

University of Wollongong

Research Online

Faculty of Science, Medicine and Health -
Papers: part A

Faculty of Science, Medicine and Health

1-1-2014

Dietary patterns and weight loss: which foods make up the patterns?

Linda Tapsell

University of Wollongong, ltapsell@uow.edu.au

Follow this and additional works at: <https://ro.uow.edu.au/smhpapers>



Part of the [Medicine and Health Sciences Commons](#), and the [Social and Behavioral Sciences Commons](#)

Recommended Citation

Tapsell, Linda, "Dietary patterns and weight loss: which foods make up the patterns?" (2014). *Faculty of Science, Medicine and Health - Papers: part A*. 1865.

<https://ro.uow.edu.au/smhpapers/1865>

Research Online is the open access institutional repository for the University of Wollongong. For further information contact the UOW Library: research-pubs@uow.edu.au

Dietary patterns and weight loss: which foods make up the patterns?

Abstract

Put simply, the target for the dietary management of weight loss is to achieve a consumption of fewer calories relative to energy expenditure [1] , but weight loss needs to be sustained [2]. One way of focusing on this problem is to consider shifts in dietary patterns that feel normal and routine, where a sustained change in dietary pattern supports a sustained change in weight [3].

Disciplines

Medicine and Health Sciences | Social and Behavioral Sciences

Publication Details

Tapsell, L. C. (2014). Dietary patterns and weight loss: which foods make up the patterns?. *Networking News*, Spring 1-5.

Dietary patterns and weight loss: which foods make up the patterns?

Linda C Tapsell PhD FDAA

Introduction

Put simply, the target for the dietary management of weight loss is to achieve a consumption of fewer calories relative to energy expenditure [1], but weight loss needs to be sustained [2]. One way of focusing on this problem is to consider shifts in dietary patterns that feel normal and routine, where a sustained change in dietary pattern supports a sustained change in weight [3].

There are many ways of looking at dietary patterns. Those based on dietary guidelines, for example, tend to focus on groups of foods that could be referred to as 'staples', for example breads and cereals, fruit and vegetables, milk/cheese/yoghurt and lean meats, nuts and seeds. Dietary patterns also can be described in terms of energy and nutrients, for example, low calorie, low fat, high protein, high carbohydrate (CHO). Another way of considering dietary patterns is to think about meals and thereby cuisines, such as the Mediterranean cuisine (MedDiet). In contrast a 'Western cuisine' may be envisaged by the ready inclusion of takeaway meals or 'extra' foods. Often the categorisation of dietary patterns is one way of distinguishing between foods that constitute a healthy diet [4, 5].

In any case, dietary patterns are constructed from foods, and the combination of foods may vary substantially from one pattern to another. In this paper we consider the foods contained in MedDiet pattern and discuss the implications for focusing dietary advice.

The Mediterranean diet

Studies on the advantages of the Mediterranean diet can be regularly found in the scientific literature. The most recent and significant is the PREDIMED study which was conducted throughout Spain [6]. This landmark study involved over 7,000 participants aged 55-80yr with high cardiovascular disease risk and followed up for around 5yrs. The study compared advice to consume a low fat diet with advice to consume a Mediterranean style cuisine. The 2 groups on the Mediterranean diet were also given either extra-virgin olive oil or mixed nuts (walnuts, hazelnuts, almonds) as their small study gifts. The inclusion of these foods was consistent with the dietary pattern being encouraged.

Compliance to the diet was measured in terms of a score which referenced a set of key foods including tree nuts, olive oil, legumes, vegetables, fruit, fish and seafood. Sofrito, a mixture of garlic onions, olive oil, tomatoes and herbs was an integral part of the culinary approach to the diet. Weight loss was not a target for this study, and there was no calorie restriction so not surprisingly, difference in weight loss were not reported in analyses conducted at different times in the study [7, 8]. However, the effects of cardiovascular disease outcomes were significant, and the main study concluded that the Mediterranean diet supplemented with olive oil or nuts reduced the incidence of major cardiovascular events in high risk individuals [6]. It remains to be seen whether deliberately reducing calorie intakes may prove even more beneficial (and in younger adults), but the results strongly support the value of the dietary pattern. The position of individual foods is also a key question. In fact some commentary on PREDIMED study questioned whether the trial actually provided evidence of effects of the supplemental foods or the whole diet [9]. It may be that some foods are so important to the dietary pattern that maintenance of the pattern is dependent on keeping a focus on their use.

The Mediterranean diet and weight loss

The PREDIMED study was not low calorie and also occurred in Spain, one of the homes of the Mediterranean diet. Some years earlier, a study in Boston applied energy restrictions when comparing a Mediterranean pattern (qualified as 35% energy as fat), with a low fat diet (20% energy as fat) to an American study sample [10]. This study had a high dropout rate (40%), but there was better compliance to the Mediterranean dietary pattern (MedDiet) than to the low fat pattern after 18mo. The MedDiet group also demonstrated 7.0kg greater weight loss. This translated to 3.5kg after 30 months in 38% of the MedDiet group. From a food perspective, the MedDiet group reported consuming more vegetables and more of their dietary fat from olive oil and nuts. While there are limitations to this study, there does appear to be advantages for considering the MedDiet pattern, focusing on vegetables, olive oil and nuts in preference for other foods for sustainable weight loss.

Energy restriction will still be necessary, however. A study in post-partum women from Arizona, where there was no restriction on calories found no difference in weight loss between groups receiving advice based on the Mediterranean diet vs the USDA 'MyPyramid' dietary advice. Like the participants in PREDIMED, the participants in the Mediterranean diet group showed greater compliance (higher MED diet scores) in addition to being given walnuts (38g/day) and the dietary advice emphasising olive oil and vegetables [11].

Whether the adopted dietary patterns are sustainable is another question. Studies that involve long term follow up are hard to find. One study from Israel, comparing a MedDiet with low fat and low carbohydrate (CHO) dietary advice followed up participants after 24mo. [12] and then again after 4yr [13]. The same degree of retention in the study was managed for the study groups. At first, after 2 years, the order of effects was low fat>MedDiet>low CHO. Weight was regained after after 4 yr in all groups, but the order in the long run was MedDiet<lowfat<low CHO. This was a workplace study and the study was conducted in a Mediterranean region, but even so it suggests the MedDiet pattern appeared more effective and sustainable in the long term. Focusing on a cuisine pattern with concepts for meals and the use of specific foods characteristics of the pattern may be important.

Conclusions

Despite the regional nature of the name, the principles behind the MedDiet pattern seem to be applicable in terms of the types of foods that come to form the dietary pattern. It is congruent with a recent analysis of food choice patterns from large observational studies in the USA. Here, foods such as yoghurt, nuts, fruits, whole grains and vegetables have been shown to be negatively associated with weight gain over 4 years, whereas potato chips, potatoes, sugar based beverages and red meats were found positively associated with weight gain [14]. The foods contained in MedDiet patterns bear many similarities to those included in dietary guidelines and the MedDiet patterns appears reasonably translatable to the American context. As a start, healthy meals and snacks starting with foods such as vegetables and nuts, and with the culinary use of olive oil may form a worthwhile basis for building up a sustainable dietary pattern.

References

1. Sacks F, Bray G, Carey V, Smith S, Ryan D, Anton S, McManus K, Champagne C, Bishop L, Laranjo N *et al*: **Comparison of weight-loss diets with different compositions of fat, protein and carbohydrates.** *New England Journal of Medicine* 2009, **360**(9):859.
2. Pasanisi F, Contaldo F, De Simone G, Mancini M: **Benefits of sustained moderate weight loss in obesity.** *Nutrition, Metabolism and Cardiovascular Diseases* 2001, **11**(6):401-406.
3. Tapsell LC, Neale EP, Nolan-Clark DJ: **Dietary Patterns May Sustain Weight Loss among Adults.** *Current Nutrition Reports* 2014, **3**(1):35-42.
4. Hu FB: **Dietary pattern analysis: a new direction in nutritional epidemiology.** *Current Opinion in Lipidology* 2002, **13**(1):3-9.
5. Kant AK: **Dietary patterns and health outcomes.** *Journal of the American Dietetic Association* 2004, **104**(4):615-635.
6. Estruch R, Ros E, Salas-Salvadó J, Covas MI, Corella D, Arós F, Gómez-Gracia E, Ruiz-Gutiérrez V, Fiol M, Lapetra J *et al*: **Primary prevention of cardiovascular disease with a Mediterranean diet.** *New England Journal of Medicine* 2013, **368**(14):1279-1290.
7. Estruch R, Martínez-González MA, Corella D, Salas-Salvadó J, Ruiz-Gutiérrez V, Covas MI, Fiol M, Gómez-Gracia E, López-Sabater MC, Vinyoles E *et al*: **Effects of a Mediterranean-Style Diet on Cardiovascular Risk Factors a Randomized Trial.** *Annals of Internal Medicine* 2006, **145**(1):1-11.
8. Razquin C, Martinez JA, Martinez-gonzalez MA, Mitjavila MT, Estruch R, Marti A: **A 3 years follow-up of a Mediterranean diet rich in virgin olive oil is associated with high plasma antioxidant capacity and reduced body weight gain.** *European Journal of Clinical Nutrition* 2009, **63**(12):1387-1393.
9. Appel LJ, Van Horn L: **Did the PREDIMED trial test a mediterranean diet?** *New England Journal of Medicine* 2013, **368**(14):1353-1354.
10. McManus K, Antinoro L, Sacks F: **A randomized controlled trial of a moderate-fat, low-energy diet compared with a low fat, low-energy diet for weight loss in overweight adults.** *International Journal of Obesity* 2001, **25**:1503-1511.
11. Stendell-Hollis NR, Thompson PA, West JL, Wertheim BC, Thomson CA: **A comparison of mediterranean-style and mypyramid diets on weight loss and inflammatory biomarkers in postpartum breastfeeding women.** *Journal of Women's Health* 2013, **22**(1):48-57.
12. Shai I, Schwarzfuchs D, Henkin Y, Shahar DR, Witkow S, Greenberg I, Golan R, Fraser D, Bolotin A, Vardi H *et al*: **Weight loss with a low-carbohydrate, Mediterranean, or low-fat diet.** *New England Journal of Medicine* 2008, **359**(3):229-241.
13. Schwarzfuchs D, Golan R, Shai I: **Four-year follow-up after two-year dietary interventions.** *New England Journal of Medicine* 2012, **367**(14):1373-1374.
14. Mozaffarian D, Hao T, Rimm EB, Willett WC, Hu FB: **Changes in diet and lifestyle and long-term weight gain in women and men.** *New England Journal of Medicine* 2011, **364**(25):2392-2404.