

Multimedia Appendix 4. Intervention Logic Model

Table A4.1: Intervention logic model describing the design features used to meet the intervention objectives

Workshop (Gestation week 26-29)	
Transmission teaching component, 1.5 hours	
<i>Instructional design</i>	
Objectives:	To communicate foundation knowledge about the importance of a healthy prenatal diet for maternal and infant health and the gut. To explain what a healthy diet comprises. To inspire participants to want to act to improve their diet.
Learning outcomes:	At the end of the workshop, participants should be able to: <ol style="list-style-type: none"> 1. Describe the basic effects of healthy and poor eating on the general and mental health outcomes of women and children 2. Describe the influence of diet quality on gut microbiota, role of fibre, prebiotic and probiotic-containing foods 3. Identify the foods groups in the healthy eating guidelines 4. Relate the proportions in which each food group should be consumed 5. Reflect on own willingness to change eating behavior
Teaching resource:	Scripted presentation
<i>Use of Behavior Change Techniques</i>	
Target Behaviors:	Knowledge building; Motivation to change
BCTs [1]:	Framing / reframing (13.2); Reduce negative emotions (11.2); Information about emotional consequences (5.6); Information about health consequences (5.1); Credible sources (9.1)
Active learning component, 1.5 hours	
<i>Instructional design</i>	
Objective:	To equip participants with practical skills, resources and confidence needed for implementing healthy dietary change at home.
Learning outcomes:	At the end of the workshop, participants can: <ol style="list-style-type: none"> 6. Outline the steps needed to align own diet with dietary guidelines 7. Align the composition of their meal with a take home plate-based guide to assist with meeting the dietary guidelines 8. Apply food safety principles throughout pregnancy 9. Identify the prebiotic and probiotic-containing foods already consumed 10. Augment daily meals and recipes to include prebiotic and probiotic-containing food ingredients 11. Problem-solve to overcome social and environmental challenges/ barriers to adopting a healthy diet 12. Develop strategies to incorporate high fibre, prebiotic and probiotic foods into daily meals 13. Plan shopping list and meals with reference to take home resources

Teaching resources:	so that participants have access to healthy foods and can include foods targeting the gut microbiota Scripted presentation. Take home: Pregnancy plate based guide[2], Nutrition Australia food pyramid [3] and dietary guidelines [4], Prebiotic [5] and probiotic-containing food list, URL to Monash University website for high fibre and prebiotic diet videos, recipes and information [5]
<i>Use of behavior change techniques</i>	
Target behaviors:	Healthy eating; Augmenting meals to include foods for gut health Skill building; Self-efficacy; Overcoming perceived barriers; Problem solving
BCTs [1]:	Discrepancy between current behavior and goal standard (1.6); Instruction on how to perform a behavior (4.1); Behavioral rehearsal/practice (8.1); Behavior substitution (8.2); Problem solving/coping planning (1.2); Identification of self as role model (13.1) Social support (general) (3.1); Demonstration of the behavior (6.1); Adding objects to the environment (12.5); Prompts/cues (7.1); Habit formation (8.3); Restructuring the physical environment (12.1)
Action planning, 20 minutes	
<i>Instructional design</i>	
Objective	To ensure that participants have a written behavior change contract with a set of personalised SMART goals to meet for the duration of the study.
Learning outcomes:	14. Set and review own dietary goals
Resources:	Take home resource: Behavior change contract
<i>Use of behavior change techniques</i>	
Target behaviors:	Action planning and goal setting for dietary improvement
BCTs [1]:	Goal setting (behavior) (1.1); Behavioral contract (1.8); Action planning (including implementation intentions) (1.4); Commitment (1.9) Non-specific reward (10.3); Self incentive (10.7); Self-reward (10.9)
Morning tea and Lunch, 40 minutes	
Objective:	To demonstrate how to incorporate foods considered good for gut health into everyday meals.
Monitor learning outcomes:	7. Align the composition of their meal with a take home plate-based guide to assist with meeting the dietary guidelines 10. Augment daily meals and recipes to include prebiotic and probiotic-containing food ingredients
Resources:	Serving equipment, nuts, seasonal fruits, chopped vegetables, hummus, dip, salad, hard cheese, felafel, rye or wholemeal bread, water
<i>Use of behavior change techniques</i>	
Target behaviors:	Healthy eating; Augmenting meals to include foods for gut health
BCTs [1]:	Instruction on how to perform a behavior (4.1); Modelling of the behavior (6.1)
Monitoring activities (Gestation weeks 31 and 36), 20 minutes	
<i>Dietary intake questionnaire, 15 minutes</i>	
Resources:	Redcap administered online Simple Dietary Questionnaire [6]
<i>Use of behavior change techniques</i>	

Target behavior: BCTs [1]:	Healthy Eating Self-monitoring of behavior (2.3)
Motivation and readiness to change questionnaire, 5 minutes	
Resources:	Redcap administered online Motivation and Readiness to change questionnaire [7]
Use of behavior change techniques	
Target behavior: BCTs [1]:	Motivation Self-monitoring of behavior (2.3)
Support telephone call with scripted questions, 10 – 20 minutes	
Instructional design	
Monitoring and feedback for the following learning outcomes (set above):	<ol style="list-style-type: none"> 5. Reflect on own willingness to change eating behavior 6. Outline the steps needed to align own diet with dietary guidelines 7. Align the composition of their meal with a take home plate-based guide to assist with meeting the dietary guidelines 9. Identify the prebiotic and probiotic-containing foods consumed 10. Augment daily meals and recipes to include prebiotic and probiotic-containing food ingredients 11. Problem-solve to overcome social and environmental challenges/barriers to adopting a healthy diet 12. Develop strategies to incorporate high fibre, prebiotic and probiotic foods into daily meals 13. Plan shopping list and meals with reference to take home resources so that participants have access to healthy foods and can include foods targeting the gut microbiota 14. Set and review own dietary goals
Resources:	Participant: Behavior change contract and workshop take home resources Interviewer: Script for support call
Use of behavior change techniques	
Target behavior: BCTs [1]:	Healthy eating; self-efficacy; problem solving Review behavior goal(s) (1.5); Self-monitoring of behavior (2.3) Focus on past success (15.3); Goal setting (behavior) (1.1); Problem solving/coping planning (1.2); Commitment (1.9); Behavioral contract (1.8); Discrepancy between current behavior and goal standard (1.6); Restructuring the physical environment (12.1); Social support unspecified (3.1); Social support (practical) (3.2); Feedback on behavior (2.2)

Numbers within brackets refer BCTs in the Michie et al Behavior Change Technique Taxonomy [1]. BCT, Behavior Change Technique.

References

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