

Evaluation of Online and In-Person Nutrition Education Related to Salt Knowledge and Behaviors among Special Supplemental Nutrition Program for Women, Infants, and Children Participants



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ABSTRACT

Background The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) differs from other federal nutrition programs in that nutrition education is a required component. WIC programs traditionally provide in-person education, but recently some WIC sites have started offering online education. Education focused on reducing salt intake is an important topic for WIC participants because a high-sodium diet has been associated with high blood pressure, and low-income populations are at increased risk.

Objective Our aim was to examine the impacts of traditional in-person and online nutrition education on changes in knowledge, self-efficacy, and behaviors related to reducing salt intake in low-income women enrolled in WIC.

Design Although a comparison of groups was not the primary focus, a randomized trial examining the impact of online and in-person nutrition education on participant knowledge, self-efficacy, and behaviors related to salt intake was conducted.

Participants/setting Five hundred fourteen WIC participants from three Los Angeles, CA, WIC clinics received either in-person ($n=257$) or online ($n=257$) education. Questionnaires assessing salt-related knowledge, self-efficacy, and behaviors were administered at baseline and 2 to 4 months and 9 months later from November 2014 through October 2015.

Results Positive changes in knowledge and self-efficacy were retained 2 to 4 months and 9 months later for both groups ($P<0.05$). Both groups reported significant changes in behaviors related to using less salt in cooking ($P<0.0001$) and eating fewer foods with salt added at the table or during cooking ($P<0.001$) at 2 to 4 months and 9 months.

Conclusions Both online and in-person education resulted in improvements during a 9-month period in knowledge, self-efficacy, and reported behaviors associated with reducing salt intake in a low-income population. Offering an online education option for WIC participants could broaden the reach of nutrition education and lead to long-term positive dietary changes.

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NUTRITION EDUCATION IS A REQUIRED COMPONENT of the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), which serves 8 million low-income participants annually in the United States, a population at high nutritional risk.^{1,2} WIC programs traditionally provide in-person education, but recently some WIC sites have started offering online education.

WIC online education services have been well received and have led to successful behavior change.³⁻⁶ For example, a study of WIC participants in Michigan found that online education improved participant's fruit and vegetable intake

more than traditional group education.³ In addition, in a similar population of WIC participants in California, both in-person and online education were effective in reducing breakfast skipping and improving other breakfast-related behaviors.⁵ With access to the Internet increasing rapidly in the United States,⁷ and a more diverse WIC clientele, there is a need to explore innovative education methods that promote positive dietary-related outcomes.

The purpose of this study was to examine the impacts of in-person (delivered in a group format) and online nutrition education on changes in knowledge, self-efficacy, and behaviors related to salt intake in a sample of adult WIC

participants randomly assigned to mode of education. Salt was chosen as the lesson topic because it had not been taught before at participating study sites and studies have shown the potential adverse effects of high-sodium diets include high blood pressure,⁸⁻¹² heart disease,^{13,14} and stroke.^{15,16} To our knowledge, no studies have assessed the impact of salt education on low-income women in WIC. The hypothesis was that there would be positive changes from baseline to two end points in knowledge, self-efficacy, and reported dietary behaviors in both groups. The two end points were short-term (2 to 4 months) and longer-term (9 months) post nutrition education.

METHODS

Participants

A randomized trial examining the impact of online and in-person nutrition education on participant knowledge,

self-efficacy, and behaviors related to salt intake was conducted. A random sample of qualifying participants, including equal numbers of English and Spanish primary speakers, was assigned to the online group. The sample was stratified because previous studies have shown different responses to questions related to WIC from English- and Spanish-speaking participants.¹⁷⁻¹⁹ The remaining sample not assigned to the online group was assigned to the traditional in-person education group.

Participants scheduled to come to any of three Public Health Foundation Enterprises WIC study sites during November to December 2014, when the salt education class was to be normally taught in person, were included in the study. Exclusion criteria were age younger than 18 years; pregnant; unable to read English or Spanish; plans to not return to the WIC clinic during the subsequent 4 to 5 months; or no access to the Internet (via desktop or laptop computer or other mobile device, including smartphone). The

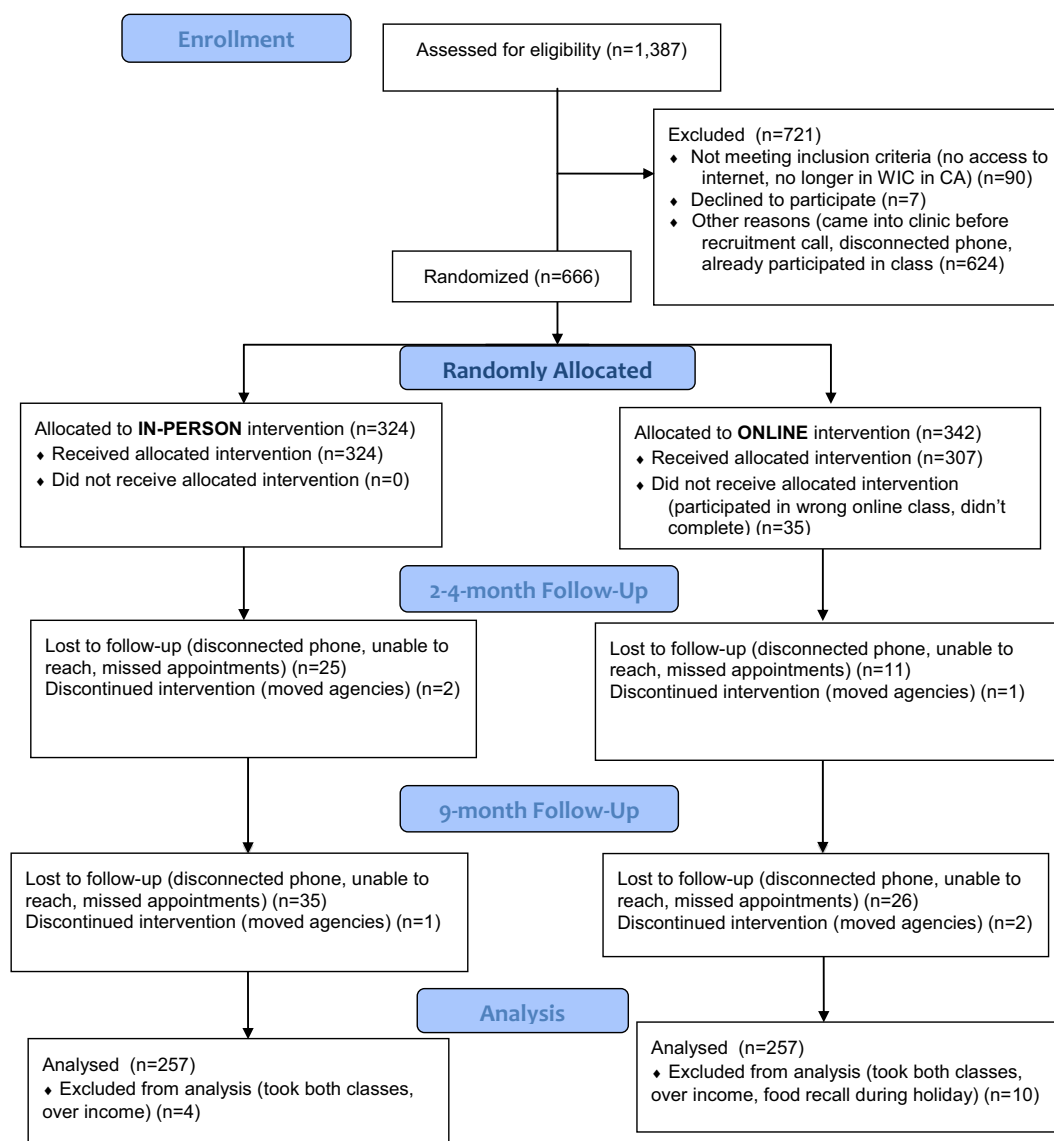


Figure. Recruitment flow diagram of in-person group and online education participants recruited from three Public Health Foundation Enterprises Special Supplemental Nutrition Program for Women, Infants, and Children clinics in Los Angeles, CA.

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