

# Nutrition Services, Population and Public Health Evidence Review: Executive Summary Maternal Health

## Purpose

This report summarizes the findings of the research on the effectiveness of health communication strategies for pregnant women. Specifically:

- What are the most effective strategies that engage pregnant women to change nutrition-related behaviour?
- What are the key elements of an effective communication strategy for pregnant women and their families?
- How effective is social media for nutrition-related messaging for pregnant women and their families?

## Methods

- A multi-step, systematic process was used for article search, retrieval, selection, critical appraisal and synthesis.
- There were 2811 potential articles from the database search and 9 additional articles from the hand search. A total of 153 full-text articles were considered for final review and critical appraisal from which 32 articles met the inclusion criteria.
- A situational analysis was then undertaken to describe the current state of key indicators of Albertans and Canadians related to maternal and infant health outcomes. This data added context to the literature review findings, conclusions and recommendations in this report.

## Key Findings

### Findings by Specific Strategies

- **Print Materials:** Tailored and focused print materials were more effective in positively changing prenatal nutrition-related behaviours than untailored materials with general messages.
- **Nutrition Education/Counselling:** Nutrition Education/counselling combined with nutrient or food supplementation had the greatest effect on maternal and infant outcomes.
- **Multimedia Technologies:** Some studies demonstrated small improvements in nutrition knowledge, self-efficacy and behaviour change for multimedia programs (e.g. computer-based programs with interactive features such as audio, video, graphics).
- **Text Messaging:** receiving text messages influenced pregnant women's beliefs about prenatal vitamins and helped them remember to take prenatal vitamin and consume more nutritious foods.
- **Internet, Smartphone Apps, Text Messaging and Social Media and other Mobile Health Technologies** are being used by pregnant women. The internet is frequently used to search for pregnancy-related nutrition information and smartphone pregnancy Apps are being used. Pregnant women have positive views about mobile health technologies whereas health care providers have mixed views about their use as a health communication tool.

### Across-Strategy Findings

- Approaches that included multiple strategies were more effective than single interventions.
- Limited research was available on effectiveness of online or computer-based nutrition education approaches.
- Interventions that incorporated tailored messages (appealing to the unique characteristics of an individual or group) were effective for influencing nutrition and other health outcomes.
- Women most frequently search for information and desire a conversation with their HCP early in pregnancy.
- Nutrition information received from HCPs or recognized health care settings or websites are considered trustworthy by pregnant women. Women wanted assistance in navigating online information.
- Messages that are simple and focus on a specific topic have greater uptake than more complex and general messages.

## Search Results

4 systematic reviews  
28 primary research articles: 16 quantitative; 12 qualitative.  
**Country source:** primarily the U.S. (n=14) and Australia (n=7).  
One Canadian study.

## Relevance of Findings to Nutrition Services and Implications for Practice

Health communication strategies are more effective for impacting health and nutrition behaviour when provided as multiple strategies or combined with other interventions. This approach was supported in the qualitative research with both pregnant women and health care providers.

Nutrition education/counselling emerged as an effective strategy, with effectiveness enhanced by focused (tailored) counselling and the use of simple messages. In low socioeconomic status populations, whose ability to apply nutrition recommendations is directly impacted by their economic access to nutritious food, the effect of nutrition education/counselling was greatest when combined with nutrient and/or food supplement strategies. This finding supports an emphasis on nutrition counselling, aligning with current practice in Nutrition Services.

Print materials, a key health communication approach used in Nutrition Services, were found to be more effective if focused on a specific topic and tailored to the personal practices and attitudes of participants. The effectiveness of print resources and other approaches, such as e-based interventions, were enhanced when a health care provider used them and incorporated them into nutrition education. The health care provider has a critical role in influencing the trustworthiness, uptake and utilization of nutrition information.

Evidence of effectiveness of “newer” forms of health communication strategies were lacking in the literature. This was particularly the case for internet and mobile health technologies delivered on phones or tablets such as smartphone apps, text messages and social media. This does not mean they are not effective; any use of mobile health communication technologies in Nutrition Services provides an opportunity for effectiveness evaluation.

## Summary and Recommendations

The findings highlight the importance of incorporating the following elements into nutritional health communication strategies during pregnancy:

- For all women during pregnancy, use multiple health communication strategies.
- Develop messages for the early pregnancy period and share with pregnant women and their families during this timeframe. Develop messages that are simple and action-oriented. Tailor to the woman’s individual needs where possible.
- For populations vulnerable to poor health outcomes, provide individualized, tailored prenatal nutrition education, combined with prenatal supplements.
- Use resources such as print materials as an adjunct to, not a replacement for, individualized counselling or group education. They need to be easy to read, attractive and provide practical, “how to” information that can support tailored messages by care providers and client conversations.
- Explore the use of technologies such as smartphone apps and text messaging. They are already being used by women to access nutrition information and may readily support current health behaviour goals for pregnancy. Pregnancy Apps can track and provide feedback on pregnancy weight gain and text messaging can remind, motivate or engage women in health behaviours, such as taking a daily multivitamin.
- Involve the input of client consultants in all phases of planning (e.g. conceptual to final product pilot) and development of prenatal nutrition products.

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