

Current Research

Altering the Perceptions of WIC Health Professionals about Childhood Obesity Using Video with Facilitated Group Discussion

ROBERT C. WHITAKER, MD, MPH; SUSAN N. SHERMAN, DPA; LEIGH A. CHAMBERLIN, MEd, RD; SCOTT W. POWERS, PhD

ABSTRACT**Objective**

To determine if viewing a documentary video, followed by facilitated group discussion, could alter the perceptions of those providing public health nutrition services about the barriers and solutions to addressing the problem of obesity in low-income preschoolers.

Design

Before-after trial to determine how often study participants could identify any of the 17 barriers and seven solutions targeted in the video and during the facilitated group discussion.

Subjects/Setting

One hundred fifty-five attendees of the 2001 Kentucky Maternal and Child Health Conference participated in the study. Sixty percent were nurses, 24% were dietitians or nutritionists, and 64% had Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) counseling experience.

Intervention

Participants first viewed a 20-minute documentary video about three families enrolled in WIC. A 40-minute facilitated group discussion followed to highlight the 17 barriers (eg, WIC families are struggling with many demands in their lives that make nutrition a low priority and WIC health professionals "lecture" clients on what they "need to know") and seven solutions (eg, adjusting WIC counseling to assess parenting skills and to increase sensitivity to clients' life context and stresses).

**Main Outcome Measures/
Analyses**

Participants responded before and after the intervention to the same two open-ended questions, one about barriers and one about solutions. Participant responses were coded to count instances of identifying any of the 17 barriers and seven solutions.

Results

At baseline, 51% of participants were unable to record any of the barriers, and 91% could not identify any of the solutions. After the intervention, 37% could identify at least one more of the target barriers than they did at baseline, and 24% could identify at least one more of the target solutions.

Conclusions

A documentary-style video, used with facilitated group discussion, can produce a short-term change in the perceptions of those providing public health nutrition services about addressing the problem of obesity in low-income preschool children.
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R. C. Whitaker is an associate professor of pediatrics, University of Cincinnati College of Medicine, Division of General and Community Pediatrics, Cincinnati Children's Hospital Medical Center, Cincinnati, OH. S. N. Sherman is a research consultant with SNS Research, Inc, Cincinnati, OH. L. A. Chamberlin is a research program coordinator with the Division of Psychology, Cincinnati Children's Hospital Medical Center, and S. W. Powers is an associate professor of pediatrics at the University of Cincinnati College of Medicine, Cincinnati, OH.

Address correspondence to: Robert C. Whitaker, MD, MPH, Mathematica Policy Research, Inc, PO Box 2393, Princeton, NJ 08543-2393.

E-mail: rwhitaker@mathematica-mpr.com

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Prevention of obesity is an important public health goal (1), and childhood is the time to begin prevention efforts (2). Although nearly half of all infants in the United States and one fourth of 1- to 4-year-olds are enrolled in the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) (3), it is unclear what strategies WIC should adopt to help prevent obesity.

Mothers and WIC health professionals have differing perceptions about obesity (4,5). As a result of these differing perceptions, the dialogue that now occurs between WIC health professionals and mothers often fails to create an effective partnership between them to either prevent or treat childhood obesity. Many mothers feel blamed for their children being overweight (4), and many providers believe mothers are unmotivated to support sustained changes in the family's diet and that the current structure of WIC is inadequate to address obesity (5). Thus, for WIC to become more responsive to the problem

of obesity, it must address the complex challenge of changing the way WIC health professionals talk to mothers about obesity.

An intervention to improve nutrition counseling skills around obesity in preschoolers would aim to change child eating or parent feeding patterns. However, it seemed that counseling could not be altered by providing training sessions that presented a new or more “correct” counseling technique or style just as maternal feeding patterns could not be changed by only offering a list of recommended foods.

Instead, it was determined that health professionals needed to alter their perceptions before they could be motivated to make changes. It was also believed that WIC health professionals would be more likely to adopt new approaches to the problem of obesity if they first perceived the problem from the clients’ perspectives and if they participated in identifying new solutions. Therefore, the intervention was designed to alter the perceptions of WIC health professionals about why current nutrition counseling practices may not be successful in preventing or treating obesity (barriers), and to allow the health professionals to generate their own ideas about how to make their counseling and the entire WIC program more responsive to the problem of childhood obesity (solutions).

An intervention to improve nutrition counseling skills around obesity in preschoolers would aim to change child eating or parent feeding patterns.

The 60-minute intervention consisted of viewing a 20-minute, documentary-style video followed by a facilitated group discussion. The video emphasized specific barriers identified in previous qualitative research (4,5), and the facilitated group discussion that followed emphasized solutions to these barriers. The hypothesis tested was that this intervention would change the perceptions of WIC health professionals about the barriers and solutions to addressing the problem of obesity in low-income preschoolers.

METHODS

Intervention Development

The video, *Beyond Nutrition Counseling: Reframing the Battle Against Obesity*, was produced specifically for use in this intervention study (supporting materials for this intervention study are available at www.cincinnatichildrens.org/fitwic). To design the guide for the facilitated group discussion, four focus groups were conducted with a total of 18 WIC health professionals and assessed their reactions to the video. It was learned that many of the barriers portrayed by the video were evident to the viewers after seeing the video, and before any discussion that the facilitated group discussion should concentrate on generating solutions rather than on recounting barriers, and that the facilitator should focus discussion

around specific scenes in the video. To refine the discussion guide, three pilot tests were then performed with a total of 33 WIC health professionals. These pilot tests also served as practice for the two authors (L.A.C. and S.N.S.) who led the facilitated group discussions during the intervention study. The study protocol was approved by the Institutional Review Board of the Cincinnati Children’s Hospital Medical Center.

Intervention Setting and Participants

In September 2001, the intervention and its evaluation were conducted as part of the 44th Annual Kentucky Maternal and Child Health Conference. The conference was attended by professionals who provide direct nutrition counseling services in WIC, administer the WIC program, or work in public health clinics that offer WIC services. The intervention was administered during the program, “Reframing the Battle Against Obesity,” which was offered during two of the 75-minute breakout sessions at the conference. During each breakout session, the approximately 800 conference participants could voluntarily select to attend one of seven concurrently running programs on varied topics in maternal and child health. A total of 168 chose to participate in one of these two programs—116 during one breakout session and 52 during the other.

Intervention Implementation and Evaluation

Before viewing the video, participants were asked to give written consent to anonymous participation in the evaluation of the session. A 13-item demographic form was used to gather information about the characteristics of the participants such as race, age, perceived self-efficacy in counseling, self-reported height and weight, professional certification, and WIC counseling experience. The assessment form consisted of two open-ended questions and was used to measure changes in perception resulting from the intervention. The first question, “What are the greatest barriers to preventing and managing obesity among children enrolled in WIC?” was designed to assess the facilitated group discussion participants’ perceptions about barriers to obesity prevention in WIC. The second question, “What are the most important steps that should be taken to prevent and manage obesity among children enrolled in WIC?” was designed to assess the facilitated group discussion participants’ perceptions about possible solutions to overcoming these barriers.

The facilitated group discussion participants were asked at three different time points during the intervention to list their responses to these same two questions (at baseline before video viewing, after video viewing, and after facilitated group discussion). At each time point, the participants were given a different colored pen to record their responses on the assessment form. The different colored pens, distributed and collected at each assessment time, allowed the responses at different time points to be distinguished from each other and also allowed participants to add or modify their responses without editing the actual responses from the prior assessment(s).

Data Analysis

Before the intervention, the authors identified 24 themes suggested by the video and by the prompting questions in the facilitated group discussion guide: 17 barriers and seven solutions. All participant responses listed on the assessment forms were placed in a computerized database. The responses were independently coded by two authors (S.N.S. and L.A.C.) and assigned to one of those 24 themes that the authors had identified, a priori. In assigning responses to these 24 themes, the two coders disagreed on one barrier response and on four solution responses. Final assignment of these five responses was made by consensus of all authors. If the two coders could not assign the responses to one of the 24 themes, the coders grouped the responses into additional non-video-related themes. Disagreements in the coding of these non-video-related responses or in the naming of these non-video-related themes were resolved through discussion among all authors. Non-video-related themes were only established when there were six or more responses supporting that theme. These coding methods were not validated.

Individual- and group-level analyses were performed. The individual-level analyses were conducted only for the 24 video-related themes. An individual could have more than one response related to the same theme at any of the three assessment points. Each participant's perceptions about barriers and solutions were evaluated for two key outcomes—mention (yes/no) of any video-related theme at baseline and mention (yes/no) of one or more new themes (above their baseline number) after the intervention. To assess whether baseline perceptions or the response to the intervention differed by certain participant characteristics (eg, obesity status or counseling self-efficacy), χ^2 tests were used to compare the two dichotomous outcome measures by categories of participant characteristics (eg, comparing the proportion of obese vs. nonobese participants mentioning one or more new barriers after the intervention). At the level of the overall group, the number of total responses associated with each theme (video-related and non-video-related) was counted at each of the three assessment points (baseline, after video viewing, and after facilitated group discussion). This allowed a comparison of the group's perceptions before and after each component of the intervention.

RESULTS

Participant Characteristics

Of the 168 participants, 13 were excluded from the analysis because they either chose not to complete the demographic form (n=2) or their responses on the demographic form revealed that they had either participated in the development of the video (n=8) or had previously seen the video (n=3). Of the remaining 155 subjects (Table 1), the mean (\pm standard deviation [SD]) age was 43 (\pm 10) years, and 98% were white. The mean (\pm SD) body mass index (BMI, calculated as kg/m²) among the participants was 27.8 (\pm 6.5). The health professionals were concerned about their own weight. Of those overweight (BMI \geq 25), 96% reported feeling overweight, and 95% of these thought their weight was a problem for them.

Table 1. Characteristics of 155 health professionals participating in a video viewing plus facilitated group discussion intervention to determine if perceptions of the barriers and solutions to the problem of obesity in low-income preschoolers could be altered

| Characteristic | n | % |
|---|----|----|
| Profession | | |
| Certified nutritionist | 6 | 4 |
| Registered dietitian | 30 | 20 |
| Licensed practical nurse | 11 | 7 |
| Registered nurse | 77 | 51 |
| Nurse practitioner | 3 | 2 |
| Social worker | 5 | 3 |
| Other | 19 | 13 |
| Missing | 4 | - |
| Ever provided WIC^a counseling | | |
| No | 54 | 36 |
| Yes | 97 | 64 |
| Missing | 4 | - |
| Currently provide WIC counseling^b | | |
| No | 22 | 23 |
| Yes | 73 | 77 |
| Missing | 2 | - |
| Hours per week of WIC counseling^c | | |
| <5 | 26 | 35 |
| 5-19 | 29 | 40 |
| \geq 20 | 18 | 25 |
| Years working in WIC^d | | |
| <1 | 18 | 16 |
| 1-2 | 12 | 11 |
| 3-5 | 9 | 8 |
| 6-10 | 30 | 27 |
| \geq 10 | 41 | 37 |
| BMI^e | | |
| <25 | 46 | 34 |
| 25-29.99 | 42 | 31 |
| 30-34.99 | 30 | 23 |
| 35-39.99 | 9 | 7 |
| \geq 40 | 7 | 5 |
| Missing | 21 | - |

^aWIC=Special Supplemental Nutrition Program for Women, Infants, and Children.

^bAmong those 97 ever providing WIC counseling.

^cAmong those 73 currently providing WIC counseling.

^dAmong those 110 ever working in WIC.

^eBMI=body mass index (calculated as kg/m²).

Coding of Responses Into Themes

The 155 participants produced a total of 924 barrier responses and 685 solution responses. Of these, 134 responses could not be coded into any theme because the response was either too general (eg, "family attitudes") or fragmentary (eg, "money"), and 107 others could not be placed in a theme that had at least six total responses. Of those 1,368 responses that could be coded, 193 (14%) were coded as one of the 17 video-related barriers, 62 (5%) as one of the seven video-related solutions, 582 (43%) as one of the non-video-related barriers (see Table 4), and 531 (39%) as one of the non-video-related solutions (see Table 5).

Table 2. WIC^a health professionals' identification of video-related barriers and solutions at baseline and following the video viewing plus facilitated group discussion intervention, according to the characteristics of the health professionals

| Characteristic | n | Assessment at Baseline | | | | Assessment after Intervention | | | |
|---|-----|--|-----------------------|---|-----------------------|--|-----------------------|---|-----------------------|
| | | Percentage without any barrier mentioned | <i>P</i> ^b | Percentage without any solution mentioned | <i>P</i> ^b | Percentage with ≥1 new barrier mentioned | <i>P</i> ^b | Percentage with ≥1 new solution mentioned | <i>P</i> ^b |
| All health professionals | 155 | 51 | | 91 | | 37 | | 24 | |
| Ever provided WIC counseling | 151 | | .048 | | .77 | | .12 | | .48 |
| No | 54 | 61 | | 93 | | 30 | | 28 | |
| Yes | 97 | 44 | | 90 | | 42 | | 23 | |
| WIC experience^c | 92 | | .51 | | .42 | | .48 | | .22 |
| ≤2 yrs | 19 | 37 | | 84 | | 47 | | 10 | |
| >2 yrs | 73 | 45 | | 90 | | 38 | | 26 | |
| Profession | 127 | | .54 | | .044 | | .003 | | .036 |
| Dietitian/nutritionist | 36 | 44 | | 83 | | 58 | | 33 | |
| Nurse | 91 | 50 | | 94 | | 30 | | 16 | |
| Obesity status | 134 | | .55 | | .097 | | .007 | | .67 |
| Not obese (BMI ^d <30) | 88 | 49 | | 89 | | 46 | | 27 | |
| Obese (BMI≥30) | 46 | 54 | | 98 | | 22 | | 24 | |
| Counseling self-efficacy^e | 142 | | .87 | | .77 | | .86 | | .56 |
| No | 71 | 51 | | 92 | | 37 | | 22 | |
| Yes | 71 | 49 | | 90 | | 35 | | 27 | |

^aWIC=Special Supplemental Nutrition Program for Women, Infants, and Children.

^b*P* value compares two groups (χ^2 or the Fisher exact test) listed under each health professional characteristic.

^cIncludes only those 97 that ever provided WIC counseling (5 of 97 did not report years of experience).

^dBMI=body mass index (calculated as kg/m²).

^eBelieved "WIC could prevent children from becoming overweight if health professionals followed the WIC protocols for nutrition counseling to the best of their ability."

Individual-Level Analysis of Video-Related Themes

At baseline, more than half of the participants were unable to record any barriers, and more than 90% could not identify any solutions (Table 2). After the intervention, more than one third were able to identify at least one more barrier than they had at baseline, and one fourth could identify at least one more solution. Participant characteristics explained few differences in the number of responses, either at baseline or following the intervention. Those who had never provided WIC counseling more often identified no barriers at baseline, but none of the other participant characteristics examined were associated with providing a baseline response for either barriers or solutions. Dietitians and nutritionists were more likely than nurses to identify both new barriers and new solutions after the intervention. Obese participants were less likely to identify new barriers, but they were no less likely to identify new solutions. However, none of the differences in Table 2 was statistically significant after correction for multiple comparisons ($P=.0025$).

Group-Level Analysis of Video-Related Themes

The 17 barrier themes were mentioned during a total of 45 scenes in the video and in 10 prompting questions within the facilitated group discussion guide, providing some approximate measure of the exposure of the participants to each theme during the intervention (Table 3).

Some barriers (eg, "parents model poor eating habits" and "children [have] too much control over food choices") were frequently mentioned themes in the intervention and were also frequently identified by the participants both before and after the video viewing. Other frequently mentioned themes in the intervention, however (eg, "parents do not like [having] their child labeled as fat or overweight," and "overweight parents struggle with their own weight"), were only rarely mentioned before or after the intervention. By contrast, other infrequently mentioned themes in the intervention (eg, "WIC health professionals are required to accomplish too many objectives with clients," and "WIC families [have] many demands that make nutrition a low priority") were, nonetheless, noted frequently. The one theme whose recognition was most increased over baseline after viewing the video was that "WIC health professionals lecture clients."

The seven solution themes were mentioned during 10 video scenes and in 10 facilitated group discussion prompting questions. The themes most often recorded by the participants did not include the major theme emphasized by the intervention ("adjust WIC counseling to focus on sensitivity to clients' life context/stresses"). The theme of "adjust WIC counseling to assess and/or teach parenting skills" was most often recorded by the participants and showed the greatest relative increase in recordings from baseline. Although the theme of having "WIC and physicians [present] a unified message about child obe-

Table 3. Number of video scenes and facilitated group discussion (FGD)-prompting questions in which themes (barriers=17 and solutions=7) about obesity in low-income preschoolers were mentioned and the number of times these themes were recorded by the 155 health professionals at baseline, after video viewing, and after FGD

| Video mentions | FGD mentions | Total mentions | Video-related barrier theme description | Baseline | After video | After FGD | Total |
|----------------|--------------|----------------|--|----------|-------------|-----------|-------|
| 4 | 0 | 4 | Parents model poor eating habits | 18 | 15 | 0 | 33 |
| 5 | 1 | 6 | Parents are letting their children decide what to eat and giving their children too much control over food choices | 12 | 16 | 1 | 29 |
| 1 | 1 | 2 | WIC ^a health professionals are required by regulations to accomplish too many objectives with clients | 11 | 8 | 1 | 20 |
| 1 | 1 | 2 | WIC families are struggling with many demands in their lives that make nutrition a low priority | 11 | 3 | 2 | 16 |
| 5 | 1 | 6 | WIC health professionals believe the complexity of the parents' social context interferes with success in nutrition counseling (examples include financial stress, being a young parent, and having had poor experiences with their own parents) | 11 | 4 | 0 | 15 |
| 3 | 1 | 4 | Parents have a hard time setting limits or saying no | 8 | 6 | 1 | 15 |
| 2 | 0 | 2 | Extended family members play an important role in feeding decisions | 11 | 3 | 0 | 14 |
| 2 | 0 | 2 | WIC clients learn to tell WIC health professionals "what they want to hear" | 8 | 4 | 0 | 12 |
| 1 | 1 | 2 | Parents have a sense of acceptance or inevitability about their child or themselves being overweight | 7 | 4 | 0 | 11 |
| 1 | 1 | 2 | WIC health professionals lecture clients on what they "need to know" | 1 | 7 | 1 | 9 |
| 3 | 1 | 4 | Parents nag their children about eating and are concerned their children will be hungry if they do not eat | 2 | 3 | 1 | 6 |
| 2 | 1 | 3 | Parents become upset when WIC health professionals suggest parents change the family diet | 1 | 4 | 0 | 5 |
| 5 | 0 | 5 | Parents do not like WIC health professionals labeling them or their child as fat or overweight | 2 | 1 | 1 | 4 |
| 2 | 0 | 2 | Parents use food as a reward | 1 | 1 | 0 | 2 |
| 4 | 1 | 5 | Overweight parents struggle with their own weight | 1 | 0 | 0 | 1 |
| 1 | 0 | 1 | The standard medical model for illness, diagnosis, and treatment does not work for obesity counseling | 0 | 0 | 1 | 1 |
| 3 | 0 | 3 | WIC health professionals feel ineffective in their counseling | 0 | 0 | 0 | 0 |
| Totals | | | | | | | |
| 45 | 10 | 55 | | 105 | 79 | 9 | 193 |
| Video mentions | FGD mentions | Total mentions | Video-related solution theme description | Baseline | After video | After FGD | Total |
| 2 | 1 | 3 | Adjust WIC counseling: assess and/or teach parenting skills (developmentally appropriate feeding, establishing limits and routines, use of food as reward) | 2 | 11 | 4 | 17 |
| 1 | 1 | 2 | WIC and physicians need to present a unified message about child obesity | 3 | 3 | 5 | 11 |
| 0 | 3 | 3 | Adjust WIC counseling: focus on mutually agreed upon goals | 1 | 6 | 3 | 10 |
| 1 | 1 | 2 | Restructure WIC procedures: increase time allotment for nutrition counseling | 5 | 2 | 2 | 9 |
| 4 | 3 | 7 | Adjust WIC counseling: focus on sensitivity to clients' life context/stresses | 2 | 4 | 2 | 8 |
| 1 | 0 | 1 | Adjust WIC counseling: focus on small, short-range goals | 3 | 2 | 1 | 6 |
| 1 | 1 | 2 | Co-location of WIC services | 0 | 0 | 1 | 1 |
| Totals | | | | | | | |
| 10 | 10 | 20 | | 16 | 28 | 18 | 62 |

^aWIC=Special Supplemental Nutrition Program for Women, Infants, and Children.

Table 4. Number of times that the 24 non-video-related barriers to preventing obesity in low-income preschoolers were recorded by the 155 health professionals at baseline, after video viewing, and after facilitated group discussion (FGD)

| Non-video-related barrier theme description | Baseline | After video | After FGD | Total |
|--|----------|-------------|-----------|-------|
| Parents and children lack physical activity | 60 | 10 | 2 | 72 |
| Parents are noncompliant and are unwilling to change their behavior | 59 | 8 | 3 | 70 |
| Dietary practices (family's intake of high-fat, high-energy foods, low intake of fruit and vegetables, use of convenience foods) | 51 | 7 | 1 | 59 |
| Structural factors in counseling session (language barriers, distractions with children running around, long waiting time) | 31 | 11 | 7 | 49 |
| Parents (families) have low levels of education and/or language comprehension | 37 | 0 | 0 | 37 |
| Financial constraints limit families' ability to purchase healthful foods | 29 | 5 | 0 | 34 |
| Parents rely on fast food for meals | 25 | 7 | 1 | 33 |
| Parents lack education about good nutrition or healthful food choices | 13 | 12 | 1 | 26 |
| Families' meal planning and mealtimes lack structure or routine | 7 | 13 | 0 | 20 |
| Parents do not think obesity is a problem | 17 | 3 | 0 | 20 |
| Factors related to low income other than food-purchasing patterns | 14 | 3 | 0 | 17 |
| Parents lack understanding about the health risks associated with obesity | 8 | 7 | 1 | 16 |
| Parents lack parenting skills | 7 | 9 | 0 | 16 |
| History of family obesity | 11 | 3 | 0 | 14 |
| Parents lack knowledge and skills in food preparation | 10 | 3 | 0 | 13 |
| Parents lack transportation to WIC ^a clinics and supermarkets | 7 | 1 | 4 | 12 |
| Lack of unified message between WIC and other health care providers | 9 | 0 | 3 | 12 |
| Media and marketing influences on food choices | 6 | 4 | 1 | 11 |
| Parents lack motivation to implement goals established in nutrition counseling | 6 | 4 | 0 | 10 |
| Content of WIC food package needs to be altered | 10 | 0 | 0 | 10 |
| Societal and cultural norms that influence eating and food choices | 7 | 3 | 0 | 10 |
| Role of preschool and day care meals in child's diet | 8 | 1 | 0 | 9 |
| Multiple caregivers are providing meals for child | 5 | 0 | 1 | 6 |
| Lack of support system for mothers (no role models) | 5 | 1 | 0 | 6 |
| Totals | 442 | 115 | 25 | 582 |

^aWIC=Special Supplemental Nutrition Program for Women, Infants, and Children.

sity” was only mentioned twice in the intervention, it was the second most common solution mentioned.

The intervention had overall greater emphasis on barrier identification than on solution identification (barriers mentioned 55 times and solutions 20 times), and it had relatively greater emphasis on barrier identification in the video and on solution identification in the facilitated group discussion. In accordance with this pattern of exposure in the intervention, participants recorded many more barriers than solutions (193 vs. 62), but compared to barriers, relatively more solutions were identified only after the facilitated group discussion occurred. Of solutions identified after the intervention, 39% (18 of 46) were recorded only after the facilitated group discussion. By comparison, only 10% (9 of 88) of all barriers identified after the intervention were recorded after the facilitated group discussion. Furthermore, 54% (105 of 193) of the barriers identified by participants were identified at baseline, before the intervention, but only 10% (16 of 62) of the solutions were identified at baseline.

Group-Level Analysis of Non-Video-Related Themes

For barriers (Table 4), “lack of physical activity” was the most commonly recorded theme among those not related

to the video. In addition, parents were commonly viewed as having poor dietary habits, as being unwilling to change these habits, and as being under the constraints imposed by low levels of income and education. Although these themes appear closely associated with some of the 17 video-related themes, they differ in that the responses did not convey anything about the mechanisms by which these factors might lead to obesity and, instead, placed a greater sense of responsibility on parents for the obesity problem in their children.

For solutions (Table 5), the participants most commonly mentioned items on the theme of “traditional nutrition counseling approaches” that have already proven unsuccessful in WIC, like providing more education about what constitutes a healthful diet. These participant responses arose even during an intervention that emphasized going beyond nutrition counseling. Responses on this theme of traditional nutrition counseling were given more often (n=87) than the total number of video-related solution responses combined (n=62). Making structural changes in WIC (eg, altering the food package or offering group classes on shopping and meal preparation) and expanding the counseling to include physical activity were both important themes not specifically suggested by the intervention.

Table 5. Number of times that the 21 non-video-related solutions were recorded by the 155 health professionals participating in a program about barriers to preventing obesity in low-income preschoolers at baseline, after video viewing, and after facilitated group discussion (FGD)

| Non-video-related solution theme description | Baseline | After video | After FGD | Total |
|--|----------|-------------|-----------|-------|
| Conventional or traditional nutrition counseling approaches (eg, focus on proper nutrition, food pyramid, reducing child's juice intake) | 49 | 26 | 12 | 87 |
| Offer classes at WIC ^a : meal preparation, shopping, healthy snacks, recipes, budgeting | 45 | 7 | 5 | 57 |
| Change content of WIC food package | 49 | 7 | 1 | 57 |
| Enhance WIC handouts (attending to non-English language needs and reading level), provide videos, portion models | 42 | 9 | 4 | 55 |
| Counseling focus: encourage exercise, less television watching | 31 | 3 | 4 | 38 |
| Provide nutrition education in other settings by collaborating with agencies (eg, Head Start, YMCA, schools, and churches) | 15 | 5 | 9 | 29 |
| Procedural changes proposed for WIC counseling (eg, improving clinic flow and scheduling, hiring more nutritionists) | 22 | 2 | 4 | 28 |
| Adopt positive counseling approach: being less judgmental, enhancing rapport, and listening | 2 | 14 | 5 | 21 |
| Include the whole family in counseling session | 15 | 2 | 1 | 18 |
| Have a specific WIC counseling focus on structured meal times | 2 | 12 | 2 | 16 |
| Offer gym memberships and weight management programs | 12 | 2 | 1 | 15 |
| Focus on the health risks of obesity during counseling sessions | 11 | 3 | 1 | 15 |
| Create media campaign that focuses on healthful eating, reducing child obesity | 10 | 3 | 2 | 15 |
| Provide incentive system for parents and children who meet WIC goals | 10 | 3 | 0 | 13 |
| Initiate home visits by WIC health professionals | 5 | 3 | 4 | 12 |
| Change content of school/daycare menus, restrict vending machines at schools | 10 | 0 | 2 | 12 |
| Focus on parenting issues during counseling: parent in charge, as role model | 4 | 7 | 0 | 11 |
| Provide training for health professionals in counseling skills | 7 | 3 | 0 | 10 |
| Provide parenting education/classes at WIC | 3 | 6 | 0 | 9 |
| Create support groups for parents | 3 | 1 | 3 | 7 |
| Increase physical activity component in schools | 5 | 0 | 1 | 6 |
| Totals | 352 | 118 | 61 | 531 |

^aWIC=Special Supplemental Nutrition Program for Women, Infants, and Children.

DISCUSSION

This study shows that a documentary-style video, used as a catalyst for facilitated group discussion, can produce a short-term change in the perceptions of those providing public health nutrition services about the barriers and solutions to addressing the problem of obesity in low-income preschool children. The video viewing was more successful in changing perceptions about barriers than in changing perceptions about solutions. In contrast, the facilitated group discussion that followed the video was more successful in changing perceptions about solutions than about barriers.

Videos have been used often in interventions to change health behaviors, but this intervention utilized and evaluated video in several unique ways. This study attempted to alter the perceptions of health providers rather than patients or clients. This study measured the influence of the video on altering viewer perceptions by using open-ended questions to minimize response bias, and the video-related themes were established before coding viewer responses to these questions. Finally, the influence of the video was isolated from the facilitated group discussion component of the intervention—something attempted in only one other study that was identified (6). In that randomized trial designed to promote safer sexual behaviors among adults, video viewing followed by facilitated group

discussion was more effective than video viewing alone in changing adults' perceptions of risky sexual behaviors and in changing their self-efficacy about condom use.

Although videotape can deliver a standardized and reproducible stimulus for changing viewer perceptions or behaviors, there is enormous variability between video productions in their content, style, and objectives. Some videos are designed only to provide information in an emotionally neutral fashion using professional actors and actresses. However, videos are known to be more effective when they depict scenes that are sensitive to the viewer's experience, life context, and culture (7-9). In contrast to other videos, the one used in this study was made in a documentary style and contained emotionally provocative content that was designed to move viewers sufficiently to alter their perceptions about a sensitive and controversial topic. Only two other reports were found describing health-related interventions using a documentary-style video (10,11). Both involved sensitive topics in which, like obesity, social behaviors are linked to health problems. In one study, college students who were exposed to a documentary film depicting the life and death of a prominent gay politician were shown to have more positive attitudes toward gay men (10). Another study involved male spouse abusers who were randomly assigned to view a dramatization of spouse abuse that was framed from the viewpoint of a young boy. Positive effects on attendance and

participation in group therapy were seen among those men who viewed the video (11).

This study did not address whether any altered perceptions persisted or whether they translated into a change in counseling behavior. Even after the intervention, participants still identified more non-video-related than video-related themes, suggesting those perceptions unrelated to the video could still heavily influence counseling behavior. The intervention was also conducted with two very large discussion groups, and the facilitated group discussion component may be more potent with smaller groups and/or a focus on fewer themes. The intention in providing the video as a consistent stimulus for discussion across all groups was to reduce some of the variability in the facilitated group discussion component of the intervention. Nonetheless, the influence of the facilitated group discussion can still depend on the context in which the intervention is presented, the nature and size of the discussion group, and the skills of the facilitator, including his or her knowledge of the facilitated group discussion participants.

CONCLUSIONS

A documentary-style video can be used to facilitate discussions about addressing the problem of childhood obesity among low-income preschool children. These discussions can occur among those persons

- within WIC who are delivering or designing nutrition counseling services,
- within the federal government who shape the policies under which WIC operates, and
- outside WIC who provide health care to WIC clients.

These discussions are meant to:

- identify and discuss barriers and solutions to addressing childhood obesity,
- move beyond what has been the traditional approach to nutrition counseling in WIC, and
- increase understanding that parents may be unable to implement nutrition advice without assistance to improve their social and environmental contexts and their overall child-rearing skills.

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