Walking the Talk: Fit WIC Wellness Programs Improve Self-Efficacy in Pediatric Obesity Prevention Counseling

Six sites of the California Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) participated in a staff wellness pilot intervention designed to improve staff self-efficacy in counseling WIC clients about childhood overweight.

A pre-post test design with intervention and control groups was used; outcome measures included staff perceptions of the intervention's effects on the workplace environment, their personal habits and health beliefs, and their counseling self-efficacy.

Intervention site staff were more likely to report that the workplace environment supported their efforts to make healthy food choices ($P<.001$), be physically active ($P<.01$), make positive changes in counseling parents about their children's weight ($P<.01$), and feel more comfortable in encouraging WIC clients to do physical activities with their children ($P<.05$). (*Am J Public Health.* 2004;94:1480–1485)

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The prevalence of childhood overweight in the United States is increasing among both boys and girls of all ages, races, and ethnic groups.[1] Recently reported increases in the prevalence of overweight among low-income preschool children are particularly alarming.[2] Some evidence suggests that by 5 to 10 years of age, 60% of overweight children have at least 1 associated biochemical or clinical cardiovascular risk factor and 25% have 2 or more.[3] Perhaps even more troubling is evidence that overweight developed in early childhood persists through adolescence and adulthood.[4,5] The prevalence of early childhood overweight among low-income children is highest among Latino children at 12.0%, compared with 9.6% in Asian/Pacific Islanders, 7.8% in African Americans, and 7.1% in Whites.[6] Accordingly, rates of early childhood overweight are increasing among participants of the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC).[7]

It is not clear why young Latino children are at the greatest risk for being overweight.[8] In the WIC setting, this phenomenon may be exacerbated by nutrition education techniques that are not well suited to Latino culture.[9] Additionally, data from WIC have documented staff's reluctance to talk to WIC mothers about their children's weight.[10] We postulate that 1 way to reduce staff reluctance to talk about weight issues is to engage staff in a health promotion program.

Traditionally, staff health promotion programs have not been instituted for the purpose of empowering health workers to better educate their clients.[11] Rather, they have been designed to address the end point of employee health, specifically, to increase health awareness, to reduce health risk, and to produce positive health effects on the individual such as disease prevention.[11] Further, staff wellness programs have been instituted to improve employee morale and reduce medical claims and absenteeism.[12] Few worksite wellness programs have been conducted in community-based nonprofit settings. Both the content and the experience of participating in a staff wellness program provide workers with an opportunity for professional and personal development and may help empower them to make lifestyle changes. Additionally, these lifestyle changes may in turn enable staff who work with clients to be more effective counselors and role models.

The personal health habits of health workers have been found to be associated with their belief in the importance of the particular behavior for others. For example, Martin et al. found that 85% of dietetic professionals who exercised regularly rated exercise as a very important area of counseling versus only 48% of dietetic professionals who were nonexercisers.[13] Physicians who exercised regularly were more likely to counsel their patients to exercise.[14] Lewis and colleagues[15] found significant associations between personal health habits and self-reported counseling practices in the areas of smoking, alcohol use, exercise, and weight control among physicians. Those with poorer health habits generally were not as likely to counsel patients about those habits, while those attempting to improve their own health habits counseled patients significantly more often than those who were not making such efforts. Even the act of disclosing one's own health habits enhanced physicians' ability to motivate patients to make healthy lifestyle changes.[16]

Self-efficacy or belief in one's ability to perform determines whether behavior will be initiated, how much effort will be expended, and whether the effort will be sustained.[17] In California, where most WIC staff are lay health workers rather than professionals, self-efficacy associated with the practice of healthy behaviors theoretically may exert influence on counseling practices. Use of lay health workers is believed to foster empathy and increased communication with clients.[18] A high proportion of California WIC staff members are, like their clients, overweight. Modeling of behaviors from staff to client or peer to peer can be an effective way to facilitate the adoption of healthy behaviors. Further, the WIC environment offers a setting with only moder-

ate sociodemographic distance between most staff and their clients and is thus an ideal setting for peer modeling influence.[19] Sociodemographic similarities such as ethnicity and gender may enhance the opportunities for role modeling.[20] Worksite health promotion programs are well suited to provide skill acquisition and demonstration as well as the social support that has been described by Marcus and colleagues as a primary predictor of sustained involvement.[21]

This article describes a pilot program instituted as part of the California Fit WIC project, which promoted healthy behaviors and a stronger sense of counseling self-efficacy among staff to improve their perceptions of their interactions with WIC clients. This 1-year staff health promotion program was designed to enable staff to counsel WIC clients more willingly and effectively with regard to prevention of childhood overweight. Outcome measures included staff perceptions of the intervention's effects on the workplace environment, their personal habits and health beliefs, and their counseling self-efficacy.

METHODS

Settings and Subjects

The California Fit WIC program was part of a 3-year, 5-state effort funded by the US Department of Agriculture to determine how WIC could better address the prevention and control of childhood overweight. The 5 participating WIC organizations included the states of California, Kentucky, Vermont, Virginia, and the Inter-Tribal Council of Arizona. During year 1, needs assessment and baseline data were collected. During year 2, interventions were conducted, and during year 3, the program was evaluated.

Three California WIC agencies were selected to participate in Fit WIC from a pool of agencies that volunteered. Interested agencies were screened for their capacity to conduct the project, their ability to represent the variety of WIC programs throughout the state, and the degree to which they reflected the ethnic diversity of California WIC participants (70% of whom are Latino). After selection, intervention and control sites were assigned randomly. Intervention sites included a semi-urban area of Sacramento, a rural area of Ventura County, and an urban area of Los Angeles. All staff at each intervention site participated in all aspects of the Fit WIC program.

Intervention

California Fit WIC developed a multilevel intervention to prevent pediatric overweight, including staff training sessions on a variety of topics, the addition of new classes for WIC clients, and the organization of communitywide coalitions to address the issue.

The staff wellness intervention programs at the 3 sites were developed by local WIC managers with the support of the Fit WIC project staff. To initiate the staff wellness activities, each site received 1 half-day interactive training session conducted by 1 of the authors (A.K.Y.), an expert on wellness programs. While the training provided information on the "obesogenic" (or obesity-encouraging) environment of modern culture, especially in communities of color,[22–24] it focused primarily on beneficial behaviors rather than weight loss and motivated staff members to eat more healthfully and to be more physically active.

A particular focus of the training session was to assist staff in identifying opportunities for making changes in organizational practices during the workday that might support their behavior change efforts. Examples of organizational change included offering healthy choices (e.g., fresh fruit or vegetables) when refreshments were served in meetings or celebratory occasions and integrating 10-minute exercise breaks into regular staff meetings or at certain times of the workday (on "company time"). Each staff person received workplace wellness English- and Spanish-language audio- and videotapes and other simple exercise materials. The wellness training also covered the importance of taking 10 000 steps a day.[25] Pedometers were provided for all staff members.

Wellness programs implemented at the intervention sites included "brown bag lunches" in which staff members were encouraged to bring a healthy lunch from home, healthy food potlucks (in which staff members shared meals and recipes), "water drinking challenges" (staff were encouraged to increase daily consumption of water), lunchtime walking groups, "step challenges" (staff members encouraged one another to meet the 10 000 steps a day challenge), and the addition of on-site exercise equipment. Staff members were provided relatively low-cost incentive items such as lunch bags to encourage healthy lunches from home, water bottles to reinforce water consumption, and tote bags for purchase of produce at farmers' markets. While the incentive items were consistent across sites, the actual programs varied slightly by site.

Data Collection

Staff completed self-administered questionnaires before and after the intervention. Pretested survey instruments were administered by a project staff member who was not a WIC employee. All pre-post questions were the same; however, baseline surveys included a limited number of questions designed only to assist in developing the Fit WIC intervention program, and final surveys included some program evaluation questions designed only to assess Fit WIC intervention activities and their impact on staff. Intervention site staff completed an extra exit survey that included a number of questions specifically evaluating the Fit WIC program.

Data Analysis

We compared answers from intervention and control groups using χ^2 techniques to evaluate the categorical variables. For comparison of the dichotomous pre- versus post-intervention outcomes, we examined the number of persons who made positive changes and the number of persons who made negative changes for intervention and control groups and performed χ^2 tests to determine whether the proportions were different for treatment and control groups.

RESULTS

Sample Characteristics

A total of 51 staff members completed surveys before and after the intervention (Table 1). Most of the staff surveyed (69%) were WIC paraprofessionals. Site supervisors were registered dietitians. Most of the WIC staff were women (88% at intervention

TABLE 1—Characteristics of Staff Members Surveyed: The California Fit WIC Program[a]

Characteristics	Total Sample (n = 51), % (n)[b]	Intervention, % (n)	Control, % (n)
Location (n = 51)			
Los Angeles	41 (21)	42 (11)	40 (10)
Ventura	20 (10)	23 (6)	16 (4)
Sacramento	39 (20)	35 (9)	44 (11)
Staff position (n = 51)			
Administrator/supervisor/RD	31 (16)	32 (8)	31 (8)
Paraprofessional staff	69 (35)	68 (17)	69 (18)
Female (n = 46)	90 (46)	88 (22)	92 (24)
Age, y (n = 50)			
≤34	40 (20)	25 (6)	54 (14)
35–44	32 (16)	42 (10)	23 (6)
≥45	28 (14)	33 (8)	23 (6)
Ethnicity (n = 50)			
Hispanic	53 (27)	52 (13)	56 (14)
Asian	18 (9)	20 (5)	16 (4)
White	24 (12)	24 (6)	23 (6)
Education (n = 49)			
High school graduate/GED or less	16 (8)	25 (6)	8 (2)
Some college/associate's degree/ certification programs	45 (22)	42 (10)	42 (12)
Bachelor's or master's degree	39 (19)	33 (8)	44 (11)
Weight status (n = 51)[b]			
Very underweight	2 (1)	4 (1)	0 (0)
Average weight	47 (24)	35 (9)	60 (15)
Somewhat overweight	33 (17)	42 (11)	24 (6)
Very overweight or obese	18 (9)	19 (5)	16 (4)

Note. WIC = Special Supplemental Nutrition Program for Women, Infants, and Children; RD=registered dietitian; GED = general equivalency diploma.
[a]All responses, including weight status, were self-reported.
[b]Since some subjects declined to answer certain questions, the number of responses for each question varied between 46 and 51.

sites and 92% at control sites). Just over half of the staff members in each group self-identified as Hispanic, with approximately 18% Asian and 24% White. No staff members in either group were African American or American Indian. Staff at the intervention sites were on average older (75% were aged older than 35 years) than those at control sites (46% were aged older than 35 years). Intervention sites had more staff with a lower level of education (high school or less) than the control sites (25% vs 8%). Intervention site staff were more likely to report being overweight or obese than control site staff (61% vs 40%).

Intervention Effects on Workplace Environment

Changes in the workplace environment were assessed after the intervention in both intervention and control sites (Table 2). Intervention sites implemented more changes in the workplace environment than control sites. Staff at intervention sites were nearly twice as likely to feel that their workplace supported their efforts to be physically active (96% vs 58%, $P<.01$) and were nearly 3 times as likely to feel the workplace supported their efforts to make healthy food choices (84% vs 28%, $P<.001$). Nearly 3 times as many intervention site staff reported a change in the types of foods served during staff meetings and snacks over the past year (72% vs 24%, $P<.01$). Further, a significant number of intervention site staff members felt that physical activity had become a higher priority at their worksite during the past year (96% vs 71%, $P<.05$).

Intervention Effects on Staff's Personal Habits and Health Beliefs

Intervention and control site staff members' health habits were assessed before and after the intervention (Table 3). Greater increases in healthful behaviors were consistently reported for intervention site staff, although there were no statistically significant differences. While not significant, more intervention site staff reported feeling their health habits set an example for WIC participants (92% vs 73%, $P=.076$).

Intervention Effects on Staff's Self-Efficacy and Counseling Changes

After the intervention, 64% of the staff reported feeling "very comfortable" encouraging WIC parents to do physical activities with their children, compared with 35% of the control group ($P<.05$) (Table 4). Staff differences were not statistically significant with regard to change in comfort in talking about weight issues, in helping children maintain a healthy weight, or in feeling that they had success in helping parents with their overweight children. Significantly more staff at the intervention sites reported making changes during the last year in the way in which they talked with parents about weight (92% vs 58%, $P<.01$).

Intervention Site Staff's "Exit" Evaluation of Fit WIC

Intervention site staff completed a second survey specifically designed to evaluate the Fit WIC activities. All staff rated the intervention as positive for their site. When staff members were asked the open-ended question of how Fit WIC had affected the overall staff, responses primarily centered on themes of activity change, motivation, and role modeling:

- "Staff are more motivated to walk and eat healthier."
- "We are more active and we started to eat healthy."
- "We set the example for clients."

DISCUSSION

We implemented a staff wellness program as 1 aspect of a multifaceted exploration of the prevention of childhood overweight in a low-income population. Although our sample size was too small to provide definitive data, this staff wellness pilot program paves the way for more research in this area to determine whether this is an effective way to improve counseling about weight issues. California WIC staff, like many California WIC participants, are often overweight and inactive. Staff discomfort with their own body size and their own eating and activity pat-

TABLE 2—Staff Members' Perceptions (n = 51) of Workplace Environment After the Intervention: The California Fit WIC Program

Response	Intervention, % (n)	Control, % (n)	*P*
Felt the workplace supported their efforts to be physically active.	96 (24)	58 (14)	< .01
Noticed a change in the types of snacks and foods served during staff meetings at their site.	72 (18)	24 (6)	< .01
Felt the workplace was very supportive in helping them to make healthy food choices.	84 (21)	28 (7)	< .001
Felt that physical activity became a higher priority at their worksite in the past year.	96 (24)	71 (17)	< .05

Note. WIC = Special Supplemental Nutrition Program for Women, Infants, and Children.

TABLE 3—Staff Members' Perceptions (n = 51) of Personal Habits and Health Beliefs: The California Fit WIC Program

	Intervention Group		Control Group		
Response	Before Intervention, % (n)	After Intervention, % (n)	Before Intervention, % (n)	After Intervention, % (n)	*P*[a]
Reported doing regular physical activity.	91 (21)	100 (25)	76 (19)	77 (20)	.578
Tried to be more physically active.	. . .	76 (19)	. . .	65 (17)	.406
Tried to eat more low-fat foods.	39 (10)	72 (18)	48 (12)	54 (14)	.162
Tried to eat more fruits and vegetables.	65 (17)	84 (21)	52 (13)	69 (18)	.944
Felt their own habits influence the way they talk to participants.	. . .	92 (23)	. . .	89 (23)	.671
Felt their habits set example for participants.	. . .	92 (23)	. . .	73 (19)	.076

Note. WIC = Special Supplemental Nutrition Program for Women, Infants, and Children.
[a]*P* value refers to pre-post change in intervention vs control. Where no pre-intervention data was collected, *P* value refers to intervention vs control comparison of post-intervention values.

terns may inhibit them in their counseling efforts with the parents of both normal-weight and overweight children. After the intervention, staff who were initially uncomfortable discussing weight with parents reported they felt more comfortable talking about physical activity and weight issues.

Since prevention is the goal of programs to curb childhood overweight, information about healthful physical activity is profitably provided to all families, not just those with overweight children. This is particularly the case with Latino WIC parents, who frequently do not acknowledge that their child is overweight.[9,26] WIC staff who are themselves sedentary may be hesitant to discuss healthy physical activity patterns with parents. We found that staff who undertook and enjoyed changes in workplace eating and physical activity were motivated to encourage physical activity with their clients. Even if weight isn't explicitly discussed, the impact of the counseling on weight is potentially positive.

Relatively simple measures can be implemented in the workplace to enhance WIC staff members' confidence in counseling WIC families. Increasing staff members' sense of self-efficacy may facilitate counseling on sensitive subjects, while at the same time staff who themselves become committed to healthy behaviors serve as role models for their clientele. A supportive social context in which a role model initiates and performs physical activities with a group using an interactive style has been associated with greater enjoyment of physical activity and increased probability of subse-

TABLE 4—Staff Members' Perceptions (n = 51) of Intervention's Effect on Self-Efficacy and Counseling: The California Fit WIC Program

	Intervention Group		Control Group		
Response	Before Intervention, % (n)	After Intervention, % (n)	Before Intervention, % (n)	After Intervention, % (n)	*P*[a]
Felt very comfortable encouraging WIC parents to do physical activities with their children.	. . .	64 (16)	. . .	35 (9)	.036
Felt comfortable or very comfortable in talking about weight issues with parents of overweight children.	59 (13)	71 (17)	63 (15)	65 (17)	.647
Felt confident or very confident in helping children maintain a healthy weight.	46 (12)	54 (13)	38 (9)	42 (11)	.873
Felt they have had success helping WIC parents with their overweight children.	68 (13)	91 (19)	64(14)	68 (15)	.368
Made positive changes in the way they talk with parents about weight.	. . .	92 (22)	. . .	58 (15)	.006
Talked almost always with WIC parents about physical activity.	29 (6)	48(12)	13 (3)	23 (6)	.610

Note. WIC = Special Supplemental Nutrition Program for Women, Infants, and Children.
[a]*P* value refers to pre-post change in intervention vs control. Where no pre-intervention data was collected, *P* value refers to intervention vs control comparison of post-intervention values.

quent engagement in the activity.[27] Social support such as that available in a WIC work setting is a crucial ingredient to lifestyle changes for WIC's nutrition educators and may set the stage for WIC to effectively offer physical activity opportunities for WIC clients.

To date, most worksite interventions promoting physical activity have disproportionately recruited White males of higher socioeconomic status,[28] and the magnitude of effect in other populations has been small.[29] Commitment of on-site organizational leaders, as manifested in role modeling of physical activity by participation in group activities,[30,31] and conducting activities on paid time[32,33] are factors associated with feasibility in these intervention efforts. These factors shift some of the responsibility and "cost" for healthy lifestyle change and maintenance from the individual to the societal level. Data from our study suggest that worksite staff wellness programs may benefit the clientele served in addition to the staff members themselves. This should be captured in cost-effectiveness analyses of these societal investments.

Staff overwhelmingly reported that participating in Fit WIC had positively affected their lives. By participating in a wellness program, staff became enthusiastic supporters of sharing health messages and felt more comfortable talking with parents about their own efforts. In a study of nurses as role models for patients, Connolly et al. likened their job to the sale of health.[34] The best salespeople are genuinely committed to their product and model its benefits. The California Fit WIC staff became committed to a message of the value of healthy eating and physical activity.

WIC staff are well suited to serve as role models for WIC participants, as they share many demographic characteristics and understand many of the constraints faced by WIC participants: insufficient time for buying and preparing healthy foods or being physically active, limited resources for food or physical activity, and lack of access to healthy food and physical activity opportunities in their community.

Limitations

Our conclusions are limited by several factors. Only 1 component of a complex intervention project has been described here, the staff wellness component. Owing to the complex nature of the intervention project conducted, it was not possible to determine the degree to which staff wellness activities were specifically responsible for some of the reported results. However, staff reported being most affected by becoming healthier themselves. Some staff reported weight loss as a result of recent behavioral changes. Future studies might measure long-term staff weight changes as a result of participating in the program.

Although our results show promise for the success of staff wellness programs in this type of setting, any attempts to replicate our study should consider (1) increasing the sample size to permit more sophisticated statistical testing, (2) increasing the follow-up time, and (3) objectively validating self-reported data. Further, while we feel that using the empowerment model to justify the development of the staff wellness programs at the local level contributed to the degree of success they achieved, this model made it difficult to comprehensively evaluate the effort. It is important to note that staff wellness activities have been sustained in the year beyond the intervention period, which may also be attributable to positive staff changes and local ownership of the program.

This project took place during a time in which childhood overweight was getting a great deal of media attention. Many WIC sites were trying to address the childhood overweight problem during the Fit WIC project period. Accordingly, there was positive change reported at the control sites as well as at the intervention sites for a number of our outcomes. While staff reported feeling greater self-efficacy in counseling, this pilot study was not able to measure whether their counseling had changed or whether clients responded differently to their counseling.

Implications and Applications

More than 60% of the adult US population is currently overweight or obese.[35] In this context, there is a high likelihood that a significant number of health care and social service providers, both professional and paraprofessional, are themselves overweight. This was found to be the case in WIC and is no doubt true for other agencies dealing with children as well as with adults. As we seek ways to slow the spread of the obesity epidemic or even reverse it, we must consider more upstream approaches that intervene within existing organizational structures. One such approach is to train providers and facilitate their adoption of healthy behaviors to increase the amount and effectiveness of their counseling. This approach has been proven to be effective with smoking.[15] Enhancing health workers' self-efficacy, a key construct of social cognitive theory, provides a theoretical underpinning for such an approach to effect behavior change.

The Fit WIC experience illustrates that supporting staff in achieving their own healthy eating and physical activity goals significantly increases staff commitment and enthusiasm for addressing healthful behavior patterns with clients in the WIC setting. Staff participating in Fit WIC achieved a high degree of personal satisfaction and felt more skilled in communicating about nutrition and physical activity with WIC clients. ■

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P.B. Crawford conceived the study, supervised all aspects of its implementation, and led the writing. W. Gosliner managed the study and completed the analyses. P. Strode comanaged the project. S.E. Samuels and L. Craypo designed qualitative analysis tools and assisted in interpretation. C. Burnett provided study leadership at the WIC Branch. A.K. Yancey provided training to staff who participated in the program and assisted with writing the article.

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