

POINTERS ON DIET AND NUTRITION

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SFP 2008; 34(4): 68-69

INTRODUCTION

Advice on diet and nutrition is part of the family physician's work and covers a broad range of topics addressed in this family practice skills course. In discussing about the management of chronic diseases like hypertension, diabetes, hyperlipidemia and overweight, part of the conversation will be on dietary restrictions. Patients are keen to know what would constitute a proper diet under these circumstances. One of the struggles of the family doctor will be the lack of time.

MANAGING THE DIETARY INFORMATION EXPLOSION

There is a need to manage the dietary information explosion. Over the years, facts and myths as well as misinformation have crept into the popular literature. So have dietary fads that have been proposed for the prevention of disease or improvement of health, confusing both the general population and the medical profession. This plethora of information of varying correctness causes confusion in the minds of the patient and interferes with the ability of the physician to provide nutritional advice¹.

The effectiveness of dietary change on the lowering or reversing the disease burden of common diseases such as coronary heart disease, stroke and certain cancers are well known. The misconception by many people that a comprehensive plan of complete dietary change is necessary to achieve goals paralyses the patient. This comprehensive plan is not mandatory and some change is better than no change and a simple change in a dietary choice is may be all that is required. The balance of protective foods is just as important as avoiding foods that contain excessive calories, sugars, saturated and Trans fats.

STARTING WITH NUTRITIONAL ASSESSMENT

The goal of nutritional assessment is to identify appropriate and actionable areas of change in the dietary lifestyle. Such a consultation can be expected to take about 5-15 minutes. The following data and investigations would need to be collected from the patient before the physician embarks on nutritional therapy.

- Obtain patients body mass index (BMI). BMI can be obtained

from a monogram or a table which are easily available or calculated from the formula: $BMI = \frac{\text{body weight (Kg)}}{\text{height squared (Meters)}}$. The normal BMI for Asians is between 18-23, above those, patients are considered overweight and obese if their BMI is above 30kg/m^2 . Attention should be paid if the obesity is predominantly abdominal as this predisposed the patients to metabolic syndrome and coronary heart disease.

- Obtain a fasting lipid profile and any other labs that may be appropriate in assessing the nutritional state of the patients including fasting glucose, HbA1c, Urea and electrolytes and albumin etc.
- Assess patient current dietary habits and past attempts of dietary change. Understanding patients past attempts at dietary change will help physician determine the patient's ability to implement a diet change. Past experience and concerns about ones own health would have provided patients with insight to what is needed to improve his health. A simple way to start would be to ask patients which dietary change would improve his health, physician can then decide if this is appropriate place for the dietary change to begin. Current dietary habits can be assessed with combination of a 24 hour dietary recall, a food frequency questionnaire and a food diary. Often the food diary itself is a form of intervention as patients will alter what they eat because they are required to write it down. Patients with complex nutritional concerns should be referred to a dietician for a comprehensive assessment.
- Assess patient's behaviour and life factors that may affect his ability to implement the dietary change. Food is often a conduit where patient express his emotions in good and bad times. It is often over food that social interactions takes place and business deals are sealed. As such, understandably any dietary change will lead to difficulties. Lifestyle changes that include diet and exercise are best achieved through the support of family and friends. Patients with eating disorders and those with very high BMIs should be referred to a psychologist for assessment, behavioural counseling and other therapeutic interventions.

THE PRUDENT DIET

Lifestyle changes can have results that are comparable to drug therapy and in milder cases if metabolic syndrome may all that is needed. Dietary patterns that are high in fruits, vegetables, whole grains, fish, and poultry are associated with lower risk of such disease^{2,3}.

- **Fruits and vegetables.**

Fruits and vegetables are rich source of fibres, antioxidants

folate, potassium and many potentially anticarcinogenic agents. Meta analysis of cohort studies has found that higher intake of fruits and vegetables are associated with a lower risk of strokes and coronary artery disease. One study found that the lowest risk is associated with high consumption of cruciferous vegetables (such as broccoli, cabbage, cauliflower and Brussels sprouts), green leafy vegetables, citrus fruits, and vitamin C rich fruit and vegetables⁵. Prospective studies have suggested a dose-response relationship with the intake of fruits and vegetables and the prevention of cancers. Fruits and vegetable contain a large number of potentially anticarcinogenic agents which have both complementary and overlapping action including induction of detoxifying enzymes and dilution of carcinogens in the digestive tract. Certain fruits may have an effect on specific cancers^{6,7}. Intake of lycopene from tomatoes has appeared to reduce the risk of prostate cancers in some but not all studies^{8,9}.

• Fibre

High fibre intake is associated with a 40-50% reduction in the risk of Coronary heart disease (CHD) and stroke compared with a low intake¹⁰. It protects against CHD and obesity by lowering insulin levels. Soluble fibres such as those found in vegetables and fruits slow the postprandial rise in blood glucose and may improve the glycemic control in diabetics. The relationship between fibre and cancer risk (especially Colorectal) is unsettled. Randomized trial looking at secondary prevention found that a high fibre diet did not reduce the recurrence of colorectal adenomas.

• Fat Intake

High Cholesterol level have a strong and consistent relationship with the incidence of CHD¹¹. The type of fat consumed appears to be more important than the amount of total fat. Trans fatty acids increase risk of CHD, while polyunsaturated fat and monosaturated fat decrease risk. Some studies have suggested a role of high fat intake and the genesis of certain cancers such as breast, colon and prostate but the evidence are confounded by other factors.

• Folate

In addition to its erythropoietic properties, folate has a role in the prevention of a number of diseases. Low folate and high circulation homocysteine are major contributions to increased risk of CHD and stroke¹². During pregnancy low folate intake is associated with an increased risk of neural tube defects. High folate intake is associated with decrease risk of developing colon cancer¹³.

• Calcium and vitamin D

Trials of dietary calcium intake have not found a relationship with the intake of calcium and the risk of osteoporosis but it does showed an improvement in bone density. However, despite conflicting findings, calcium supplementation is cheap and it seems reasonable to recommend it in women with low calcium intake¹⁴.

CONCLUSIONS

Physicians can be effective at assisting the patients with improving quality of life and in achieving substantial improvements in cardiovascular risk factors through attentive follow-up and referral to a dietitian if necessary⁴.

Based on available evidence the recommendations of a prudent diet would include a diet that is rich in vegetables, fruits and nuts, legumes, grains, fish and monounsaturated fat. Such a diet termed the Mediterranean diet has the strongest evidence for a beneficial health effect. The AARP cohort study¹⁵ of the diet and mortality showed a 20% reduction in total mortality and cardiovascular and cancer mortality in Men and women.

Patient should be advised to reduce their intake of dietary fat particularly saturated fat and cholesterol, maintain caloric balance and increased the intake of foods containing fibre.

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