

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



Tricia Brinn, MSW RSW, Mental Health Groups Program Coordinator
Susan Smith, RD CDE, Nutrition Groups Program Coordinator

19th Canadian Collaborative Mental Health Care Conference
Collaborating Across Cultures
June 1, 2018

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.





“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



Hamilton Family Health Team

Better care, together.



© 2009 OLDWAYS PRESERVATION & EXCHANGE TRUST WWW.OLDWAYSPT.ORG

Psaltopoulou et al., 2013

Lai et al., 2013

O'Neil et al., 2014



Slide adapted and used with permission from The Food and Mood Centre at Deakin University

Intervention studies

[Psychiatr Serv.](#) Author manuscript; available in PMC 2015 Jun 1.

Published in final edited form as:

[Psychiatr Serv.](#) 2014 Jun 1; 65(6): 765–773.

doi: [10.1176/appi.ps.201300016](#)

PMCID: PMC4050338

NIHMSID: NIHMS582567

Early Interv White Adult

[Charles F. Reynolds](#),
[Amanda Dew, PhD](#),
[Stack, John Kasck](#)

[Author information](#) ▶


The publisher's final
See other articles in

Abstract

Objective

Our objective was to
preventing episodes
adults, as compared

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](#)

BMC Medicine 2017 15:23 | DOI: 10.1186/s12916-017-0791-y | © The Author(s). 2017

Received: 31 August 2016 | Accepted: 11 January 2017 | Published: 30 January 2017

 [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.

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.

PMCID: PMC3848350

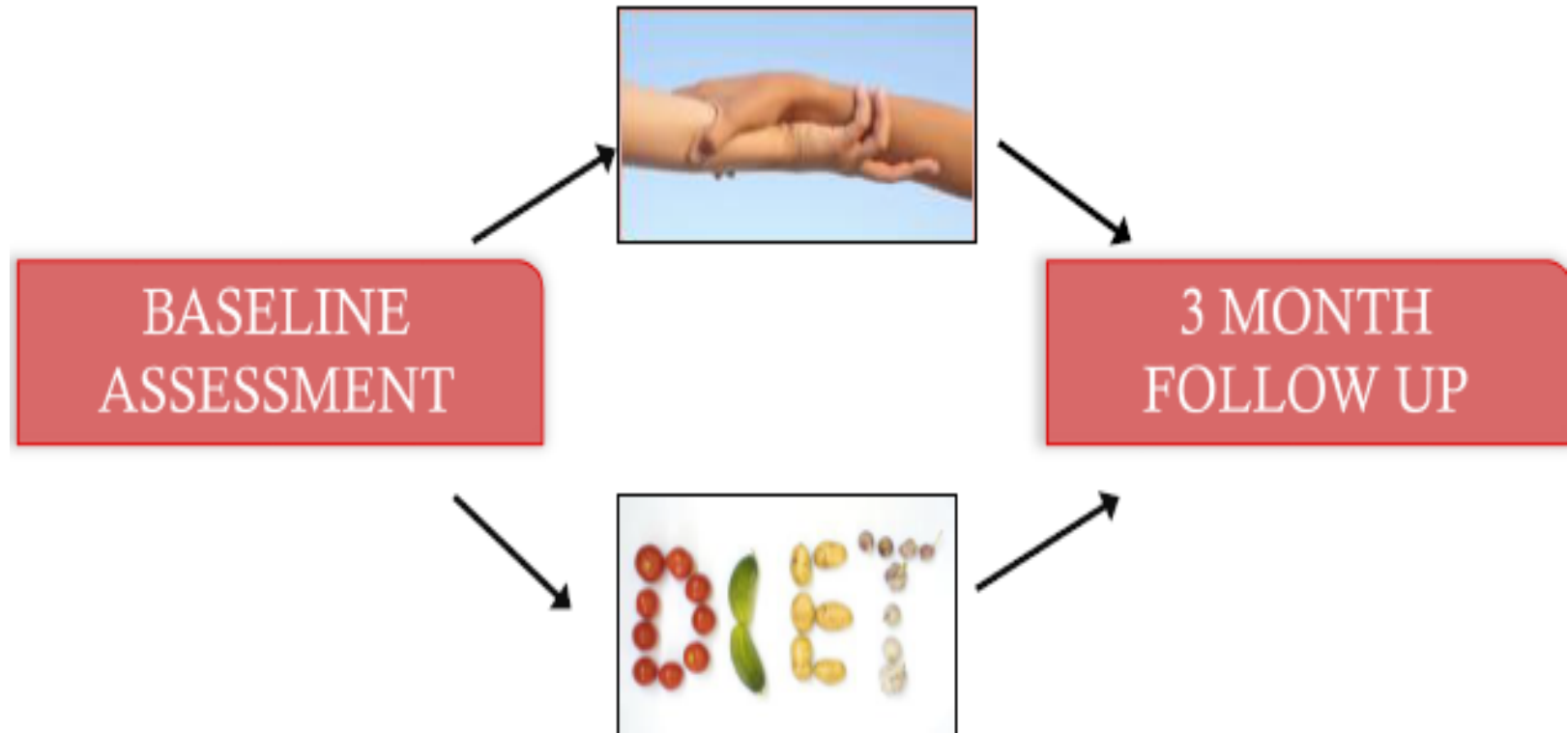
IED

[Calas-Salvadó](#)^{1,5},
[omez-Gracia](#)^{1,11}, [José](#)
[ilio Ros](#)^{1,16,17}, [Alfredo](#)

Go to: 

Mediterranean diet

SMILES Trial

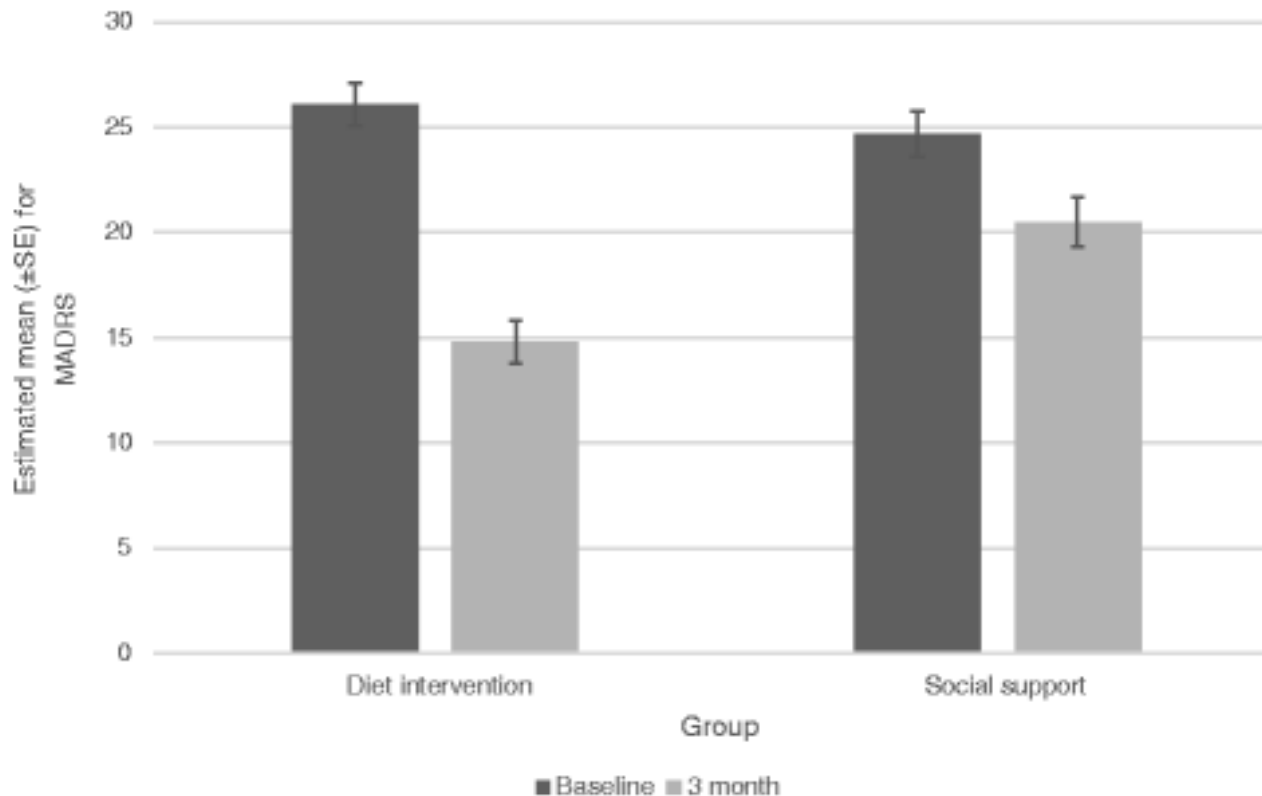


SMILES Trial Results



Hamilton Family Health Team

Better care, together.



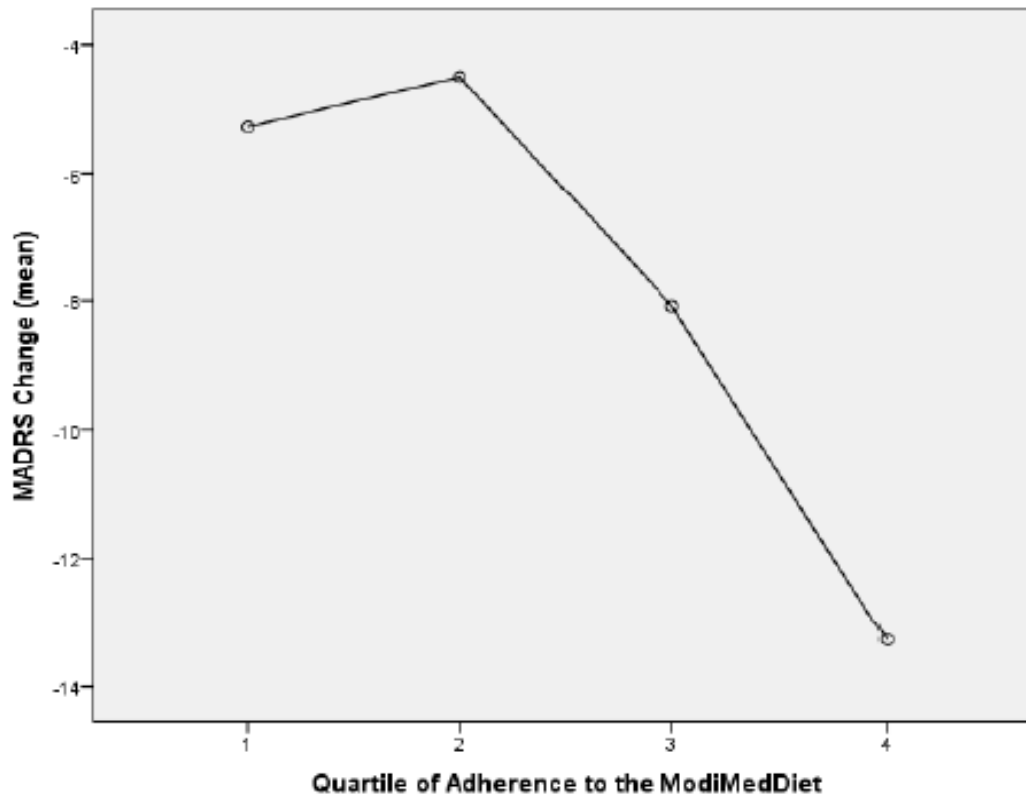
Slide adapted and used with permission from The Food and Mood Centre at Deakin University

SMILES Trial Results



Hamilton Family Health Team

Better care, together.



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

Slide adapted and used with permission from The Food and Mood Centre at Deakin University

Intervention studies



Nutritional Neuroscience

An International Journal on Nutrition, Diet and Nervous System

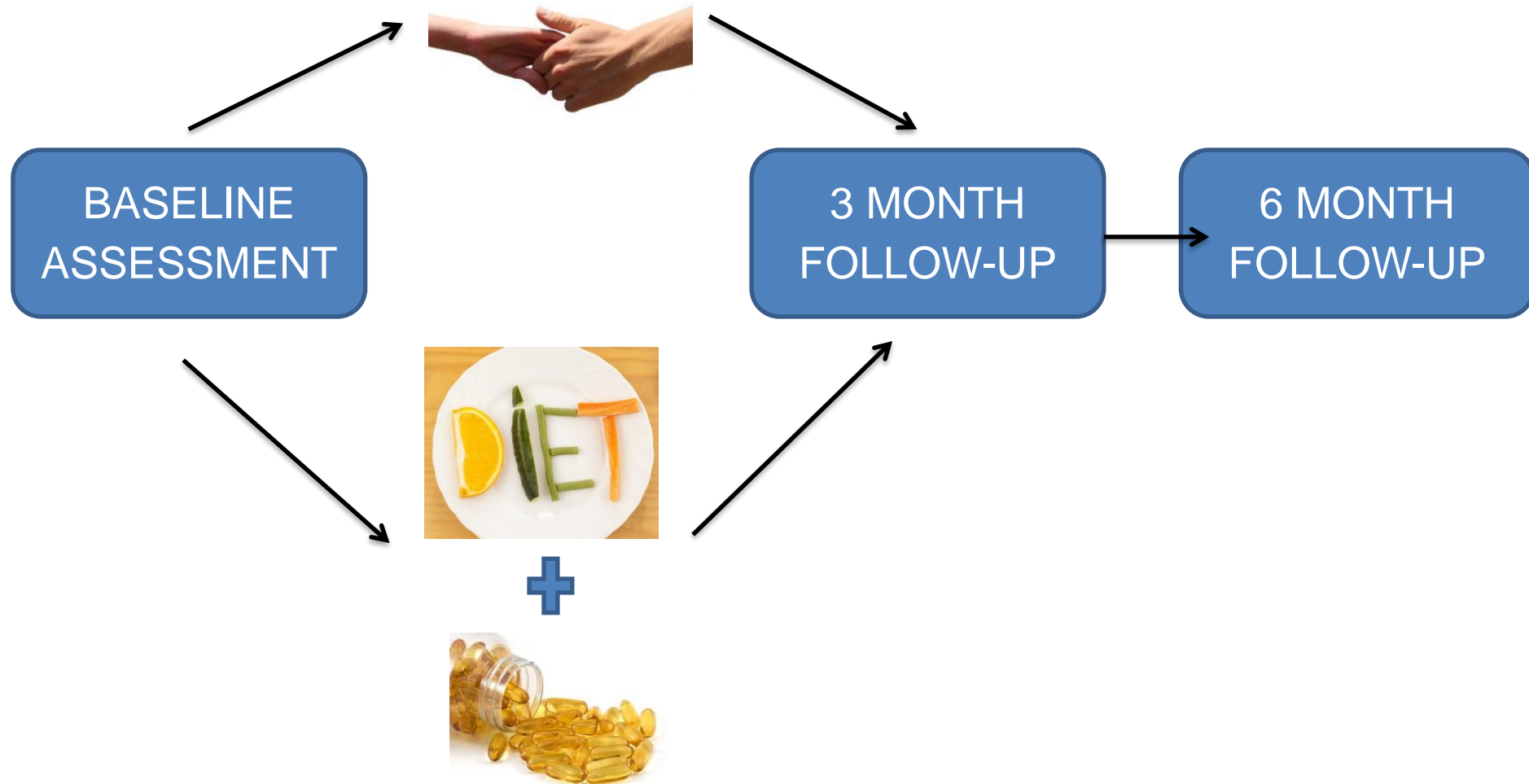


ISSN: 1028-415X (Print) 1476-8305 (Online) Journal homepage: <http://www.tandfonline.com/loi/ynns20>

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



HELFIMED Trial Results

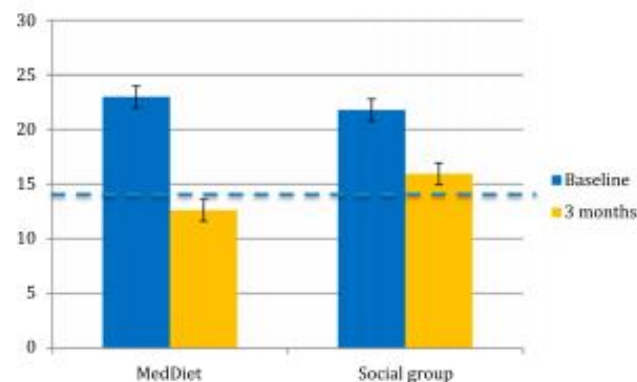


Figure 3 DASS depression scores in each group at baseline and 3 months ($P = 0.027$). Bars represent standard error of the mean. Dotted line represents cut-off for 'extremely severe depression'.

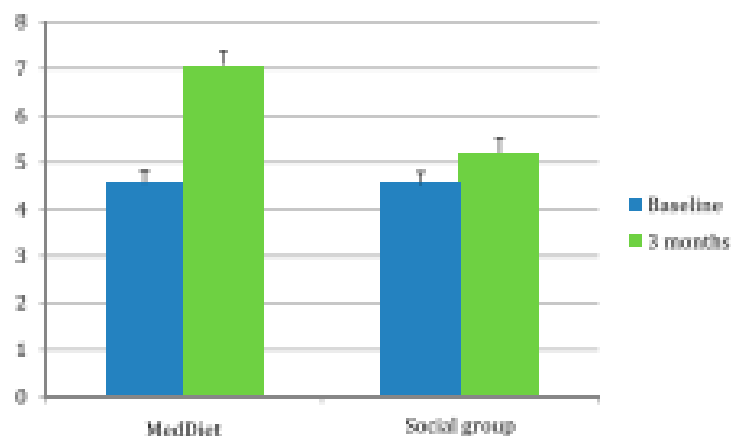


Figure 2 Mediterranean diet scores in each group at baseline and 3 months ($P < 0.001$). Bars represent standard error of the mean.

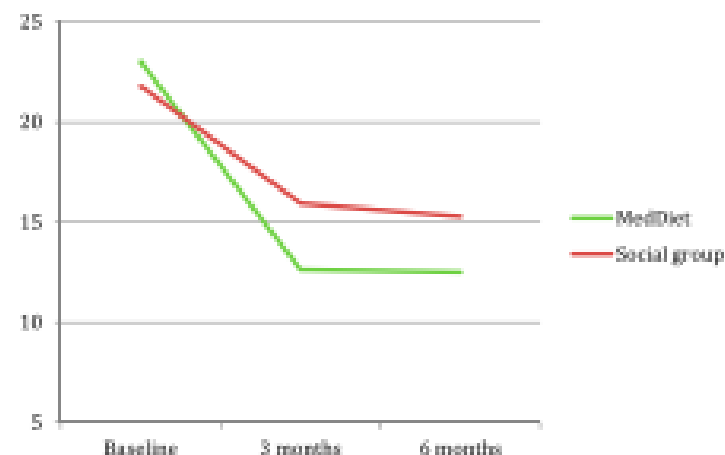


Figure 4 DASS depression scores at baseline, 3 and 6 months.

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

We started embedding nutrition into four MH groups:

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





Hamilton Family Health Team
Better care, together.

Team Unbreakable

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

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



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



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

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 Mediterranean diet studies

- 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

Using the Medi Diet Tool



Hamilton Family Health Team

Better care, together.

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

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.

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



Thank You!

tricia.brinn@hamiltonfht.ca

susan.smith@hamiltonfht.ca

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., Mediterranean 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

