

Book review

The Scandinavian Belly Fat Program

Although some body fat is essential to keep us warm and provide an energy store, excessive central weight gain can cause health problems. The way the fat is distributed in our bodies has important health implications. Abdominal fat may not be limited to the extra layer of padding just beneath the skin (subcutaneous fat); it may also be accompanied by excess visceral (ectopic) fat, which surrounds the internal organs (Deprés, 2012). Visceral fat is associated with an increased risk of insulin resistance (Usui et al, 2010), type 2 diabetes (Deprés, 2012; Neeland et al, 2012), cardiovascular disease (Deprés, 2012; Britton et al, 2013) and cancer (Britton et al, 2013). Abdominal obesity, measured by waist circumference (WC), may therefore be a more accurate predictor of cardiometabolic risk than general obesity, measured by BMI (Deprés, 2012).

Waist circumference and risk of diabetes

An increased WC is associated with an increased risk of developing type 2 diabetes. Men with a WC >102 cm are five times more likely to be diagnosed with the disease than those without an increased WC; women with a WC >88 cm are more than three times as likely to develop diabetes (Public Health England, 2014). Men are at high risk if they have a WC of 94–102 cm and are at very high risk if it is >102 cm. Women are at high risk if they have a WC of 80–88 cm and at very high risk if it is >88 cm (NICE, 2011). It should be kept in mind that there are ethnic variations, especially for Asian races (Leah et al, 2010). Regardless of their height or BMI, men should try to lose weight if their WC is >94 cm and women if their WC is >80 cm to reduce their risk of diabetes and other health complications (NHS Choices, 2016).

The Scandinavian Belly Fat Program

I purchased *The Scandinavian Belly Fat Program* because a patient told me that they had found it very useful and had successfully lost weight. The book, published in 2016, is written by Berit Nordstrand, a Norwegian doctor and mother of six. It is described as a 12-week plan to get healthy, boost your energy and lose weight. The aim is to help shift the body into a negative calorie balance, via the consumption of healthy foods, to reduce visceral fat.

The author does not consider it a diet; rather a method of creating lasting change in one's eating habits for the long-term in a pleasurable and beneficial way. This involves making some simple changes, all of which are common sense, week-by-week over a 3-month period. Top tips to help people reach their goals include:

- Using a smaller dinner plate
- Eating little and often
- Eating slowing, chewing every mouthful for longer
- Drinking a cup of water or green tea before meals
- Eating a protein-rich snack instead of a high-sugar variety when you feel drowsy
- Choosing snacks wisely and planning these in advance
- Having a treat day to stop the yearning for “forbidden fruit”.

People are advised to consider whether they are genuinely hungry before they eat and to think about why they are eating/craving certain foods. If they are looking for “comfort”, could this be achieved in another way? Recipes are included for each week but can be used at any time. Self-measurement of weight and WC is recommended weekly.

The first four weeks

The first month contains the most important and effective steps that aim to reduce the waistline,

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“The first month contains the most important and effective steps that aim to reduce the waistline, increase the sensation of fullness and prevent disease.”

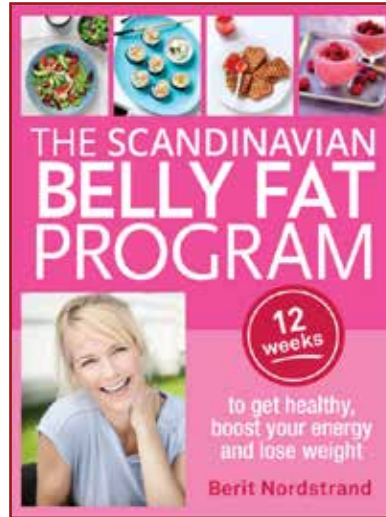
increase the sensation of fullness and prevent disease.

These include replacing all white sugar, and products containing added sugar, with natural sugars. Refined sugars are absorbed and converted into glucose very quickly, whereas natural carbohydrates from berries, other fruits and whole wheat are absorbed and converted into glucose much more slowly. Whole fruits and berries should be consumed rather than juices, and artificial sweeteners should be avoided. This change aims to reduce the addictive “sugar high”, provide more energy for longer, improve the content and quality of gut bacteria, reduce stress and anxiety, improve sleep and reduce visceral fat. Evidence has shown that gut microbiota composition affects glycaemic control, and that this can be influenced by diet (Zeevi et al, 2015).

Fibre plays an essential role in gut health and a lack of soluble fibre has been shown to drive diet-induced adiposity in mice (Chassaing et al, 2015). Refined and fine-grain flour (“fast carbohydrates”) contain more starch, which has a similar effect on the body as refined sugar. The “slow carbohydrates” found in whole grains, brown rice, vegetables, berries and other fruits are absorbed more slowly and contain more soluble fibre. Readers are advised to choose wholegrain and seeded breads (although bread should be limited) and to consume more berries and vegetables (two handfuls of vegetables to every handful of animal protein).

Herbs and spices are also recommended (e.g. turmeric, chilli, cinnamon, ginger and black pepper).

Saturated fat intake should be limited and trans (partially hydrogenated) fats avoided. Processed meat, such as sausages, bacon and mince, should be replaced with fish and seafood. Oily fish contains vitamin D and omega-3 fatty acids, and should be eaten three times a week. Omega-3 may also improve sleep (Montgomery



et al, 2014). Insufficient sleep may increase caloric consumption (Chaput, 2014) and adequate sleep (between 6 and 8 hours per night) may aid weight loss (Elder et al, 2012).

The author recommends avoiding foods rich in omega-6, on the basis that too much of this opposes the positive physiological effects of omega-3. Throughout 5 million years of hominid evolution, diets were rich in seafood and other sources of omega-3 but relatively low

in omega-6 seed oils. Anthropological research suggests that ancient and modern hunter-gatherers were/are not affected by modern inflammatory diseases, such as heart disease, cancer and diabetes, that are the primary causes of morbidity and mortality today (Simopoulos, 2008). Western diets are low in omega-3 and high in omega-6 compared with the diet on which human beings evolved and their genetic patterns were established. While our hunter-gatherer ancestors were thought to consume omega-6 and omega-3 fats in a ratio of roughly one-to-one, this is thought to be 20-to-one or even higher in Western diets today (Simopoulos, 2008; Marchesi et al, 2016).

This change in the composition of these fatty acids has been accompanied by a significant increase in the prevalence of overweight and obesity. Omega-6 and omega-3 fatty acids may elicit divergent effects on body fat gain through various mechanisms of adipogenesis, including browning of adipose tissue, lipid homeostasis, brain-gut-adipose tissue axis and systemic inflammation. In addition to total amounts of omega-6 and omega-3 fatty acids, the omega-6 to omega-3 ratio has been shown to promote the development of obesity via both arachidonic acid eicosanoid metabolites and hyperactivity of the cannabinoid system, which is reversible with increased intake of omega-3 fatty acids (eicosapentaenoic acid and docosahexaenoic acid; Simopoulos, 2016).

Excessive amounts of omega-6 and a high omega-6 to omega-3 ratio are also thought to promote the pathogenesis of many diseases, including inflammatory and autoimmune diseases, cardiovascular disease and cancer, whereas increased levels of omega-3 (a lower omega-6 to omega-3 ratio) exert suppressive effects (Simopoulos, 2008). A balanced omega-6 to omega-3 ratio is, therefore, important for the prevention and management of obesity, and for good health generally (Simopoulos, 2016).

Readers are advised to increase their omega-3 intake via dietary measures, including eating more oily fish (e.g. herring, mackerel, anchovy and salmon) and omega-3-rich nuts and seeds (e.g. walnuts, pecans, crushed linseeds and chia seeds), and through the use of supplements if necessary. While meat intake should be limited, animals that eat grass and seeds have more omega-3 in their meat, so free-range or grass-fed options should be chosen where possible.

Omega-6 intake should be limited through the avoidance of oils rich in omega-6 (e.g. sunflower, corn and soya-bean oils) and soy milk, choosing butter over margarine, and limiting the use of processed foods containing “vegetable fat”.

Weeks 5–8

This month’s changes are designed to increase the reduction of visceral fat, increase favourable gut bacteria and improve memory and well-being.

Replacing white rice and pasta with nutritious alternatives, such as brown rice, wild rice, peas, beans, lentils, pearl barley and quinoa, should help stabilise blood sugar levels, increase energy, improve mood and eliminate cravings as well as reduce waist size.

Unfavourable intestinal microbiota have been linked to obesity and associated metabolic conditions, as well as a number of other health problems (Marchesi et al, 2016). Diet is a particularly important factor in determining the microbiotic composition of the gut (Graf et al, 2015). Studies have shown that transferring intestinal microbiota from healthy individuals can improve the effect of insulin in people with reduced insulin sensitivity and excess stomach girth (Vrieze et al, 2012), and probiotics have been shown to deliver greater weight loss in people

undergoing weight loss surgery (Woodward et al, 2009).

To achieve a better balance of intestinal microbiota, readers are advised to consume more oily fish, nuts and seeds, raw root vegetables, oven-roasted root vegetables, cabbage, fresh herbs, ginger, turmeric, onion and garlic, mushrooms, berries and low glycaemic index fruits, such as apples, pears and plums. Cultured dairy products and probiotic supplements are also recommended. Organic, unsprayed fruits and vegetables should be chosen where possible.

Meals should be protein-rich to prolong the feeling of fullness and speed up fat burning. In line with the Pioppi diet, extra virgin olive oil is recommended over refined vegetable oils, and cold-pressed coconut oil can be enjoyed in limited amounts.

Weeks 9–12

The last 4 weeks of the programme include foods that help prevent the return of visceral fat, slow down fat storage, increase fat utilisation and, ultimately, improve health.

A good supply of minerals is recommended to help the body cells burn food for energy and to strengthen the bones. Calcium is important for nerve and muscle function as well as bone strength. Calcium-rich foods of choice include dairy products, such as cottage cheese, hard cheese and plain yoghurt, nuts and seeds, sardines (with bones), and green vegetables.

Limited research has shown that consuming more calcium, in the form of dairy products, may aid faecal fat excretion and weight loss (Soerensen et al, 2014; Booth et al, 2015).

Magnesium may aid memory and concentration (Slutsky et al, 2010) and improve sleep (Abbasi et al, 2012). Low magnesium levels are also associated with a variety of health problems, including increased WC and the metabolic syndrome (La et al, 2016). This mineral is found in dark-green vegetables, new potatoes with the skin on, avocados, pulses, peanut butter (choose organic), wheat bran and wheat germ, brown rice, nuts and seeds.

Like the Pioppi diet, this programme also highly recommends nuts. Nuts are advocated as one of nature’s treasures, rich in minerals,

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The Scandinavian Belly Fat Program

Weeks 1–4

Use natural sweeteners
Eat whole grains and seeds
Eat vegetables and increase fat burning
Eat fish and seafood with omega-3 and vitamin D

Weeks 5–8

Eat lentils, pearl barley and quinoa
Eat to enrich bacterial flora in the intestine
Eat protein-rich food that provides a feeling of fullness
Use oil and fat with more omega-9

Weeks 9–12

Consume minerals that increase fat burning
Enjoy green tea and dark chocolate
Drink water
Enjoy “smart” snacks

healthy fats and fibre, which can help curb sugar cravings, prolong the feeling of fullness, promote calmness and improve sleep. Frequent nut consumption is associated with a reduced risk of weight gain (5 kg or more; Bes-Rastrollo et al, 2007). High consumption of nuts (especially walnuts) has also been associated with lower diabetes risk (Jackson and Hu, 2014). Regarding quantity, it is recommended that, as part of a healthy diet, we consume approximately one handful of nuts each day over the long-term, as a replacement for less healthful foods, to help reduce the risk of obesity and type 2 diabetes (Jackson and Hu, 2014).

Week 10 involves the inclusion of green tea and dark chocolate, which are rich in polyphenols. Research suggests that long-term consumption of a diet rich in plant polyphenols may reduce the risk of cardiovascular disease (Pandey and Rizvi, 2009; Khurana et al, 2013), diabetes, osteoporosis, cancer and neurodegenerative disease (Pandey and Rizvi, 2009). Polyphenols are also found in many fruits and vegetables (Woodward et al, 2009). Green tea is recommended before

and during mealtimes. Dark chocolate should contain at least 80% cocoa solids and around 20–30 g per day is recommended.

Another recommendation this month is to drink before you are thirsty and cut out artificially sweetened drinks to aid metabolism and improve stamina and memory. Use plain water where possible and aim to drink around 2 litres per day.

Conclusion

The Scandinavian Belly Fat Program includes much common-sense advice and reflects the popular Pioppi diet in recommending plenty of fresh fruit and vegetables, fresh fish, seafood, nuts and olive oil, while excluding processed and highly-refined foods. However, the dialogue in *The Pioppi Diet* book is more interesting and clinician-orientated.

A downside for calorie counters, however, is that the recipes do not include the calories per portion. This would have been a useful addition, particularly for individuals who may find calorie counting helpful and want to incorporate some of these ideas rather than following the programme religiously. ■

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