



# Fats & Oils: How much should we be recommending?

Dr Joanna McMillan

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## Current ADG

- Limit intake of foods high in saturated fat
- Replace high fat foods which contain predominantly saturated fats such as:
  - Butter
  - Cream
  - Cooking margarine
  - Coconut and Palm oil
- Replace with foods which contain predominantly polyunsaturated and monounsaturated fats such as:
  - Oils
  - Spreads
  - Nut butters/pastes
  - Avocado



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## How much per day?

- 4 serves men < age 70
- 2 serves women > 18, men > 70, adolescents 14-18
- 1.5 serves children 12-13
- 1 serve children 3-12
- ½ serve children 2-3

## What is a serve?

- 250kJ
- 10g spread (2 tsp)
- 7g oil (<2 tsp)
- 10g nuts or nut butter (but 30g can be included as protein choice)



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## EVOO listed alongside Fruit & Veg in Spanish Food Pyramid Guidelines



The diagram is a pyramid divided into five horizontal layers. From top to bottom:

- Top layer (blue):** Suplementos nutricionales (vitaminas y minerales), Opciones individualizadas.
- Second layer (red):** BEBIDAS FERMENTADAS (consumo opcional, moderado y responsable en adultos), CONSUMO OPCIONAL OCASIONAL Y MODERADO.
- Third layer (orange):** 2-3 AL DÍA (left side), CONSUMO VARIADO DIARIO 1-3 AL DÍA (ALTERNAR) (right side).
- Fourth layer (green):** 3-5 AL DÍA (left side), 3-4 AL DÍA (right side). A box on the right says 'PUNTO DE CONSUMO EN CADA COMIDA PRINCIPAL'.
- Bottom layer (yellow):** SEGN GRADO DE ACTIVIDAD FISICA. Below the pyramid are icons for 'Actividad física diaria 30 min', 'Equilibrio emocional', 'Balance Energético', 'Técnicas de relajación saludables', and 'AGUA: 4-6 vasos al día'. A note at the bottom says 'MANTENER ESTILOS DE VIDA SALUDABLES'.

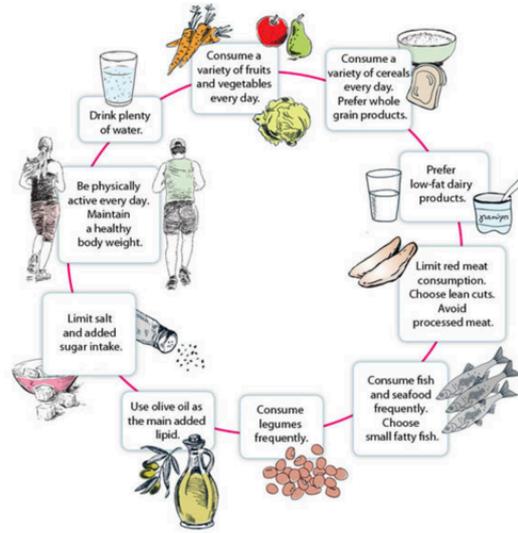
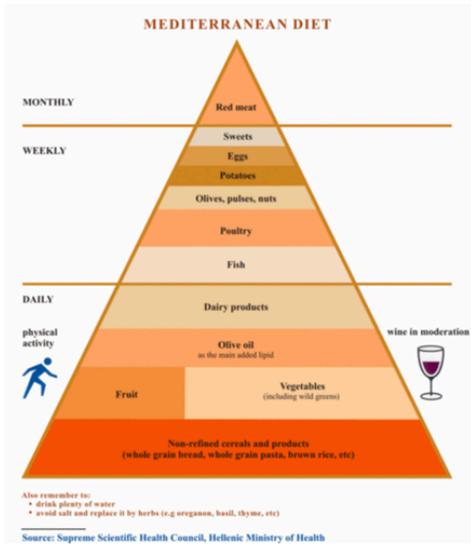
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# As Daily Food & Main Fat in Greek Dietary Guidelines



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**Mediterranean Diet Pyramid: a lifestyle for today**  
Guidelines for Adult population

Serving size based on frugality and local habits

Wine in moderation and respecting social beliefs

Sweets  $\leq 2s$

Red meat  $< 2s$   
Processed meat  $\leq 1s$

Eggs 2-4s  
Legumes  $\geq 2s$

Dairy 2s (preferably low fat)

Olives / Nuts / Seeds 1-2s

Herbs / Spices / Garlic / Onions (less added salt)  
Variety of flavours

Fruits 1-2 | Vegetables  $\geq 2s$   
Variety of colours / textures (Cooked / Raw)

Olive Oil  
Bread / Pasta / Rice / Couscous / Other cereals 1-2s (preferably whole grain)

Water and herbal infusions

Regular physical activity  
Adequate rest  
Conviviality

Biodiversity and seasonality  
Traditional, local and eco-friendly products  
Culinary activities

2010 edition

2 = Serving

Fundación Dieta Mediterránea

ICAF International Commission on the Anthropology of Food and Nutrition

Predimed

CIHEAM

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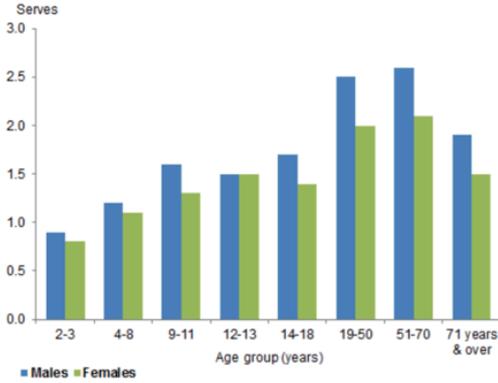


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# What are Aussies Consuming?



Persons 2 years & over - Mean serves of unsaturated spreads and oils(a)(b), 2011-12



Of those average 2 serves from non-discretionary sources, only 17% from oils and oil-based spreads... mostly margarine & table spreads, not oils

(a) Based on Day 1. See Glossary for definition.  
(b) From non-discretionary sources.

Source: National Nutrition and Physical Activity Survey, 2011-12.



# How much Olive Oil are Aussies Consuming?



**~2.2 litres per person per year**  
**= 6ml per day\***



\* International Olive Oil Council data



## How much do you need to consume for health benefits?

- On average 25 – 50ml of EVOO is associated with health benefits!
  - 1 x Aus tablespoon = 20ml or 15ml
  - 1 x US & UK tablespoon = 15ml
- EAT Lancet report recommends 20 – 80g/day (average ~ 40g; 1480kJ) of unsaturated fats and oils per day
  - 40g unsaturated oil = 1480kJ = ~ 3 x 15ml EVOO
- Australian based Mediterranean diet interventions recommend ~ 3 – 4tbs and get an average of ~2tbsp at end of 3 – 6 month interventions
  - Researchers experience was that even with higher recommendations they were getting compliance at the lower end (i.e. recommending more helps reach minimum)
- Seminal studies like PREDIMED which are conducted in large free-living cohorts report adherence to the upper 3 – 4 tbsp

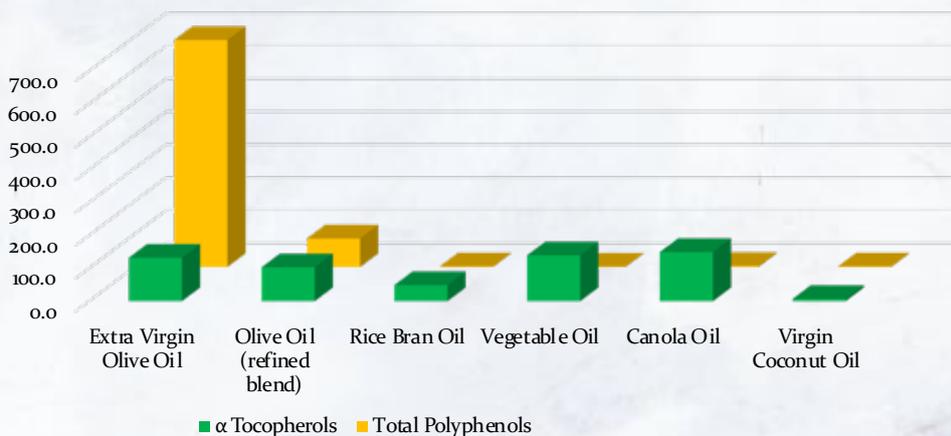


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## Polyphenols & Vit E in Common Oils



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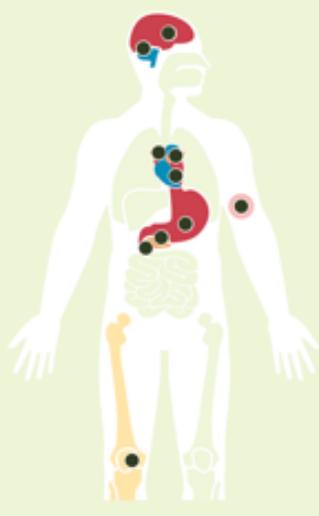
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# Summary of Health Benefits

*dr. Joanna*

## Systematic Literature Reviews

A review of recent systematic literature reviews.



 Blood pressure	 Cardiovascular disease	 Cholesterol & blood lipids
 Cognitive health & impairment	 Depression & mental health	 Type 2 diabetes (prevention & management)
 Inflammation	 Metabolic syndrome	 Rheumatoid arthritis
 Weight & anthropometric measures		

<https://olivewellnessinstitute.org/systematic-literature-reviews/>

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# Cobram Estate Health Professional Challenge

- A campaign to help Australians meet recommended volumes of Extra Virgin Olive Oil
- On average, Australians are consuming less than 1 teaspoon of EVOO daily
- Cobram Estate is calling on health professionals to encourage at least 2 – 3 tablespoons per day (~45ml)



Cobram Estate Health Professional challenge

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**Potential Barriers to Meeting Recommended Intakes of Fats & Oils**

- **Energy density and weight control**
- **Cost**
  - Cobram Estate is ~\$2 per 100ml = 45ml per day costs 90 cents
- **Taste**
  - Experiment with different flavours light to robust, ensure understanding of light flavoured EVOO vs. light olive oil
- **Unfamiliar – Cultural Uses**
  - You use EVOO to make Asian dishes and basically any cuisine
- **Myths**
  - You can cook with it! The myth about not cooking with EVOO seems to be hard to shift

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**What about Kilojoules?**

- 45ml extra virgin olive oil = 1530kJ  
Equivalent to:
  - 70g milk chocolate (1568kJ)
  - 50g butter (1514kJ)
  - 4 Tim Tams (1588kJ)
  - 1 Choc Caramel Magnum (1489kJ)
- Cut back on discretionary foods
- Use in place of butter, other oils & spreads
- Reduce snacking & emphasise overnight fast
- Evidence supporting greater satiety

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## Should we Worry about Weight Gain?



- Systematic review of the Mediterranean Diet for long-term weight loss (Mancini J. *et al* 2016)
  - 5 RCTs compared Med Diet to low fat, low carb & American Diabetes Ass. Diet
  - Med Diet resulted in greater weight loss at 12 months than low fat, similar to the other diets
- Olive Oil and Body Weight. Systematic Review and Meta-Analysis of Randomized Controlled Trials (Zamora Zamora F. *et al.* 2018, in Spanish)
  - 11 RCTs – diet enriched with olive oil reduced weight more than control diet
- Randomised trial of coconut oil, olive oil or butter on blood lipids and other cardiovascular risk factors in healthy men and women (Khaw K. *et al.* 2018)
  - 160 Brits randomised to consume 50g daily for 4 weeks of extra virgin olive oil, extra virgin coconut oil or unsalted butter – no change in weight in any group
  - *“While it is possible that participants may have consciously changed behaviours to maintain body weight such as reducing their other dietary intake because of the additional fat or being more physically active, many participants reported that the high-fat diet resulted in feeling full and eating less.”*

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Practical Recommendations

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## How to Achieve 45ml (2 – 3 tablespoons)

- Encouraging people to swap in EVOO in place of other oils and spreads for the month challenge
- EVOO can assist in meeting vegetable recommendations and has been shown to facilitate veg and legume consumption within a Mediterranean dietary pattern
- Cooking with EVOO makes veggies taste better
- Culinary nutrition and food combination principles



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## Incorporating EVOO

- Dip or drizzle wholegrain bread/toast
- Blitz with herbs to make 'green goddess' dressing or a pesto
- Drizzle over cooked veg & season – try a taste test of this compared to plain veg
- Cooking eggs (keep heat low & gently sauté)
- Stir frying & sautéing
- Baking – use  $\frac{3}{4}$  the amount of butter in recipe
- Salad dressings – give recipes for ideas
- Roasting veggies, meat & fish
- BBQing and in marinades



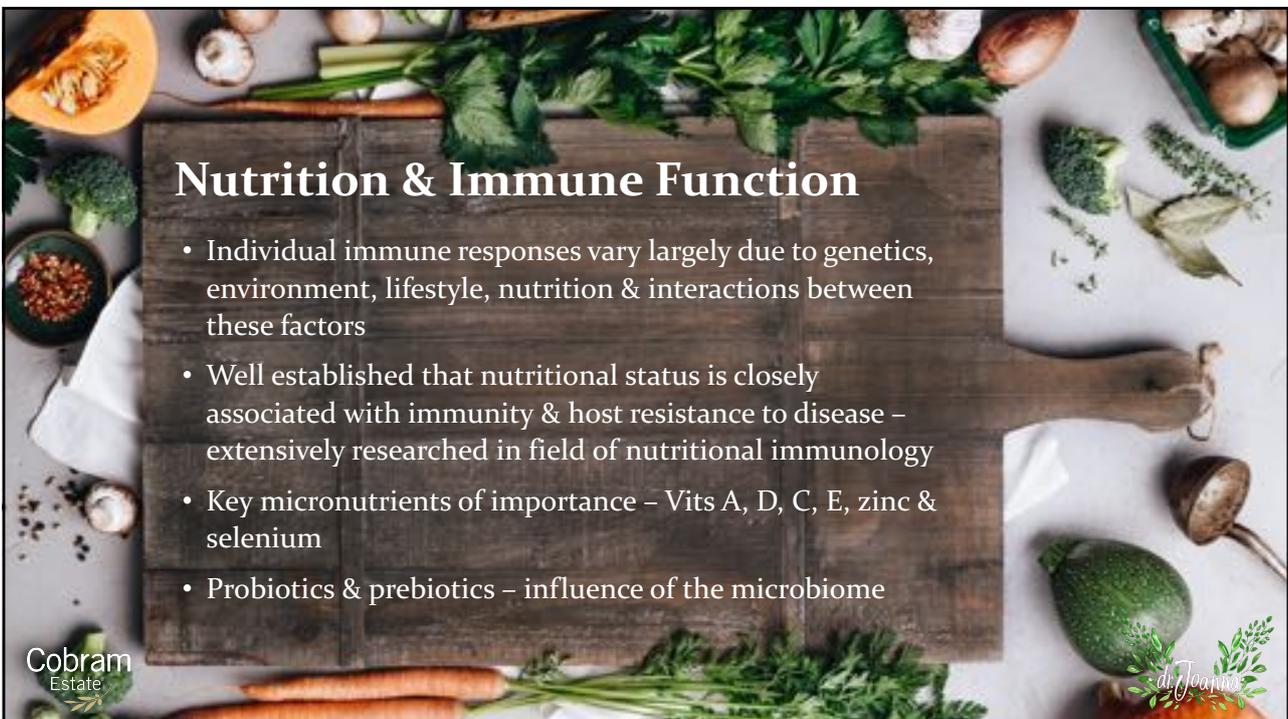
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## EVOO & Sustainability

- Olive tree hardy & drought tolerant plant – has played an important role in low rainfall areas of southern Europe, northern Africa & near East stabilising soils against erosion.
- Olive groves fix atmospheric CO<sub>2</sub>
  - IOC estimates producing 1L olive oil captures 11kg CO<sub>2</sub>
  - Worldwide olive oil production absorbs the emissions of a city of 9M
- Olive trees not susceptible to many pests or diseases ∴ minimal use of pesticides
- Less water required than many other crops, efficient irrigation systems employed
- Use of all by-products including stones, pomace & organic materials from pruning can be used as fertilisers, animal feed or renewable energy; olive leaf extract sold as supplement

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## Nutrition & Immune Function

- Individual immune responses vary largely due to genetics, environment, lifestyle, nutrition & interactions between these factors
- Well established that nutritional status is closely associated with immunity & host resistance to disease – extensively researched in field of nutritional immunology
- Key micronutrients of importance – Vits A, D, C, E, zinc & selenium
- Probiotics & prebiotics – influence of the microbiome

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## Nutrition & COVID-19



- Excellent resource: <https://examine.com/topics/coronavirus/>
- Nobody knows whether supplements shown to have benefit against colds or flu have any benefit in COVID-19
  - *“For all we know, some supplements could worsen specific manifestations of COVID-19 or interact with potential medications.”*
- A diet high in ultra-processed foods (refined carbs and fats) can impair immune responses
- Don't forget sleep – both quantity and quality can effect the immune system



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## What do we Advise?



- No diet, nutrient or supplement can prevent or reduce your chances of catching the virus... always stress importance of medical advice first
- Care with language – nutrition and healthy lifestyle supports your immune system
- Emphasise eating well
  - Limiting ultra-processed foods
  - Advice on good pantry & frozen staples (particularly if fresh foods running low)
  - Can certainly talk nutrients required
  - Fuelling a healthy diverse microbiome may help – prebiotics and possibly probiotics
- Lifestyle factors – sleep, stress management & exercise
- We are the allied health professionals in this fight, supporting the community but also the medical front-liners

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## Nutrition & COVID-19



*“We have found that the general treatments are very important to enhance host immune response against RNA viral infection. The immune response has often been shown to be weakened by inadequate nutrition in many model systems as well as in human studies. However, the nutritional status of the host, until recently, has not been considered as a contributing factor to the emergence of viral infectious diseases. Therefore, we propose to verify the nutritional status of COVID-19 infected patients before the administration of general treatments.”*

*Zhang L. & Liu YJ of Medical Virology 13 Feb 2020*



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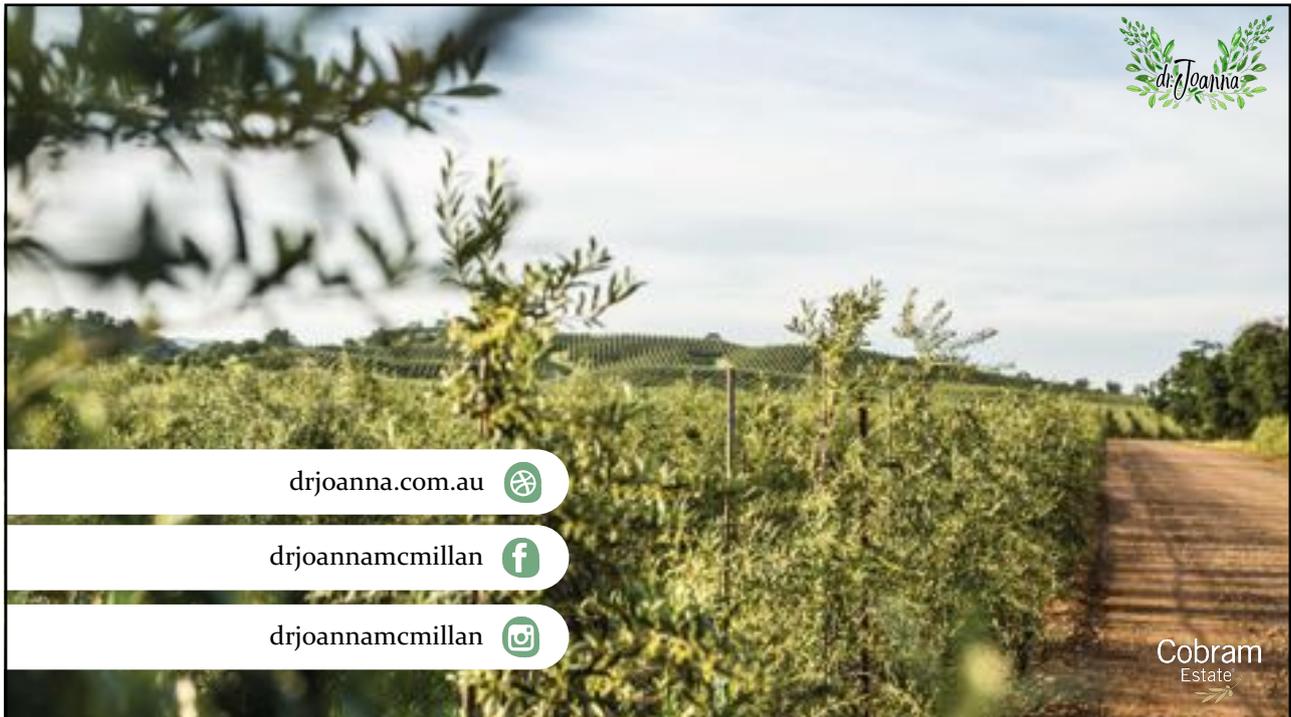
## Nutrition & COVID-19

*“Some patients with COVID-19 showed intestinal microbial dysbiosis with decreased probiotics such as Lactobacillus and Bifidobacterium. Nutritional and gastrointestinal function should be assessed for all patients. Nutritional support and application of prebiotics or probiotics were suggested to regulate the balance of intestinal microbiota and reduce the risk of secondary infection due to bacterial translocation.”*

*Xu K. et al. 21 Feb 2020*



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## References & further reading

- Willett W *et al.* Food in the Anthropocene: the EAT-Lancet Commission on healthy diets from sustainable food systems [published correction appears in Lancet. 2019 Feb 9;393(10171):530] [published correction appears in Lancet. 2019 Jun 29;393(10191):2590] [published correction appears in Lancet. 2020 Feb 1;395(10221):338]. Lancet. 2019;393(10170):447-492. doi:10.1016/S0140-6736(18)31788-4
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