

Additional File 1: Logic model and summary of intervention content

Full details of theoretical basis and intervention development process can be found in Taylor *et al.*,[1]. The intervention comprises 6 ante-natal and 6 post-natal sessions from ~26 weeks gestation until baby is 9 months old. The intervention is delivered in group session format by trained parenting facilitators, with contact by telephone, text and email in between sessions. Figure 1 presents a logic model, and Table 1 presents a summary of intervention content by session, summarising the detailed information presented within Taylor *et al.*[1]

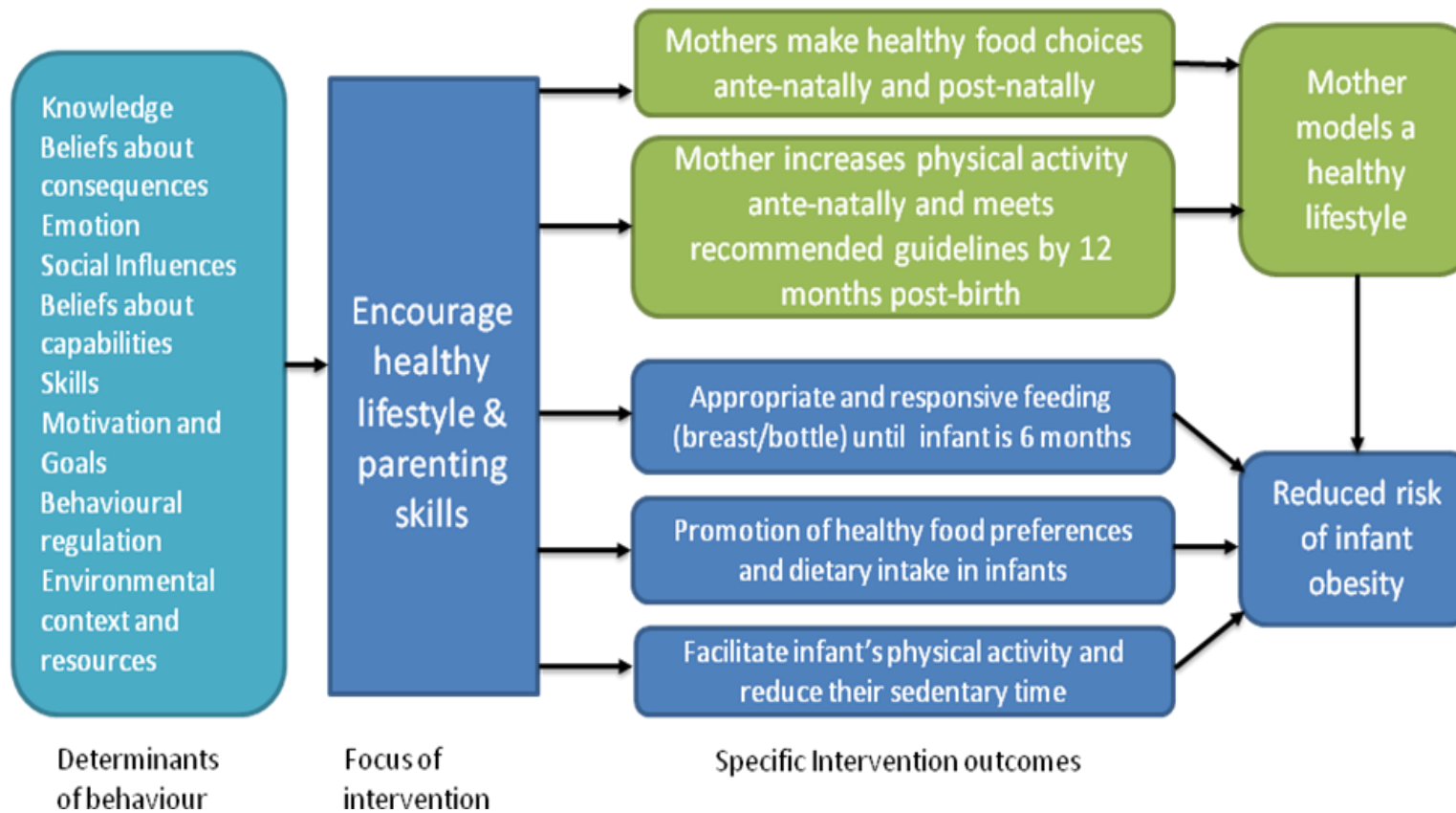


Figure 1 Summary logic model for the HAPPY intervention.

Table 1. Summary of Content

Timing	Session (2.5hrs)	Session content targeting specific risk factors
Ante natal	1. Brain, science and bonding	Parent diet: Healthy diet in pregnancy; links between what you eat when pregnant, you and your baby; link between maternal and childhood obesity; reflect on own diet and importance of food in the family; Parent physical activity: How the baby is developing in the womb and how physical activity can facilitate this; Breastfeeding: Identifying and overcoming barriers to breastfeeding
	2. A celebration of birth	Parent diet: Importance of eating well for the baby; Dispel myths about weight gain in pregnancy and provide up to date information; Smart Snacks hand-out; food diaries; Parent physical activity: Being active during pregnancy; Discussion regarding myths about physical activity in pregnancy
	3. Personal power, self-esteem, and healthy choices about food	Parent diet: Address barriers to healthy eating and plan for ways to overcome them; sign post to cooking information points; healthy foods can be convenient and inexpensive; impact of mother eating unhealthy foods; plan alternative cooking methods; Parent physical activity: List activities women think they could do, work through easy to difficult; gentle strengthening and conditioning exercises: demonstration by practitioners; worries about physical activity; visualize and positive self-talk; identify when activity can be freely integrated into normal life; Breastfeeding: Advantages/ disadvantages of breast and bottle feeding; more you feed, more milk produced; encourage identifying influential family member, clarify likes and dislikes and to talk with the family about these issues to enlist their support; learn more about breastfeeding skills; overcome stigma about breastfeeding in public, stories from other mothers
	4. Boundaries, beliefs and values	Parent diet: Additional information about snacks, food treats, swaps; Parent physical activity: Back-up plan for physical activity at different times; Breastfeeding: Values and beliefs about bringing up children and linking this to breastfeeding
	5. Feelings and how we communicate	Parent diet: Food swaps and healthy meals feedback; identify vulnerable points in time and have contingencies for when want unhealthy foods; Parent physical activity: Partners review their progress for the collaborative plans made for pa in AN Session 4; discussion about their feelings relating to whether they fulfilled their activity plans
	6. Beyond labour day	Parent diet: Identify someone at home/friend to discuss food habits with; Parent physical activity: Pelvic floor exercises for immediately after pregnancy if uncomplicated; what activities are okay for after pregnancy; Breastfeeding: How to make up bottle correctly; signpost to health professionals; environmental changes: clothes that facilitate feeding; locations nearby; family members can do other things with baby (than formula feed): e.g. bottle feed using expressed milk; Infant diet: Planning ahead
Post natal	7. A celebration of birth (4wk)	Parent diet: Information about what a healthy diet should consist of; food diaries; reflect on own diet and importance of food in the family; Parent physical activity: What activities are okay for after pregnancy; gradually introduce more strenuous activity; leaflet with activity examples; physical activity for new mums quiz sheet; practitioner dispels myths; Breastfeeding: Reinforce more you feed, more milk produced; identifying someone to obtain support from; responsive feeding; Infant physical activity: Guidelines for baby activity; myths about physical activity for babies and infants; practitioner dispels myths; weekly age appropriate activities; encourage structured and unstructured play

Timing	Session (2.5hrs)	Session content targeting specific risk factors
	8. Bringing structure to your life (2mth)	Parent diet: Healthy eating for parents vs children; reflect on own eating patterns and provide ideas; balancing diet and avoiding takeaways; Parent physical activity: Likes/dislikes about physical activity; activities for after pregnancy; identify barriers; integrating activity into normal life; small changes to family environment; structured activities in the house; the local area; self-talk and visualization; choose a physical activity to learn or can already do; Breastfeeding: Identifying barriers; concerns about feeding baby; how to deal with life whilst trying to feed; encourage asking for help to enable breastfeeding to continue and other things to get done; Infant diet: Introducing solids: why and when; follow signs of readiness of weaning; Infant physical activity: Structured play activities for in the house without expensive toys; introducing games; recognising when baby wants to play; flexible with play-time; making baby-active time a priority
	9. Feeding and feelings (3mth)	Parent physical activity: Identifying and addressing barriers; coping planning; the 'Pram Pedometer Challenge'; Infant diet: What food and drinks to give; weaning: how to do it - texture and variety, developmental stages, equipment; repeated exposure and coping with food refusal; consequences of an unhealthy diet; facial expressions and tongue thrusting; Infant physical activity: Importance of other family members engaging the baby in activity; weekly age appropriate activities for baby and mum; making home modifications to improve child physical activity and/or eating
	10. Families and food (5mth)	Parent diet: Feeding a family – what does it take; meal planning; shopping lists; healthy foods can be convenient and inexpensive; reading food labels; impact of mother eating unhealthy foods; Parent physical activity: Review of group progress and setting goals for forthcoming weeks; Infant diet: Eating together; modelling behaviour and feeding role of family and parents; time issues with food planning and preparation; Infant physical activity: Discussion of TV watching; entertaining baby/keeping them safe when doing chores; doing activity as a family; weekly age appropriate activities for baby and mum are demonstrated and practiced; how to baby proof your house for safe physical activity
	11. Making the most of your day (7mth)	Parent physical activity: Review of group progress and setting goals for forthcoming weeks; Infant diet: Weaning: how's it going? Introducing lumps; Infant physical activity: Visualisation and self-talk to build confidence; discussion of barriers and how to overcome them; planning for meal preparation, infant napping, and active play; when can activity can be integrated into normal life; environmental changes; weekly age appropriate activities for baby and mum are demonstrated and practiced; revisit discuss sedentary behaviour and use of TV
	12. Continuing the HAPPY journey (9mth)	Parent physical activity: Review of physical activity achievements; reflect on experiences; plan for physical activity future; include follow up monitoring plan by practitioners; announce group winners; Infant diet: Keeping motivated to feed family well; Infant physical activity: Structured play activities in the house ; involving family and friends with infant play; what local area has to offer; baby-proof your house in a physical activity-friendly way; weekly age appropriate activities; planning for after the parenting programme; joining mum and baby activity groups; signposting and goal setting

1. Taylor NJ, Sahota P, Sargent J, et al. Using intervention mapping to develop a culturally appropriate intervention to prevent childhood obesity: the HAPPY (Healthy and Active Parenting Programme for Early Years) study. The international journal of behavioral nutrition and physical activity 2013;10:142 doi: 10.1186/1479-5868-10-142[published Online First: Epub Date]].