

Dietitians make a difference to employee health

Highlights from a systematic literature review of the effectiveness of nutrition counselling



BACKGROUND



Currently about 9 million Canadians report having a chronic health condition and the latest population health projections indicate an alarming increase in the incidence of conditions, such as diabetes and hypertension (HCC, 2007a). Poor eating habits are a contributing factor. Overall, chronic health conditions cost the Canadian economy an estimated \$80 billion each year of which 60% represent indirect costs attributed to early death, and loss of productivity and income (HCC, 2007b). In the workplace poor health has been associated with reduced employee performance, safety and morale, contributing to increased employer costs (Goetzal et al, 2004). According to the World Health Organization, 80% of heart disease, stroke and type 2 diabetes and 40% of cancers globally could be prevented by lifestyle interventions including eating healthy, being more physically active and stopping smoking (WHO, 2005).

Registered Dietitians (also called dietitians or professional dietitians and designated by the letter RD) are regulated health professionals uniquely trained to advise on diet, food and nutrition. Dietitians provide nutrition expertise including nutrition assessment, diet modification and individual or group counselling designed to achieve nutritional goals and health outcomes (e.g. improved blood glucose levels, improved blood lipid levels). Nutrition therapy provided by dietitians can improve the health of individuals and decrease medical costs in addition to employer costs.

Canadians express an interest in nutrition to prevent and manage disease, but many have limited access to dietitian services. A recent Canadian survey found that 93% of consumers feel that nutrition is an important factor influencing their food choices and 87% express that ‘maintaining good health’ has a major influence on the food choices they make (CCFN, 2008). Furthermore, 82% of Canadians surveyed believe that dietitians are the most credible source of nutrition information (CCFN, 2008). Despite these findings, the Health Council of Canada reports that only 17% of Canadians with a chronic health condition have another health care professional, such as a dietitian, working with their family doctor and involved in their health care plan (HCC, 2008).

Consulting dietitians operate their own private consulting practices or businesses and provide expertise in nutrition therapy to individuals, institutions and businesses. Access to nutrition counselling services by consulting dietitians may be limited because these services are not covered by provincial health care plans and not all insurance companies that provide employee health benefit packages include nutrition counselling services by a dietitian. To demonstrate the benefits of nutrition counselling by dietitians, a systematic literature review was conducted to evaluate the effectiveness of nutrition counselling interventions for the prevention and treatment of major chronic health conditions.

PROCESS

A systematic literature review was undertaken to examine published research on the effectiveness of nutrition interventions provided by dietitians for preventing and treating the following major chronic health conditions: obesity, diabetes and heart disease. The effectiveness of dietitian interventions in the workplace was also examined. Nutrition interventions included in this literature review had a focus on health outcomes (e.g., a change in body weight, blood glucose levels or blood lipid levels), reducing health care costs and/or reducing employer costs (including reduction in absenteeism or disability or improvement in productivity). Key findings follow.

For the complete report (Dietitians of Canada, 2009) visit

<http://www.dietitians.ca/resources/resourcesearch.asp?fn=view&contentid=13320>

HIGHLIGHTS



Overall, findings support that nutrition counselling by a registered dietitian improves health outcomes and can be delivered at a low cost or be cost-effective compared to medical treatments.

WORKPLACE INTERVENTIONS

Dietitian interventions in the workplace setting can improve health outcomes at a reasonable cost.

Collecting data on employer outcomes (e.g. absenteeism and productivity) of dietitian interventions in the workplace is challenging as employers prefer to invest money in the intervention than evaluation costs of a controlled trial. In an evaluation of a nutrition education intervention to reduce cholesterol following cholesterol screening in the workplace, 40 worksites (n=844 men and women) were randomized to receive the usual intervention (5 minutes of counselling) or an intensive intervention (behaviourally based education on dietary changes to lower serum cholesterol) (Byers et al, 1995). The intervention was provided in small groups over several sessions in a month by a health professional, usually a dietitian. After 1 year, of the 59% of participants who returned for screening, the intervention group showed a 3.5% decrease in total cholesterol compared to the usual treatment group. Although the cost savings were not calculated, the program was described as cost-effective as the total costs for the screening and intervention were only about \$50 per person.

OBESITY TREATMENT

Nutrition counselling by a dietitian is recommended to achieve weight loss and decrease obesity-related symptoms for overweight and obese individuals.

Evidence supports the effectiveness of a comprehensive lifestyle intervention that combines behaviour modification techniques and cognitive behavioural therapy with increasing activity and dietary counselling to treat individuals who are overweight or obese (Obesity Canada, 2007). The cost-effectiveness of a dietitian-led weight loss intervention was examined in a randomized controlled trial which found that the dietitian-led group achieved weight loss over a 1 year period at a lower cost than a physician-led group (dietitian only group = AUS\$7.30/kg vs. physician-led group = AUS\$9.76/kg) (Pritchard et al, 1999).

DIABETES PREVENTION

Intensive lifestyle interventions, including dietary modification, are effective in preventing diabetes in high risk individuals.

Randomized controlled trials have shown that an intensive and structured lifestyle intervention delivered by dietitians that supports healthy eating and exercise, and achieves a weight loss of about 5% (approximately 4 kg) over three to six years reduces the risk of developing type 2 diabetes by almost 60% in individuals with prediabetes (Orozco et al, 2008; Tuomilehto et al, 2001; Knowler et al, 2002). Furthermore, lifestyle interventions can continue to decrease diabetes risk several years after the intervention stopped.

The costs of lifestyle interventions to prevent diabetes are lower than medication costs.

Two clinical trials found that lifestyle interventions to prevent diabetes are cost-effective from the perspective of the health care system and costs are lower than medication costs to prevent diabetes (Knowler et al, 2002; Ramachandran et al, 2006 and 2007). In particular, the Diabetes Prevention Program (DPP) from the U.S. found that the cost per quality adjusted life years (QALY; tracks disease progress including the quantity and quality of life lived) was about \$1100 for lifestyle intervention compared with \$31,300 for medication (DPP, 2003; Herman et al, 2005). A Canadian evaluation of the DPP lifestyle intervention extended over 10 years reported that lifestyle intervention was cost-effective with the cost per life year gained calculated at \$750 compared to no treatment (Caro et al, 2004).

DIABETES TREATMENT

Nutrition counselling by a dietitian improves outcomes in individuals with diabetes.

Canadian guidelines recommend nutrition counselling by a dietitian to treat individuals with diabetes (Canadian Diabetes Association, 2008) based on evidence which showed that nutrition therapy provided by dietitians improved glycemic control by reducing glycosylated hemoglobin (A1C) levels by 1.0 to 2.0% in individuals with type 2 diabetes (Franz et al, 1995).

Nutrition therapy provided by a dietitian to treat individuals with diabetes is cost-effective (Urbanski et al, 2008).

Wolf et al (2004, 2007) conducted a 1-year randomized controlled trial in 147 obese adults with type 2 diabetes to compare usual medical care to usual care plus a lifestyle case management approach with a dietitian that included individual and group education, support and referrals. Results showed that case management participants had greater weight loss (difference = 3.0 kg), reduced A1C levels, decreased medication use, decreased hospital admissions and improved health-related quality of life compared to usual care participants. Incorporating the cost of the intervention (net cost \$328/person/year), mean health plan costs were \$3,586 (34%) lower in the case management group, suggesting that the dietitian-led lifestyle intervention program is cost-effective.

HEART DISEASE

Dietary interventions are effective at reducing risk factors associated with developing heart disease

Nutrition interventions have produced substantial reductions in total and LDL cholesterol levels and in blood pressure (McPherson et al, 2006; Khan et al, 2008). One systematic review of 38 trials (over 17,000 participants) comparing dietary advice with no advice, showed that dietary advice reduced serum total and LDL cholesterol by 0.16 mmol/L and 0.18 mmol/L after 3 to 24 months (Brunner et al, 2007). Furthermore, dietary advice decreased blood pressure by 2.07 / 1.15 mmHg. High intensity interventions (consisting of ≥ 4 scheduled personal contacts) tended to show larger effects than low intensity interventions.

Nutrition therapy provided by a dietitian to treat individuals at increased risk for heart disease is cost-effective (Pavlovich et al, 2004; McCoin et al 2008).

A randomized controlled trial of 90 adults with high blood cholesterol compared usual care by a physician to nutrition therapy by a dietitian (2 to 3 nutrition therapy visits in 2-3 months plus an additional 2 to 3 visits over the next 3 months as needed) (Delahanty et al, 2001). At 6 months, compared to usual care, nutrition therapy decreased total and LDL cholesterol (5% and 4%, respectively) in addition to decreasing body weight (2%). The costs of nutrition therapy were calculated at \$217 per person for a 6% decrease in cholesterol and the cost-effectiveness ratio was \$36 per 1% decrease in total and LDL cholesterol.

FIND A DIETITIAN – WWW.DIETITIANS.CA/FIND

Whether you're looking for a professional to advise on a wellness program for the workplace or provide individual or group nutrition counselling, a dietitian is the professional of choice. Dietitians are the only regulated health professional with expertise in food and nutrition. You can search for a consulting dietitian at the Dietitians of Canada website: www.dietitians.ca/find

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