaviors place them at risk.

US Dietary Guidelines: Key Recommendations

Fruits and vegetables

• Choose a variety of fruits and vegetables each day. In particular, select from all five vegetable subgroups (dark green, orange, legumes, starchy vegetables, and other vegetables) several times a week.
• Two cups of fruit and 2 ½ cups of vegetables per day are recommended for a reference 2000-calorie intake, with higher or lower amounts depending on the calorie level.

Grains

• Consume three or more one-ounce-equivalents of whole-grain products per day, with the rest of the recommended grains coming from enriched or whole-grain products. In general, at least half the grains should come from whole grains.

Carbohydrates

• Choose fiber-rich fruits, vegetables, and whole grains often.
• Choose and prepare foods and beverages with little added sugars or caloric sweeteners, such as amounts suggested by the USDA Food Guide and the DASH Eating Plan.
• Consume sugar- and starch-containing foods and beverages less frequently to reduce the incidence of dental caries.

Dairy

• Consume 3 cups/day of fat-free or low-fat milk or equivalent milk products.
• Children 2–8 years should consume 2 cups/day of fat-free or low-fat milk or equivalent milk products.
• Children 9 years of age and older should consume 3 cups/day of fat-free or low-fat milk or equivalent milk products.

Fats

• Consume less than 10% of calories from saturated fatty acids and less than 300 mg/day of cholesterol, and keep trans fatty acid consumption as low as possible.
• Keep total fat intake between 20–35% of calories, with most fats coming from polyunsaturated and monounsaturated sources, such as fish, nuts, and vegetable oils.
• When selecting and preparing meat, poultry, dry beans, and milk or milk products, make choices that are lean, low-fat, or fat-free.
• Limit intake of fats and oils high in saturated and/or trans fatty acids.

Source: [19].

For behavior change

- Set realistic goals
- Celebrate small successes
- Expect set backs
- Lavish praise
- Group visits for support
- Dietary consultation when indicated

(Also see Chapter 15)

Case examples

Case 1

A 14-year-old boy comes in for a school physical. He is 5′6″ and weighs 200 pounds. He loves junk food and hates vegetables. Mom says he watches a lot of television and when questioned, he reports playing video games for at least 3 hours every day. He is an honor roll student in school, but doesn't have many friends. You identify the following problems:

1 BMI is 32.3 (diagnostic of obesity > 95th percentile)
2 No exercise with highly sedentary activities
3 Excessive fat and sugar from junk food and sweets
4 Avoids vegetables.

Approach

This typical case can be overwhelming and it is hard to know where to start. First find out if there is any kind of exercise he likes and encourage those, such as biking, playing street hockey or tennis. Quantifying the number of hours he spends playing video games is key and then suggest that this should be limited to less than 2 hours per day, including TV time. Discuss the importance of eating less junk food, avoiding candy, cookies, and chips and emphasize healthier snacks. If Mom is around it's most helpful to include her in the discussion – and be sure to emphasize that she should stop buying junk food and offer healthier snacks and vegetables when her son is most hungry, such as after school. Often overweight children and teenagers have at least one overweight parent and the entire family's dietary choices and lifestyle need to be addressed. It's important not to expect rapid results. Lifestyle change is hard and you want it to be sustainable!

Case 2

A 21-year-old college student comes in for a Pap smear and birth control. She is 5′5″ and weighs 110 pounds. She pays a lot of attention to her looks. She exercises every day for 1–2 hours. She doesn't eat any sweets except around her period when she craves chocolate. She reports a 5 lb weight loss over the

past 6 months. She is doing well in school and has lots of friends. Her periods are normal on a birth control pill. Her identified issues are:
1 BMI is 18.8 (borderline underweight)
2 Possible eating disorder
3 Probable inadequate calcium vitamin and protein intake.

Approach
It's important to gently explore her feelings about her body and the possibility of bulimia or anorexia. You can praise her exercise, but assess if it is too much as women who have eating disorders tend to exercise more than necessary every day. Take a careful diet history to assess her caloric intake and enlist her help in improving her nutrition in a healthy and tolerable manner. If she is unable to gain any weight and continues to lose weight, she should be referred for psychological counseling.

Case 3

A 30-year-old consultant comes in for a check up. He travels a lot for work and eats most meals out. He tries to exercise regularly but says that he is too busy. He is 5′10″ and weighs 210 pounds. He played football in college and his weight has remained stable since that time. You identify the following issues:
1 BMI is 30.2 (diagnostic of obesity)
2 Eats out a lot
3 Not enough exercise.

Approach
Discussing how to eat out in restaurants in a healthy manner would be the most useful. Suggest strategies such as skipping bread, limiting wine to one glass, ordering broiled, grilled or baked fish or chicken, limiting portion sizes, especially if he orders beef, and sharing dessert when possible. In addition, brainstorm with him ways to increase exercise – using gyms at hotels, climb stairs when possible, walk instead of taxis etc.

Case 4

A 40-year-old woman is seen because of fatigue. She works full time and is a single mother. She often skips breakfast, but cooks dinner most nights for her family. She is 5′8″ and weighs 200 pounds. She used to be very thin until she had her three children. She doesn't have any time to exercise and makes very little money. You identify the following issues:
1 BMI is 30.5 (diagnostic of obesity)
2 Fatigue and probably significant stress
3 No exercise
4 Can't afford a lot of "healthy" food
5 Skips breakfast.

Approach

It is helpful to address her stress first. Moderate, regular exercise is the best form of stress relief. Fast food is often the path of least resistance for single parents. Talk about inexpensive ways to eat healthier such as using canned tuna fish, leaner cuts of ground meat, choosing poultry instead of other types of meats and avoid frying. Encourage her to buy frozen, not canned vegetables. Explain the importance of eating breakfast, as this will help regulate her appetite throughout the day. In a supportive, non-judgmental manner, emphasize that she needs to set a good example and provide a healthy diet for both herself and her children. There is so much going on in her life it would be useful to address one thing at a time, not all five concerns so as not to overwhelm her.

Case 5

A 50-year-old man comes in for a blood pressure check. He's on a diuretic and ACE inhibitor and his blood pressure (BP) is 145/90 mmHg. He works as a supervisor and his shifts are 12 hours long. He is married but he often does the cooking. He and his wife love pasta. He is 5′11″ and 200 pounds. He doesn't have any time to exercise. You identify the following issues:

1 BMI is 27.9 (diagnostic of overweight)
2 Borderline BP on medication
3 Probably ingesting too much salt
4 Not enough exercise.

Approach

Because his BP is arguably the most important health issue, it's important to discuss how to lower salt in his diet. It is helpful to discuss specific problematic foods thoroughly, such as the use of canned, processed and convenience foods, which typically contain a lot of salt. According to the Dietary Approaches to Stop Hypertension (DASH) research [ref. 3], dietary changes can significantly reduce BP. Start by asking if he uses the salt shaker during cooking or when eating. Increasing his fruit and vegetable intake can help reduce his BP. He should be questioned about his alcohol intake, as more than two drinks per day can contribute to hypertension. Suggest eating more whole grains and unsalted nuts to increase his magnesium intake. In conjunction with regular exercise, this regime can significantly impact his hypertension.

Case 6

A 63-year-old woman comes in with diabetes (HbA1C of 7.5). Her total cholesterol is 260 mg/dL and low density lipoprotein (LDL) is 170 mg/dL. She says she eats all the wrong foods and sits most of the time because of bad knees and a desk job. She is near retirement. She weighs 280 pounds and is 5′9″ tall. You identify the following issues:

1 BMI is 41.3 (diagnostic of class III obesity)
2 Type 2 diabetes
3 No exercise with arthritis
4 Life stressors of pending retirement.

Approach

This type of patient is challenging from many viewpoints. She needs a realistic approach that does not discourage her from making changes to her diet and lifestyle. She needs frequent one-on-one support and specific dietary advice that takes into account her food preferences, which may be best accomplished by referring her to a registered dietitian. A thorough exploration of her home situation is warranted to find out if she is the primary cook, and if so who else she needs to cook for. She would probably benefit from a group visit or diabetic class with group suggest.

Practice what you preach

You enhance your credibility and ability to relate by role-modeling healthy lifestyles for your patients. Become an expert on exercise options in your community, advertise fundraising walks and races in your office, join them when you can, let your patients see you out there. Participate in physical activity yourself, make sure your children are involved in local team sports, get involved in your local school district and be a voice for more physical activity and healthier cafeteria foods. Encourage your office staff to eat healthy and to exercise regularly (if we clinicians don't promote work-site health, who will?). If you maintain a library for your patients make sure that it has good nutrition information resources and send out heath promoting mailings, e-mail, etc. When your patients see how important this is to you, they will be more inclined to seek out your advice when they need help. Become a resource in your community, speak out whenever and wherever you can (block parties, town hall meetings, church suppers). Help your neighbors to identify ways to eat healthier and become more physically active. The more experience you have with these lifestyle challenges, the more of a resource you will be for your patients.

Unfortunately, the literature does not provide us with models that have been shown to be effective, so it is up to each of us to develop our own method of approach to addressing diet and activity counseling for our patients. Examples of models that have been developed are described in Chapter 2.

Barriers to adherence

Despite the fact that patients accept the old adage "You are what you eat," they do not seem able to apply that to their day-to-day dietary intake. Obesity rates have increased by 60% in the last ten years with approximately 59 million Americans adults being obese [21]. The costs associated with this epidemic of obesity and its attendant diabetes are skyrocketing (estimated at $117 billion as of 2000) [22].

The average American woman is 5′4″ and weighs 140 lbs (BMI 24). The average model is 5′11″ and weighs 117 pounds (BMI 18), yet our patients have trouble incorporating a diet that would yield such a body shape. In a typical

primary care practice, between 26 and 40% of patients have a BMI greater than 30, while fewer than 1% have a BMI of 18 or less [23].

While most of our patients recognize how important it is to "eat right and exercise," a recent study from the Pew Research Center found that Americans see weight problems everywhere but in the mirror. According to this report, nine-in-ten American adults say most of their fellow Americans are overweight, but only seven-in-ten say this about "the people they know." And just under four-in-ten (39%) say they themselves are overweight [24].

Approximately 75% of adults are not eating enough fruits and vegetables. Our culture supports convenience, our policies favor junk food, our restaurants have huge portion sizes to increase the perception of value and even our TV habits demonstrate avoidance of exercise. Convenience foods, ever more popular, are typically not healthy choices. The primary care clinician, when attempting to counsel a patient about their diet, is faced with the barriers of time, money, taste preference, culture, family, and habit. Health is unfortunately far down on the list of factors that are considered when food choices are made.

Food is much more than nutrition for us. It represents nurturing, love, entertainment (note the popularity of the Food Network). For many Americans, a chubby baby is a healthy baby and any attempts to direct parents toward a more appropriate feeding style falls on deaf ears. The news media is not helping. Each new dietary study is trumpeted with the fanfare of a newly discovered scientific fact. So when contradictory results are found (which happens often in science), patients (and often their clinicians as well) are left confused about what to believe and what to include in a "healthy diet." Unfortunately, physicians trying to address the behaviors that lead to obesity face the same unsupportive environment that physicians faced trying to help patients quit smoking in the 1950s. Policy changes currently being considered that may help move our patients from where they are to where they need to be include: requiring fast food restaurants to include nutritional information on their packages; taxing sweetened beverages; and developing devices that monitor television viewing and video game use by our children. There is a lot more work that needs to be done and we believe that the primary care clinician can play a key role. Roll up your sleeves and get to work. *The Complete Guide to Nutrition in Primary Care* will give you the knowledge, skills and help reshape your attitudes about diet and lifestyle changes in your patient population.

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