

POLICY OPTIONS

Obesity prevention in infants using m Health: the Growing healthy program

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Policy context

About one quarter of Australian pre-school children are overweight. Early childhood is an important period for establishing behaviours that will affect weight gain and health across the life course. Early feeding choices including breast and/or formula, timing of and the types of solids introduced to the diet are considered likely determinants of childhood obesity. Children from low socio-economic backgrounds have higher rates of obesity than children from high socio-economic backgrounds making early intervention particularly important for those children.

Parents across all socio-demographic groups frequently access primary health care (PHC) services including maternal and child/family nurses and general practices. This provides unparalleled opportunity for engagement to influence family behaviours. Electronic media such as the Internet or smart phones may support primary health care practitioners to provide support for healthy parenting, thus maximizing engagement at low cost. The apps and websites currently available to parents are of mixed quality, potentially providing parents with inconsistent or inaccurate information.

The Growing healthy study aimed to explore the feasibility of providing information and support for healthy parenting through electronic media in the form of an application for smart phones (app) and a website. Our research suggested this as an emerging and promising area for engagement with families with young children and may provide a referral option for primary health care providers. The intervention and the content of the app were developed on the basis of findings from three literature reviews plus surveys, interviews and consultations with practitioners and parents. The content was consistent with the NHMRC Infant Feeding Guidelines and included written and video-based information on breastfeeding, formula feeding, sleep and settling, introducing solids and recipes.

Our study aimed to:

- > Promote breastfeeding or if breastfeeding was not possible, best practice formula feeding
- > Delay the introduction of solids to around six months of age but not before four months
- > Promote healthy first foods
- > Promote healthy infant feeding practices (including feeding to appetite, repeated neutral exposure to healthy food and avoiding using food as a reward)
- > Optimise infant dietary exposure to fruits and vegetables.

Parents (n=300) were recruited to the feasibility trial via their PHC provider or via advertisements on online parenting forums. We also recruited parents (n=345) via online forums to a non-randomised comparison group. Eligible parents had a baby less than three months old, owned a mobile phone, could speak and read English and lived in Australia. Parents completed questionnaires at baseline, six and nine months and a sub group participated in qualitative interviews. The questionnaires explored aspects of infant feeding and parenting behaviours as well as sources of advice and health service usage. Analytics from the app were available to help understand the app usage including most and least popular pages/videos and frequency of use.

Policy options

Australian and state governments have implemented a variety of strategies to prevent and manage obesity but few policies target the important early years of life or the antenatal period. Parents frequently access the internet for information and support around parenting without any guidance regarding the quality or trustworthiness of such sources. An app with evidence-based content, consistent with guidelines made readily available to parents could bridge this gap. It is also a low cost intervention with potential for high reach. This study provides evidence of the feasibility and acceptability of this approach.

Strategies recommended at Primary Health Network level:

- > Nurses in maternal and child health and general practice need support and training to enhance consultations with parents of young children around aspects of infant feeding associated with the development of obesity. In particular:
 - Helping parents to understand infants' feeding cues around hunger and fullness
 - Advising parents who are not breastfeeding about best practice formula feeding to discourage overfeeding
 - Developing skills in maintaining rapport with parents while exploring sensitive topics like excess weight gain.
- > Availability of reliable and trustworthy referral options for parents to access whenever and wherever they need them to reinforce key messages.

Strategies recommended at government level:

- > Governments should provide access to and promote reliable apps and websites for PHC practitioners to refer parents
- > Apps and websites to reinforce key messages from PHC providers should be provided to parents as part of routine care during antenatal and early child care visits
- > Apps and websites should be compatible with the most popular mobile phone platforms to ensure all parents have access.

Key findings

Literature reviews

- > Our review of apps and websites found poor quality information that was not consistent with current infant feeding guidelines

Baseline data on parents

- > The average age of babies at the beginning of the program was seven weeks and about one third of mothers had already introduced infant formula
- > Mothers using infant formula reported challenges in finding information about how to feed their baby including how to prepare the formula and how much to feed
- > The majority of participants were Australian born, married and about half had a university education. The mothers' average age was just over 30 years
- > Most parents owned mobile phones and used the internet and other m Health sources for information about parenting

Baseline data on PHC practitioners

- > Maternal and Child/Family nurses routinely measured height and weight in consultations but almost a quarter did not use growth charts, therefore making it challenging to identify children at risk of excess weight gain
- > Although nurses saw provision of advice and support for infant feeding as core business, only one third provide advice on infant formula preparation
- > Nurses seemed likely to prioritise rapport with parents over discussing excess weight gain

Feasibility of an m Health app for advice on infant feeding

- > Retention in the program was 77% at six months and 69% at nine months with mothers reporting that their engagement with the app declined as they grew more confident in parenting
- > Participants thought the app influenced their capability around feeding decisions with videos considered more useful in guiding practical skills than written information
- > Participants felt the app provided a convenient, trustworthy and “round-the-clock” source of information enhancing support with infant feeding
- > Push notifications linking to information in the app encouraged healthy infant feeding practices as messages were timely and concordant with current feeding experiences
- > When the information provided in the app was consistent with advice received by health professionals, uptake of appropriate infant feeding behaviours was higher supporting the app's potential as a PHC referral option

Technology needs to be robust and handle system upgrades seamlessly to maintain participant engagement.

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