

## **EXECUTIVE SUMMARY**

### **NUTRITION EDUCATION: A REVIEW OF MODELS, APPROACHES AND THEORIES**

**Prepared for the California WIC Association**

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## ABSTRACT

As part of the California WIC Program Strategic Plan to Reinvent Nutrition Education, Samuels & Associates were commissioned to conduct an assessment of existing nutrition education models and approaches, synthesize their content and implications for California WIC, and recommend strategic directions for the program. Their assessment included a search and review of the published and unpublished literature; synopses of reports, policy manuals, models and approaches relevant to the WIC setting, and analyses of other materials identified by a WIC Nutrition Education committee and other WIC stakeholders; and telephone interviews with WIC experts in other states. A **summary chart** (included in Executive Summary), detailed **appendices**, and **bibliography** are included in the full report for future use as a resource and reference guide. Contact CWA at 916/448-2280 for a copy of the full report.

The **materials and literature review** resulted in a useful compilation of current existing materials and research about WIC nutrition education, with the recognition that serious methodological limitations preclude any rigorous evaluation or conclusions about WIC nutrition education interventions. The **synthesis** points out that, given the wide variety of multidisciplinary approaches and the huge diversity of settings for delivering these approaches in the California WIC settings, there is no single or best approach. Instead, each approach contains strengths and implications that lend themselves to a particular participant, community, or program need.

The challenge for California WIC nutrition educators is to appropriately choose, and carefully adapt from a bewildering menu of approaches and methodologies, in order to best meet the dynamic and changing needs of a diverse population. The report **recommendations** urge WIC practitioners to listen more carefully to WIC participants, via formative research, participant-centered approaches, and other ongoing feedback mechanisms. The authors remind educators of the importance of cultural competency and low-literacy education approaches; recommend a more holistic approach that positions nutrition within the context of child development, family and community; and point out the importance of staff and institutional buy-in, training, and support in making any improvements or changes to current WIC nutrition education practice.

## **INTRODUCTION**

The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) is a federally funded program which provides supplemental food, nutrition education and referrals to health care services for low-income pregnant, postpartum and breastfeeding women. The program also serves infants and children under five years of age who are nutritionally at risk.

Established by Congress in 1972, and added to the Child Nutrition Act of 1966, WIC is administered by the United States Department of Agriculture's (USDA) Food Nutrition Services (FNS). Funds are granted to state health departments and the American Indian tribal organizations and then distributed onto local health agencies who oversee the provision of services to WIC participants.

In order to support continued efforts to improve and refine the California WIC Program's nutrition education program, the California WIC Association commissioned an assessment of nutrition education models and approaches. Samuels & Associates, a research, evaluation and policy consulting firm, conducted this assessment and present the findings in this report.

This report contains summaries and syntheses of the following literature sources: 1) published and unpublished literature, reports and other materials identified by the California WIC nutrition education committee; 2) telephone interviews conducted with key WIC professionals who could provide insight and guidance due to their expertise in particular approaches; 3) telephone interviews conducted with other state WIC branches to identify any similar nutrition education assessment efforts; and 4) a search of published literature from the medical and social sciences databases.

## **LITERATURE REVIEW**

The purpose of the literature review was to identify recent studies that examined and reported on the effectiveness of WIC nutrition education approaches among WIC Participants. Literature was identified from a search of the relevant medical and social science databases, and included in this review if it met the following inclusion criteria: 1) was published in a peer-reviewed journal; 2) was a recent study (published in 1995 or later); 3) reported on the effectiveness of a specific nutrition education approach through original research and analyses; and 4) measured the effect of nutrition education approaches on WIC Participants.

Eighteen studies met all four criteria, were reviewed, and are included here in this report. Thirteen of these studies focused on breastfeeding promotion or support, four focused on nutrition education, and one focused on both.

In March of 2001, The U.S. General Accounting Office released a report which also reviewed published literature after 1995 which reported on the effectiveness of specific

WIC nutrition services, including breastfeeding promotion or support, nutrition education, and referrals (GAO, 2001). Fourteen studies identified through this review were also included in the GAO report. Where appropriate, this report will highlight the findings from their ten-month study.

This search of the literature found that the majority of research and evaluations of the impact of the WIC program has focused primarily on the effect of program participation on either birth outcomes or the nutritional status of WIC Participants (GAO, 2001). Since WIC clinics all over the country provide nutrition education services, this leads to the conclusion that approaches and strategies at the local level have largely gone unresearched or unevaluated.

The lack of studies demonstrating the effectiveness of specific nutrition education approaches within WIC recipient populations makes it difficult to draw significant conclusions from which to inform current or future nutrition education approaches. Thus, perhaps the most significant recommendation from this review is to prioritize resources for the further study of the impact of WIC nutrition education.

Despite the lack of evidenced-based research in the nutrition education literature, there remain sufficient positive findings to indicate that specific nutrition education approaches targeting WIC Participants can yield positive results. An example of this is the strategy of providing enhanced nutrition services, in the form of group nutrition classes focusing on increasing consumption of fruits and vegetables. Breastfeeding peer counseling emerges from the literature as another example of a potentially successful strategy, as several studies were able to show significant increase in breastfeeding initiation and/or duration.

### **Major Limitations of the Literature**

The majority of the literature reviewed contained one or several of the following methodological limitations: lack of control group, selection bias, low response rate or missing data, measurement error, limited geographic scope, and lack of cost data. Although these did not invalidate study findings, they demonstrate the major challenges facing future research studies of WIC nutrition education and breastfeeding promotion approaches and strategies. These should also be taken into account when interpreting and generalizing study findings.

Due to the limitations of the published literature, reviewing source materials used or relevant to the WIC nutrition education setting takes on greater importance. The following synthesis draws from a variety of source materials for specific nutrition education approaches, in order to determine the implications for successful implementation at local and statewide WIC programs.

## **SYNTHESIS**

A variety of multidisciplinary materials are used by state and local WIC programs as the source for nutrition education models or approaches. These materials either outline approaches in a step-by-step manner, or provide a rationale for the use of specific approaches to accomplish nutrition education goals among WIC target populations.

Our review of models, methods and approaches made it clear that one approach is not necessarily better than another. In addition, approaches cannot be directly compared because they address various facets of nutrition education. However, all of the materials reviewed did provide important implications or lessons learned for how the WIC program delivers nutrition education to its Participants. The following is a summary of the key elements and outcomes when using these approaches.

### **Individual Counseling Approaches**

All individual counseling sessions, trainings for new staff, and refresher sessions for seasoned WIC veterans should take into account several key factors:

- Project a positive, friendly and open appearance and environment for learning.
- Ask questions, gather as much information as possible, determine what the client already knows.
- Encourage and respond to questions.
- Be aware of cultural differences.
- Tailor the sessions to the needs of the client.
- Limit sessions to two or three primary points that are most relevant to the client.

### **Group Counseling Approaches**

Group counseling strategies, models, and approaches provide a number of directions for WIC's application of group counseling techniques to nutrition education.

- Facilitated Group Discussion methodology has a high potential for effective nutrition education of WIC participants through interaction with each other and sharing of experiences.
- Facilitated Group Discussion necessitates devotion of significant resources for initial implementation and ongoing training and support for staff.
- Facilitated Group Discussion may require staff to pre-select group members in order to create a group that is diverse in experience and large enough in number to be effective.
- Any group counseling session has to meet the diverse needs and individual learning styles of the group members.
- WIC staff should be aware of the various learning and teaching styles to enhance the effectiveness of their teaching.
- Young children should be exposed to nutrition education to help them create positive experiences with food, so they learn to accept a variety of food and connect the relationship between food and health.

- When teaching nutrition education to preschool age children parents should be involved. The curriculum should be developmentally appropriate and use food-based and activity-based learning.

### **Individual and Group Counseling Approaches**

A number of the models and approaches reviewed are relevant to both individual and group nutrition education. These strategies yielded the following implications for WIC practice:

- Allowing clients to drive problem identification and solution development increases the chance for a positive outcome.
- Dairy Council of California's problem solving model is applicable to group and individual counseling.
- Engage WIC clients in identifying important issues and creating solutions that will work for them.
- Ellyn Satter provides highly practical guidelines and hands on tools that provide WIC staff with the actual vocabulary to use with clients in explaining complex principles in an everyday, real life manner.
- By using Touchpoints, WIC staff can help parents realize that they are helping their child in development by educating parents about what stages of development they can expect to experience.
- Touchpoints positions the parent as the authority on their child.
- Touchpoints recognizes the uniqueness of each child through creative, rather than generic, solutions to each situation.
- Anticipatory guidance supports the parent in dealing with natural behavior changes in their child's development, by educating parents on what to expect as their child develops, thus alleviating stress and reducing chances of exacerbating difficult behavior.
- Blending WIC with other services (i.e., CalWORKS) provides WIC clients with a more holistic, satisfying experience and teaches them important life skills (outside of nutrition) that can be applied to their daily lives, such as increased self-efficacy in organizing their lives.
- Providing a comfortable environment with shorter waiting time may increase the number of prenatal and postpartum contacts by WIC clients.
- Research utilizing scientifically rigorous design is necessary to support policy and program development for more effective nutrition education interventions.
- Strategies for targeting pregnant women should incorporate a broad range of pregnancy/health related issues and utilize learning theory that is population specific and culturally sensitive.
- Initiating community involvement and low literacy materials are important to the success of nutrition education programs for caretakers of infants.

## **Low Literacy Approaches**

A number of important lessons have been learned from research and experience in health education for low literacy populations. WIC's nutrition education efforts should take into account the following recommendations:

- Assess WIC participants' reading level.
- Utilize innovative information dissemination techniques, such as video and audio, support these teaching methods with worksheets and other supportive materials.
- Improve the effectiveness of multi-media techniques by supporting them with facilitated small group discussions.
- When developing low literacy materials base design on low literacy learning theories to maximize effectiveness.
- Test effectiveness of materials with low literate clients and refine materials based on results of testing and client input.
- Follow national established guidelines for low literacy education as outlined by Doak, Doak and Root.
- Be aware of the disconnect between health education materials which tend to be written for a 9<sup>th</sup> grade reading level or above, and the reading abilities of the low literacy population who tend to read at the 5<sup>th</sup> to 6<sup>th</sup> grade reading level.
- Gather community support and input on design from the population that you are serving so that material will be of interest to that population and meet their needs.
- It is often effective to rewrite already existing material and incorporate low literacy guidelines such as:
  1. Providing simpler instruction
  2. Using common language
  3. Using visuals
- Handouts can reinforce health messages and should be:
  1. High quality, attractive and professional in appearance, photocopies of originals can be unappealing.
  2. Combine nutrition information with other issues of interest such as parenting or child development.
  3. Pay attention to size and format. (A handout that you want your client to refer to when grocery shopping should fit easily into a purse or bag.)
  4. Written materials can work for clients with low literacy by following guidelines to create easy to read information with visuals and specific points.

## **Multicultural Nutrition Education**

Providing nutrition education to a diverse population presents many challenges. Many implications for WIC practice can be gleaned from previous efforts aimed at multi-ethnic populations as well as the experience of mental health counselors and social workers working with diverse client populations.

- Food can be used to bring out the commonalities between cultures.

- Nutrition education strategies should incorporate cultural values and characteristics to assure that nutrition messages are meaningful, appropriate and easily incorporated into daily life.
- Professionals providing nutrition education must possess a high degree of knowledge regarding the characteristics of the client population.
- Provide nutrition education at times and locations where the target population can access it.
- Use visuals to reach multilingual populations.

### **Adult Learning Theory**

- Conduct needs assessment to identify WIC participants' nutrition education needs and interests.
- Engage clients in discussion rather than lecture style classes. Use clients' life experience as part of the teaching process and respect the knowledge and experience they have accumulated.
- Provide a learning environment that feels safe and comfortable.
- Make WIC nutrition education problem-centered and immediately applicable to the WIC participants' daily lives.

### **Stages of Change Theory**

- Develop methods for quick and easy assessment of client's readiness to change.
- Identify clients' stage on a particular issue and tailor interventions to the stage.
- Develop interventions that address each stage of change.
- Consider selecting group class participants based on stage of change so that classes can be focused on appropriate message – knowledge and awareness, motivation to change, specific strategies and goals, or maintenance.

### **Social Learning Theory**

- Assure that WIC clients have the *behavioral capability* to make a change. Give them knowledge, skills, specific instructions and training necessary to successfully adopt a new behavior.
- Provide opportunities for *observational learning* by providing behavior models. For example, recruit a well-respected community member to talk about their experience with a desired behavior or have WIC participants share their experiences with each other.
- Enhance *self-efficacy* by setting small, achievable and incremental goals.
- Use a formal contract to establish goals and rewards.

### **Diffusion of Innovations Theory**

- Diffusion of Innovations can be used in two ways within WIC: to disseminate information to WIC clients, and to effectively disseminate new ways of doing business to WIC staff throughout the WIC organization.

- When using Diffusion of Innovations to promote systemic change within WIC, it is important to talk about the relative benefits of the innovation, rather than mandating use of a new system or process.

### **Social Marketing**

- Social marketing provides a method for changing not only individual behavior, but also the environment that impacts these behaviors.
- Social marketing requires in-depth research into the target audience. The findings from this research provide a basis on which to build responsive programs that meet the target audience's needs.
- Social marketing requires targeting messages to a specific audience segment with many shared characteristics.
- Social marketing requires continuous program evaluation, and includes feedback of lessons learned for program refinement and improvement.
- Social marketing strategies have been shown to be most effective with populations who consider themselves "at risk" or vulnerable. Pregnant women and mothers of young children are often motivated by a desire to decrease health risks for their children.

### **Community Based Initiatives**

- Identify the priorities and need of the community to better understand WIC clients' perspective and experience and to tailor education to their needs and reality.
- Collaboration with other community organizations will allow provision of comprehensive services to WIC clients and improve their overall quality of life.

### **Spectrum of Prevention**

- All levels of the spectrum are interactive and interdependent. In order to maximize WIC's impact and improve the nutritional status of women and children, WIC must expand its work to address all levels of the spectrum.

## **RECOMMENDATIONS**

The following recommendations were developed from a synthesis of the implications found in the nutrition education literature review and source materials. These recommendations present a number of future directions for WIC to consider. Instituting the changes suggested by these recommendations presents many challenges, including the development of new administrative structures to support new ways of scheduling clients, different types of visits, and a variety of nutrition education interventions that include community based intervention.

The recommendations presented below hold equal merit and all should be implemented. The recommendations are not listed in order of priority.

1. Prior to revision of nutrition education approaches, conduct formative research and needs assessment of WIC clients to examine client knowledge, attitudes, lifestyles and needs. Feed this information directly into all program design and refinement efforts.
2. Fully integrate participant centered counseling and facilitated group discussion into WIC practice. Provide adequate resources for training and continuing professional development for staff involved in nutrition education.
3. Engage clients in developing individualized nutrition education plans. Provide clients with a menu of nutrition education services from which they can select the services that meet their needs. Include a mix of individual, group and community services.
4. Develop a holistic approach to nutrition education that positions food and feeding as a central element of family life, not an isolated health issue. Nutrition education efforts should incorporate Brazelton's Touchpoints and Ellyn Satter's principles to place all food and feeding issues within the context of child development and parenting.
5. Develop or redesign educational materials according to guidelines for production of low literacy materials: increase the reliance on visuals, test all text for reading level, create materials that utilize innovative formats that will enhance usability.
6. Engage in community involvement and creating environmental change that supports the goals of WIC's nutrition education efforts. Collaborate with community partners to promote key issues such as breastfeeding or childhood obesity prevention. This approach may necessitate WIC infrastructure changes such as decreasing administrative responsibilities to free up staff time and hiring additional staff experienced in community organizing and advocacy.
7. Apply learning theories to the dissemination of ideas/change within WIC. Obtain staff buy-in at all levels, present clear benefits to change, provide staff with the skills to implement the change successfully.