The Importance of Embedding Nutrition as an Essential Aspect of Mental Health Care: *It's More than Just Eating Well!*

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Collaborating Across Cultures
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NUTRITION
MENTAL HEALTH
NURSING
PHARMACY

Presenter Disclosure

- **Presenters:** Tricia Brinn, Susan Smith

- **Relationships with commercial interests:**
  - **Grants/Research Support: none**
  - **Speakers Bureau/Honoraria: none**
  - **Consulting Fees: none**
  - **Other: n/a**

Learning Objectives

- Learn about the evidence regarding the therapeutic impact of nutrition in mental health care.
- Understand the importance of and how to implement nutritional goal setting in Mental Health Group programs.
- Summarize the qualitative data evaluating the impact that nutritional programming has had on group participants.
- Discuss how nutrition might be brought more fully into mental health care for both individual and group interventions.

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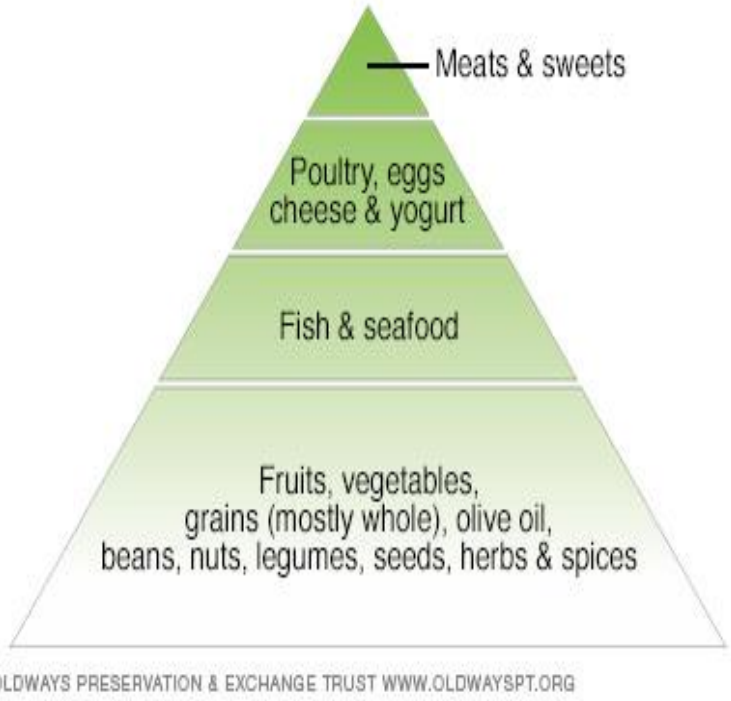
"The time is now right for nutrition to become a mainstream, everyday component of mental health care, and a regular factor in mental health promotion …The potential rewards, in economic terms, and in terms of alleviating human suffering are enormous"

Dr. Andrew McCullouch, Chief Executive, The Mental Health Foundation

Mediterranean Diet



Psaltopoulou et al., 2013
Lai et al., 2013
O'Neil et al., 2014

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Intervention studies

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Early Interv
White Adult

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Abstract

Objective

Our objective wa
preventing episo
adults, as compar

A randomised controlled trial of dietary improvement for adults with major depression (the 'SMILES' trial)

Felice N. Jacka ✉, Adrienne O'Neil, Rachelle Opie, Catherine Itsiopoulos, Sue Cotton, Mohammedreza Mohebbi, David Castle, Sarah Dash, Cathrine Mihalopoulos, Mary Lou Chatterton, Laima Brazionis, Olivia M. Dean, Allison M. Hodge and Michael Berk

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Open Peer Review reports

Abstract

Background

The possible therapeutic impact of dietary changes on existing mental illness is largely unknown. Using a randomised controlled trial design, we aimed to investigate the efficacy of a dietary improvement program for the treatment of major depressive episodes.

PMCID: PMC3848350

MED

alas-Salvadó,[1,5] ómez-Gracia,[1,11] José ilio Ros,[1,16,17] Alfredo

Go to:

Mediterranean diet and the risk of depression. Randomized trials with an intervention based on this dietary pattern could provide the most definitive answer to the findings reported by observational studies. The aim of this study was to compare in a randomized trial the effects of two Mediterranean diets versus a low-fat diet on depression risk after at least 3 years of intervention.

SMILES Trial

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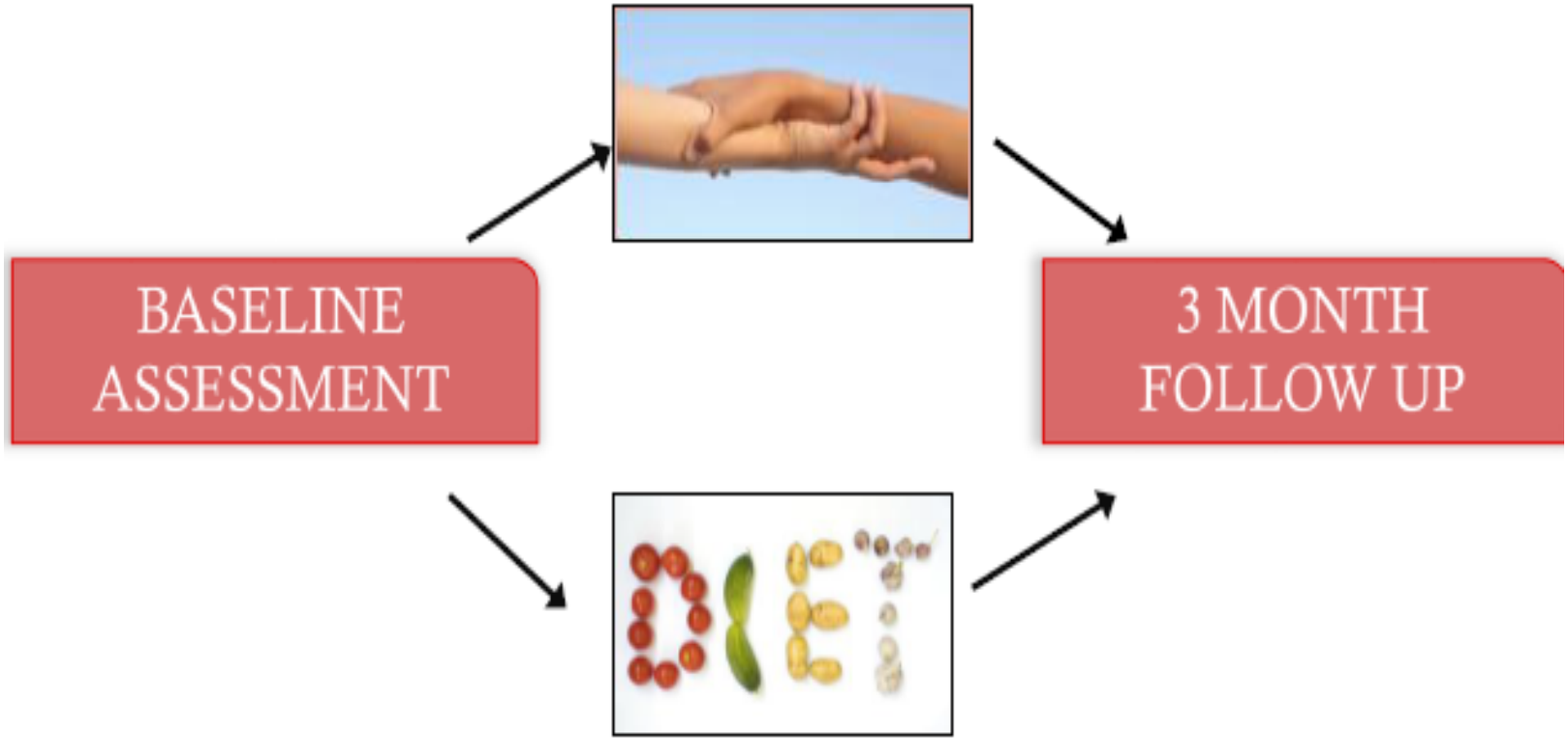

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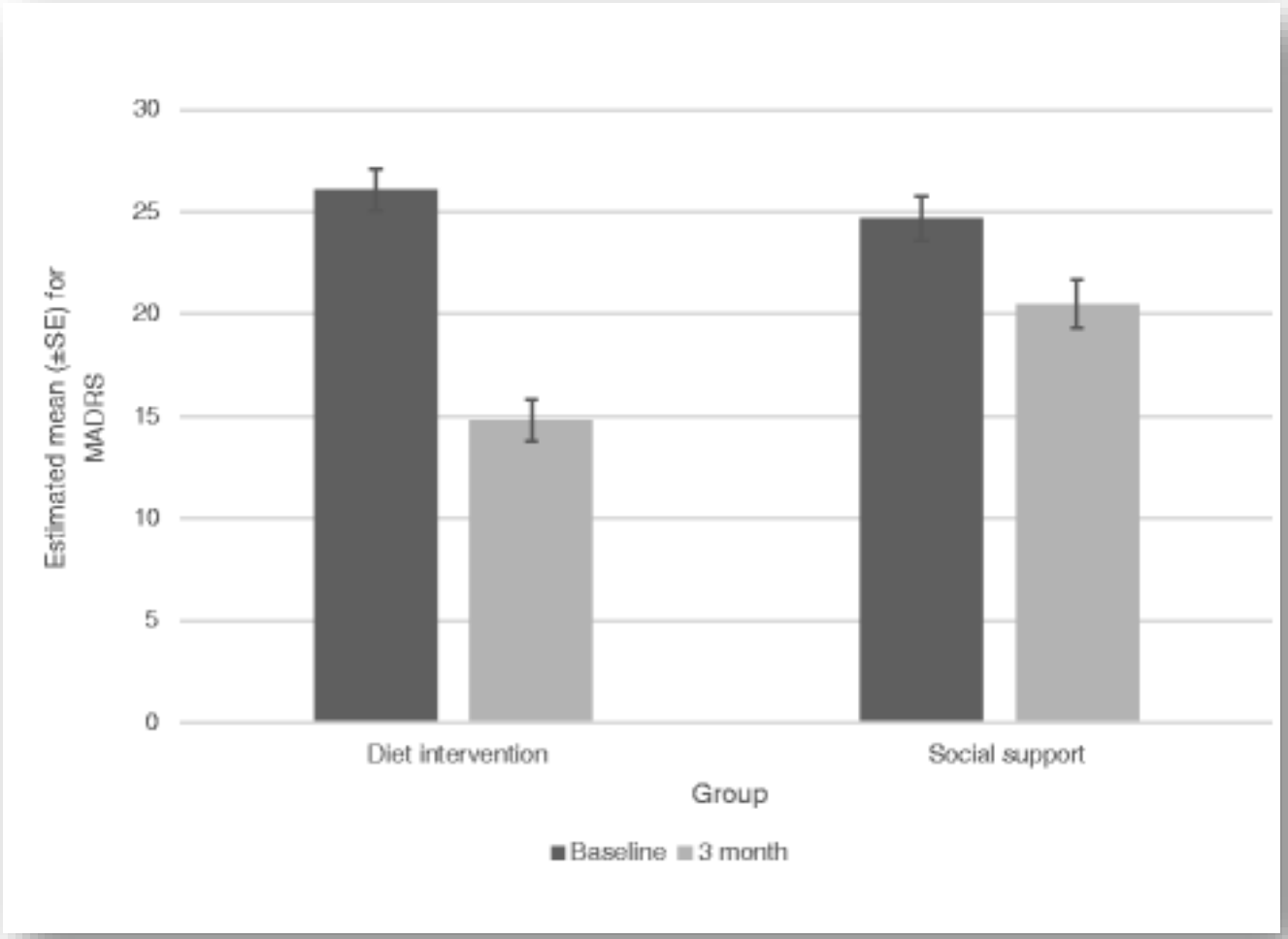
SMILES Trial Results



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SMILES Trial Results

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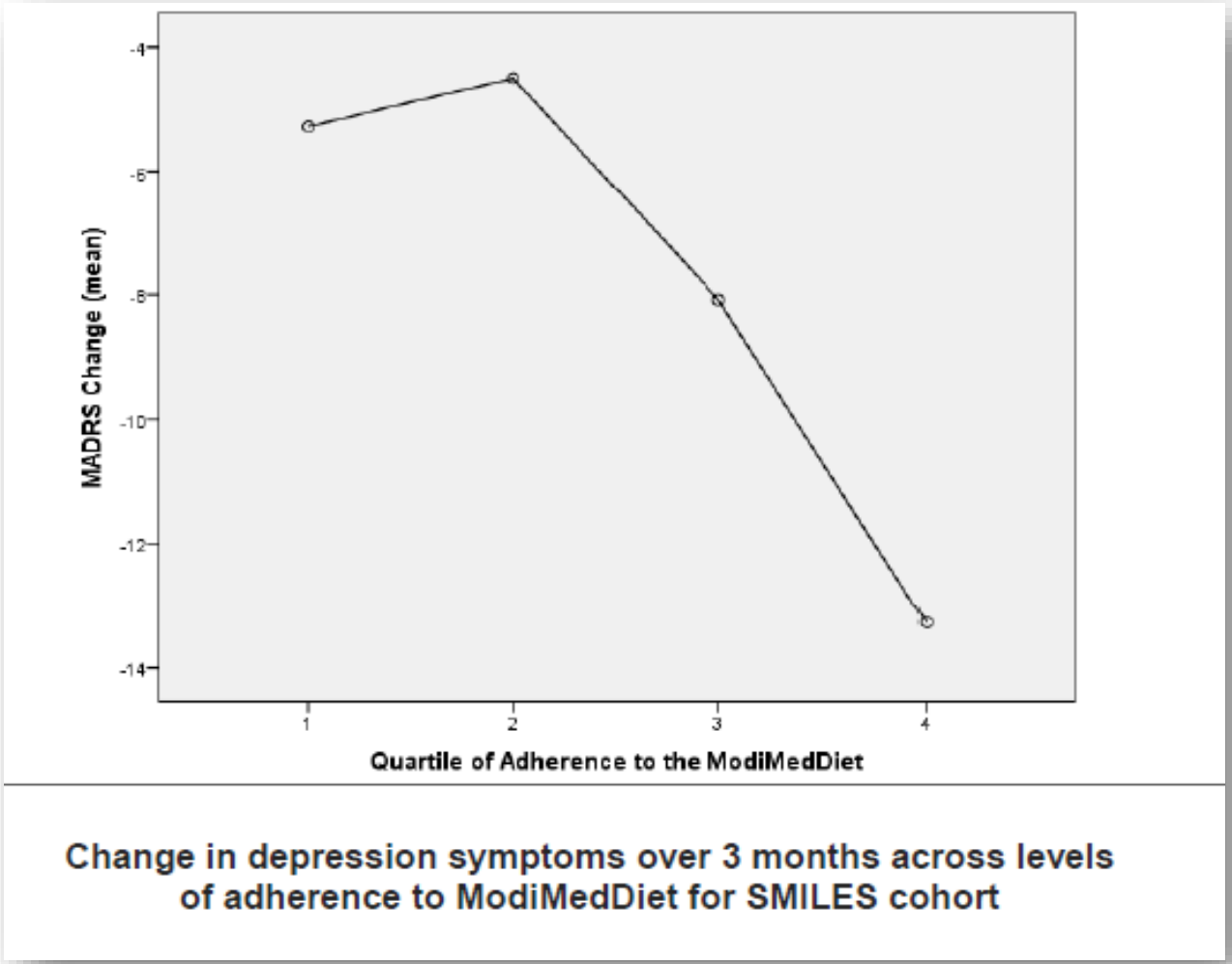

Change in depression symptoms over 3 months across levels of adherence to ModiMedDiet for SMILES cohort

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Intervention studies

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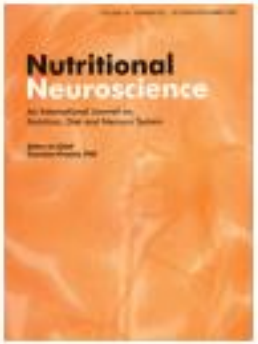

Taylor & Francis

Nutritional Neuroscience

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A Mediterranean-style dietary intervention supplemented with fish oil improves diet quality and mental health in people with depression: A randomized controlled trial (HELFIMED)

Natalie Parletta, Dorota Zarnowiecki, Jihyun Cho, Amy Wilson, Svetlana Bogomolova, Anthony Villani, Catherine Itsiopoulos, Theo Niyonsenga, Sarah Blunden, Barbara Meyer, Leonie Segal, Bernhard T. Baune & Kerin O'Dea

HELFIMED Trial

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BASELINE ASSESSMENT

3 MONTH FOLLOW-UP

6 MONTH FOLLOW-UP

+

HELFIMED Trial Results

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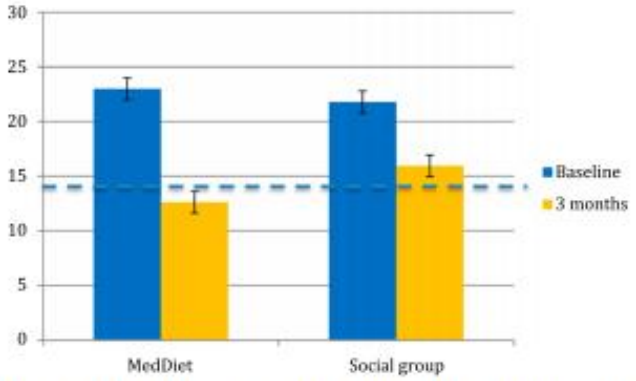

Figure 3 DASS depression scores in each group at baseline and 3 months ($P = 0.027$). Bars represent standard error of the mean. Dotted line represents cut-off for 'extremely severe depression'.

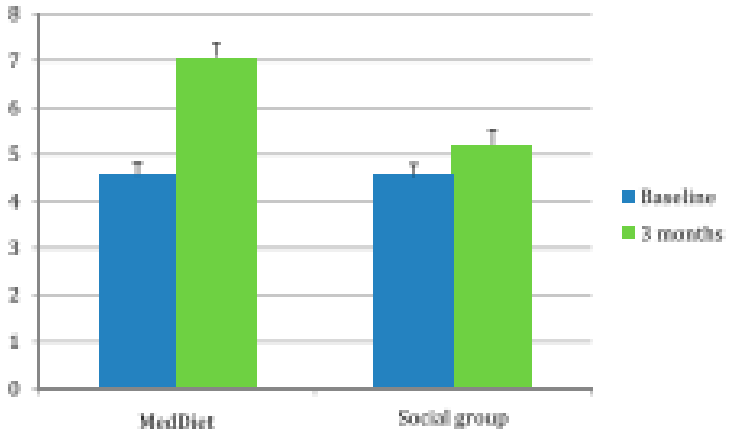

Figure 2 Mediterranean diet scores in each group at baseline and 3 months ($P < 0.001$). Bars represent standard error of the mean.

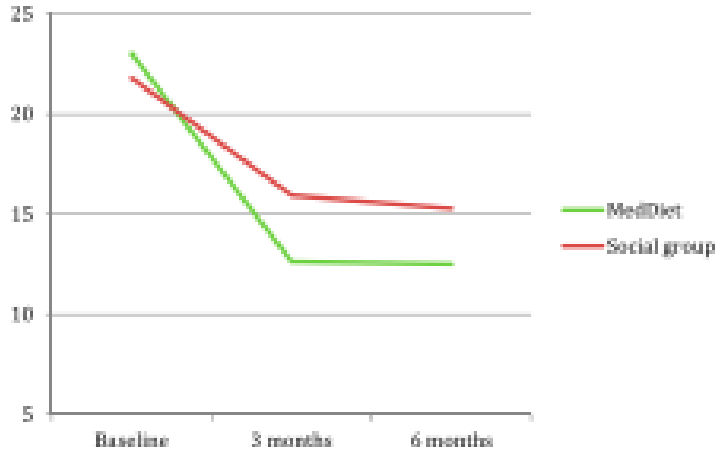

Figure 4 DASS depression scores at baseline, 3 and 6 months.

Nutrient(s)	Role in Mood	Food Source
Carbohydrates	Fuels the brain, regulates blood sugars/energy levels, feeds gut bacteria	Fruits, vegetables, cereals & grains, legumes, milk, yogurt
Protein (amino acids): Tryptophan, Tyrosine, Glutamine	Serve as precursors for neurotransmitters: Serotonin, Dopamine, GABA	Fish, eggs, poultry, red meat, dairy, wheat germ, seeds, nuts, legumes
Omega-3 Fatty Acids	Anti-inflammatory; signal transduction; maintains neural cell membrane integrity; helps regulate BDNF; low levels assoc. with depression and anxiety	Fatty fish, walnuts, flax seed, hemp hearts, omega-3 eggs
Antioxidants (vitamin C, E, selenium, beta-carotene)	Protects brain cells from free radical damage. Selenium associated with keeping mood stable.	Fruits, vegetables, whole grains, nuts & seeds
Vitamin D (1, 25 hydroxy-vitamin D)	Low levels correlated with depression, bipolar, schizophrenia	Fatty fish, fortified dairy, egg yolks, mushrooms, sun exposure
Vitamin B6, B12	Low levels correlated with depression. Reduced in substance abuse. Production of neurotransmitters	Meats, fortified cereals and soy products, red-star nutritional yeast (vitamin B12)
Folate (vitamin B9)	Low levels correlated with depression. Involved in keeping mood stable.	Dark green leafy vegetables, enriched grains and whole grains, fortified cereals
Zinc	Production of neurotransmitters	Red meat, seafood (oysters), fortified cereals, nuts & seeds
Magnesium	Production of neurotransmitters. Involved with sleep. Affected by substance use.	Green leafy vegetables, nuts & seeds, quinoa, halibut

Mental Health Groups

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We started embedding nutrition into four MH groups:

- Team Unbreakable
- Managing Anxiety
- Stress Management
- DA VINCI Program

Team Unbreakable

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Overview:

- Learn to run therapeutic group for youth aged 14-18 years with mild to moderate depression/anxiety
- 2 days/week for 10 weeks
  - Tuesday – run
  - Thursday – 30min clinical discussion + run
- Topics
  - how fuel the young athlete, mechanics of running, mindfulness, how to cope with stress, mental health related topics, etc.

Team Unbreakable

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Previous groups:

- Information on how to be more mindful of nutrition and to create nutrition goals

Current group:

- Youth preferred talking about nutrition throughout the group rather than in one session

Future groups:

- Discussion cards

Managing Anxiety

- 10 session adult group
- Nutrition session in the 4th week
- Information about nutrition and it's impacts on anxiety and mood, mindful eating
- Track progress for each goal, discuss weekly
- Positive feedback

Stress Management Group

- 6 stand alone workshops for adults
- RD attended in the 4th week
- Topics discussed: information about nutrition and impacts on stress, anxiety and mood, strategies to help manage emotional eating, mindful eating
- Positive feedback from facilitators and participants
- Next group the RD will attend twice

DA VINCI Concurrent Treatment Group Program

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Original Program (CAMH)

- Nutrition outline based on Canada's Food
- Recommended time frame- 10 minutes during group session #7

1st Group:

- Nutritional issues of depression and alcohol use based upon evidence
- RD attends a 60 minutes session #7

DA VINCI Concurrent Treatment Group Program

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2nd Group:

- RD attends 60 minutes of a session and then weekly nutrition goal setting
- Follow-up session with RD to review goals and further answer questions

3rd Group:

- RD attends 60 minutes in session #7, weekly nutrition goal setting worksheet
- 60 minute follow-up in group session #9
- 15 minute final follow-up review session #14

HFHT Future Directions

- Continue to work on embedding nutrition content into MH groups
- Co-facilitation of MHCs and RDs in groups (BED group & Craving Change)
- Mindful nutrition group
- Development of MH Care Pathway

Screening/Teaching tool

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MEDITERRANEAN DIET SCORE TOOL

A Mediterranean dietary pattern ('Med diet') is typically one based on whole or minimally processed foods. It's rich in protective foods (fruits, vegetables, legumes, wholegrains, fish and olive oil) and low in adverse dietary factors (fast food, sugar-sweetened beverages, refined grain products and processed or energy-dense foods) with moderate red meat and alcohol intake.

Evidence shows **overall dietary pattern** (reflected in TOTAL SCORE) as well as **individual components** reflect risk; a higher score is associated with lower risk of CVD and all-cause mortality (BMJ 2008;337:a1344). During rehabilitation patient scores should ideally rise in response to dietary advice and support.

This tool can be used by health professionals with appropriate nutritional knowledge and competencies, such as Registered Dietitians (NICE, 2007, 2013). It can be used as both an *audit tool* and *as part of a dietary assessment* at baseline, end of programme and 1 year follow-up, along with assessment and advice for weight management, salt intake and eating behaviours. For information on complete requirements for dietary assessments and advice, please refer to the latest NICE/Joint British Societies guidelines (BACPR, 2012. The BACPR Standards and Core Components for Cardiovascular Disease Prevention and Rehabilitation, 2nd Ed.).

	Question	Yes	No	Nutritional issue to discuss in response
1.	Is olive oil the main culinary fat used?			**Choosing Healthier Fats** Olive oil is high in monounsaturated fat. Using unsaturated fats instead of saturated fats in cooking and preparing food is advisable.
2.	Are ≥ 4 tablespoons of olive oil used each day?			**Healthy fats are better than very low fat** Med diet is more beneficial than a very low fat diet in prevention of CVD. So replacing saturated with unsaturated fat is better than replacing it with carbohydrates or protein.
3.	Are ≥ 2 servings (of 200g each) of vegetables eaten each day?			**Eat plenty of fruits and vegetables** Eating a wide variety of fruit and vegetables every day helps ensure adequate intake of many vitamins, minerals, phytochemicals and fibre. Studies have shown that eating plenty of these foods is protective for CVD and cancer.
4.	Are ≥ 3 servings of fruit (of 80g each) eaten each day?			
5.	Is < 1 serving (100-150g) of red meat/ hamburgers/ other meat products eaten each day?			**Choose lean meats and consider cooking methods** Red and processed meats are high in saturated fat, can be high in salt and are best replaced with white meat or fish or vegetarian sources of protein. Grill or roast without fat, casserole or stir fry.

Meta-analyses on Medi-diet studies

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- 5.6 million subjects
- **a 2 point increase** in adherence to a Mediterranean diet
  - ✓ 8-9% reduction in all cause mortality
  - ✓ 9-10% reduction in mortality from CVD
  - ✓ 4-6% reduction in incidence of or mortality from cancer
  - ✓ 13% reduction in incidence of Parkinson's disease and Alzheimer's

Sofi et al., 2008, Sofi et al., 2014

Using the Medi Diet Tool

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- Screening tool
  - Score <10 = referral
- Counselling tool
  - Aim to increase adherence score by 2 points
- Evaluation tool

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Summary

- Nutrition plays a vital role in our Mental Health
- Embedding nutrition content into mental health groups is an effective way to engage patients around this important aspect of their health
- The Mediterranean Diet Score Tool is a validated tool that can be used to:
  - Screen
  - Educate
  - Measure change over time

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Thank You!

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References

- Psaltopoulou et al. Mediterranean diet, stroke, cognitive impairment, and depression: A meta-analysis. Ann Neuro 2013
- Lai et al. A systematic review and meta-analysis of dietary patterns and depression in community-dwelling adults. American Society for Nutrition 2013
- O'Neil et al. Relationship between diet and mental health in children and adolescents: a systematic review. Am J Public Health 2014
- Reynolds et al. Early Intervention to Preempt Major Depression in Older Black and White Adults. Psychiatr Serv 2014
- Sanchez-Villegas et al. Mediterranean diet pattern and depression: the PREDIMED randomized trial. BMC Medicine 2013
- Jacka et al. A randomised controlled trial of dietary improvement for adults with major depression (the 'SMILES' trial). BMC Medicine 2017
- Parletta et al. A Mediterranean-style dietary intervention supplemented with fish oil improves diet quality and mental health in people with depression: A randomized controlled trial (HELFIMED), Nutritional Neuroscience 2017
- Jacka, FN. Nutritional Psychiatry: Where to Next? EBioMedicine 2017
- Sathyanarayana, T.S., et al. Understanding nutrition, depression and mental illnesses. Indian Journal of Psychiatry 2008
- Holford, P. Depression: the nutrition connection. Primary Care Mental Health 2003
- Sofi et al., Adherence to Mediterranean diet and health status: meta-analysis. BMJ 2008
- Sofi et al., Mediterreanan diet and health status: an updated meta-analysis and a proposal for a literature-based adherence score. Public Health Nutrition 2014
- Promoting Mental Health through Healthy Eating and Nutritional Care. Dietitians of Canada, Dec 2012
- Feeding Minds: The impact of food on mental health. The Mental Health Foundation

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