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# An Effective Psychoeducational Intervention for Early Childhood Caries Prevention: Part II

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## Abstract

**Purpose—**The purpose was to compare whether mothers exposed to an autonomy-supportive psychoeducational videotaped message, informed by self-determination theory (SDT), demonstrated greater changes in behavior concerning their children's oral health than mothers exposed to a neutral message delivered by brochure.

**Methods—**Data were collected at baseline, one- and six-month follow-ups from 415 12- to 49-month-old WIC-enrolled children and their mothers: 283 in the video intervention group and 132 in the brochure control group. Mothers completed questionnaires regarding their child's dietary/oral hygiene habits. Chi-square, Wilcoxon Signed Rank, Mann-Whitney, and McNemar tests were used to analyze data ($P<0.05$).

**Results—**Significantly more positive changes were observed for dietary/oral hygiene behaviors among the intervention group mothers at one- and six-month follow-ups than for the controls. Significantly fewer mothers in the intervention group shared dining ware with their child at both one- ($P=0.0046$) and six-month follow-ups ($P<0.0001$); this practice was decreased only at six-months for the control group mothers ($P=0.05$). Restricting consideration only to mothers who were not checking for white spot lesions at baseline, a significantly greater proportion of mothers in the intervention group performed this behavior at six-months ($P=0.0044$).

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**Conclusions—**Data provided evidence of the effectiveness of the SDT videotaped oral health message relative to a neutral brochure.

**Keywords**

DENTAL CARIES; PREVENTION; AUTONOMY; HEALTH BEHAVIOR; MATERNAL-CHILD HEALTH CENTERS

Because many health problems, including dental caries, are disproportionately associated with low-income and minority groups with the poorest access to care, several programs have been implemented to address this discrepancy of underserved populations. One of the more prominent programs is the Special Supplemental Food Program for Women, Infants, and Children (**WIC**), which provides nutritional and general health support to low-income pregnant women and children up to age five years. Studies have reported caries rates of 35 percent to 56 percent among WIC-enrolled children under three years of age.[1] The involvement of dental professionals in public health clinics where high-risk populations seek other health care is still minimal. Although medical care providers play an important role in preventing oral disease, health professionals working in busy primary care clinics may not have the time to provide dental health information for caries prevention. Therefore, there is an urgent need to develop and evaluate dental health educational interventions for early childhood caries (**ECC**) prevention that can be carried out in public health settings attended by high-caries risk populations that do not depend on the availability of either dental and/or medical professionals.

A major issue regarding the effectiveness of oral health promotion involves the lack of preventive approaches using psychological/behavioral strategies.[2,3] Although, education can improve knowledge concerning dental health issues, this step alone is usually not sufficient to promote behavioral changes.[3] This fact was well observed in a systematic review of the literature, which reported dental health education efforts based on motivational techniques to be more effective in ECC prevention when compared to more traditional provider-centered educational approaches.[4] This trend was observed in a study[5,6] comparing the effect of a motivational interviewing (**MI**) counseling visit with traditional health education for mothers of young high-caries risk children. After two years, children in the MI group developed significantly less caries than those of the control group, which was attributed to a greater compliance with recommended fluoride varnish.

In the dental domain, a psychological theory of motivation called self-determination theory (**SDT**) has been applied very successfully. In a study of 90 participants aged 20 to 35 years,[7] a one-to-one dental educational intervention formulated by the SDT, when compared to a one-to-one standard dental education, increased patients' perceived competence and autonomous motivation for dental care, consequently decreasing their plaque and gingivitis scores over a seven-month period. In another study comprised of 208 dental patients,[8] patients' perceptions of autonomy-supportive (vs. controlling) on the part of their clinical dental professionals, were positively associated with perceived dental competence and autonomous motivation for treatment, and negatively associated with anxiety for treatment. Furthermore, perceived dental competence and autonomous motivation were directly

positively associated with oral self-care behaviors and dental clinic attendance. Although, these dental studies were not targeted to caries prevention among young children, it shows along with several other studies[9,10-15] the positive impact of SDT in producing desirable behavioral changes in people's lives. The overall purpose of this study was to assess the effectiveness of an autonomy-supportive psychoeducational videotaped oral health message informed by the SDT as a preventive means of ECC to be used in public health settings attended by high-caries risk groups. The first part of this study (Part I)[16] described the SDT, and reported results regarding the effectiveness of the psychoeducational intervention for ECC prevention where mothers exposed to an autonomy-supportive psychoeducational videotaped oral health message demonstrated greater changes in knowledge and behavioral intentions than did mothers exposed to the neutral message delivered by brochure that represented standard practice. The main purpose of the second part of this study (Part II) was to compare self-reported oral health behavioral changes between mothers from the two study groups towards their child's oral health.

## Methods

This study was approved by the University of Iowa Institutional Review Board and consisted of a convenience sample of mother-child dyads recruited from two WIC programs in Iowa. Children were 12 to 49 months of age and mothers/legal guardians were required to be 18-years-old or above. Mother-child dyads were randomly assigned to two groups. Mothers assigned to the intervention group were exposed to a 15-minute videotaped oral health message informed by the SDT that covered a variety of oral health topics: process of tooth decay, oral hygiene practices, dietary habits that affect caries susceptibility, checking the child's teeth for early signs of cavities (white spot lesions), and bacterial transmission from mother to child (see Paper I[16] for information on the video design). Mothers assigned to the control group received the education component using a neutral style through a paper brochure that contained the same dental content covered in the videotaped message. A paper brochure was selected for the control group because most of the standard dental education delivery in many busy dental and WIC clinics relies on educational brochures. All study instruments were available in English and Spanish.

This study employed a series of questionnaires at baseline, one- and six-month follow-ups designed to collect information on demographics and to assess mother's changes in self-reported oral health behavior towards her child's oral health. These questionnaires have been used in previous studies conducted by our research team with the intention to collect similar data for comparison purposes.[17-19] Due to the frequent use of these instruments, questionnaire questions have been improved over time. Oral hygiene questions included: daily frequency/timing of toothbrushing, use of fluoridated toothpaste, and amount of fluoridated toothpaste used. Mothers were also asked to indicate the types of snacks consumed by their child, and the number of times they were consumed weekly. Carbohydrate-containing foods were categorized as “cariogenic” or “noncariogenic” based on the presence or absence of sugar and starch and the degree of starch processing as described in Marshall et al.[20] Nighttime drinking habits and child's beverage intake were also studied. Mothers were asked to report what beverage their child consumed during the past week prior to their study appointments and to indicate the number of servings the child

drank and the amount consumed per serving. The beverage questionnaire used in this study had been previously validated in the Iowa Fluoride Study.[21]

SDT proposes that, if the mother has internalized the message, the changes should be evident within a short period of time;[9] therefore, at one-month follow-up, all mothers from both groups were sent a questionnaire via mail designed to assess mothers' changes in self-reported oral health behavior towards their child's oral health from baseline. Because baseline questionnaires were extensive in length, a shorter version of this questionnaire was sent at one-month follow-up asking key questions for each behavior category.

All children were examined by the study principal investigator (KWG), who was blinded to the group assignment, both at baseline and at the six-month follow-up. Dental plaque and caries status were recorded for all children following criteria described by Warren et al.[18] Because this paper focused on reporting maternal behavioral changes, children's oral health measures will be presented only for the purpose of profiling the children's sample population.

McNemar's tests were used to evaluate changes between visits for binary categorical outcomes. Wilcoxon Signed Rank tests were used to assess shifts in quantitative measures. Group comparisons were made via Chi-square tests, Cochran-Mantel-Haenszel tests using ridit scoring,[22] and Mann-Whitney tests. Exact tests were used as needed. A 0.05 level of statistical significance was used. Data analysis was completed using SAS (version 9.1, SAS Institute Inc, Cary, N.C., USA) software.

## Results

### Demographic Information and Randomization

Baseline demographic data showed that the mean age for all mothers was 27.6 years, and 26.8 months for the children. Additional demographic information is reported in Paper I.[16] This study recruited 415 mother-child dyads at baseline: 283 randomly assigned to the intervention group and 132 to the control group. As reported in Paper I,[16] the unequal numbers of participants in both groups was due to limited funding available for recruitment of control group subjects. Detailed information about randomization and levels of mothers' participation in follow-up activities is found in Paper I.[16]

### Profile of Oral Health Measures: Caries and Plaque Status

Baseline caries experience is shown in Table 1. Results showed no evidence that baseline caries status distribution differed significantly between both groups ($P$=0.66). As might be expected, there was an increase in the proportion of children with caries at the six-month follow-up, but this was modest, given the short time frame. The groups did not differ in the proportion of children with carious lesions either at baseline or at six-month follow-up, nor did they differ regarding the proportion of children with cavitated lesions at either time point ($P$>0.17 in all instances). The proportion of children with visible plaque at baseline was the same in both groups ($P$=0.93). The level of plaque was further explored by considering the percentage of teeth in a given child with visible plaque. The distribution of the percent of

teeth with plaque was not significantly different in both groups at baseline ($P$=0.22), and at six-month follow-up ($P$=0.28).

### Oral Hygiene Changes Relative to Baseline

Significant improvements were found for several desirable behaviors from baseline to one-month follow-up and also from baseline to six-month follow-up in both groups (Table 2). At one-month follow-up, mothers from both groups increased their child's habits of daily toothbrushing ($P$=0.002; $P$=0.0002), brushing at bedtime ($P$=0.02; $P$=0.0002), and using fluoridated toothpaste ($P$=0.003, $P$<0.0001). At six-month follow-up, mothers from the intervention group maintained the following positive oral hygiene behaviors: daily toothbrushing ($P$<0.0001), brushing at bedtime ($P$=0.005), and use of fluoridated toothpaste ($P$<0.0001); while mothers from the control group sustained only bedtime brushing ($P$=0.005) and the use of fluoridated toothpaste ($P$=0.006) Although both groups were comparable at baseline ($P$=0.27), a greater improvement in the use of a pea-sized amount of fluoridated toothpaste at 6-month follow-up relative to baseline was found among intervention mothers ($P$<0.0001), but not in the controls ($P$=0.22).

### Dietary Habit Changes Relative to Baseline

Children in both groups were slightly less likely to drink non-water beverages at night at six-month follow-up, but this improvement was not statistically significant ($P$=1.00; $P$=0.07), (Table 2). Both groups were significantly less likely to consume sugared beverages using spill proof beverage containers at six-month follow up ($P$ =0.01 for controls and $P$<0.0001 for video group). At six-month follow-up, control group mothers did not significantly improve their child's dietary habits on consuming sugared beverages between meals ($P$=0.40), consuming more than six ounces of 100 percent juice daily ($P$=0.12), and eating more than two cariogenic snacks daily ($P$=0.07). Intervention mothers also did not significantly improve their children's consumption of sugared beverages between meals ($P$=0.08); however, their children were significantly less likely to consume more than six ounces of 100 percent juice daily ($P$=0.03) and to eat more than two cariogenic snacks daily ($P$=0.04).

### “Lift the Lip” Changes Relative to Baseline

Both groups improved the behavior of lifting the child's upper lip to look for early signs of ECC on the maxillary incisors at least once a month from baseline to one-month follow-up, as well as maintained the behavior at six-month follow-up (Table 2). However, the frequency of this behavior was much higher at six-month follow-up among the intervention mothers, although both groups were comparable at baseline ($P$=0.67). Restricting consideration only to mothers not performing the desirable behavior of interest at baseline, there was evidence that a significantly greater proportion of mothers exposed to the video intervention “lifted their child's lip” at six months (81 percent, vs. 54 percent in the control group; $P$=0.004). There was no evidence of a group difference regarding this behavior at one-month follow-up (67 percent in the intervention group vs. 62 percent in the control group, $P$=0.67).

### Bacterial Transmission Changes Relative to Baseline

There was no significant difference in utensil sharing between baseline and one-month report in the control group ($P$=1.00); however, significantly fewer mothers shared dining ware with their children at six-months ($P$=0.05) relative to baseline (19 percent vs. 29 percent), (Table 2). Significantly fewer intervention mothers shared dining ware with their children at both one- and six-month follow-ups as compared to baseline (17 percent at one-month follow-up vs. 27 percent at baseline, $P$=0.005; 13 percent at six-month follow-up vs. 27 percent at baseline, $P$<0.0001), (Table 2).

### Changes in Consumption of 100 percent Juice and Sugared Beverages Relative to Baseline

No significant differences were identified in daily intake of 100 percent juice, added sugar beverages, or all sugared beverages ($P$>0.05) in either groups (Table 3). However, although the nominal level of statistical significance was not achieved, somewhat suggestive results were obtained for children in the intervention group, who decreased their juice intake ($P$=0.051) from a median intake of 6.0 oz at baseline to 5.7 oz at six-month follow-up. Correspondingly, this group also decreased median for all sugared beverage intake from 8.0 oz to 7.0 oz during the same period ($P$=0.059).

## Discussion

This study was the first one to apply the SDT as the motivational basis for ECC prevention. Overall results of this study are encouraging since it provided evidence of the effectiveness of the SDT videotaped oral health message on important high-risk ECC behaviors. Mothers from the intervention group were able to maintain at six-month follow-up all four desirable changes regarding their child's oral hygiene behaviors, while mothers from the control group could be said to maintain only two of these behaviors. Appropriate oral hygiene practices and especially the use of fluoridated toothpaste are ideal daily ECC preventive measures. Systemic reviews have reported strong scientific evidence that daily use of fluoridated toothpaste is the most cost effective way to prevent ECC.[23,24] In terms of dietary habits (Tables 2 and 3), results also showed the video intervention to be superior to the control brochure. At six-month follow-up, intervention mothers were engaged in more desirable behaviors than mothers from the control group. Mothers from the video intervention group reported a decrease in the use of sippy-cups among their children to consume sugared beverages at daytime. In addition, they significantly improved their compliance with the study recommendations of no more than six ounces of juice daily as recommended by the American Academy of Pediatrics,[25] as well as not allowing their child to consume more than two cariogenic snacks daily. Control group mothers showed significant improvement only in daytime use of sippy-cups to consume cariogenic beverages. Although, children from both groups were reported to consume less sugared beverages (Table 3), this improvement did not reach significance. Somewhat suggestive results were obtained for children in the intervention group ($P$=0.051), who decreased their median juice intake from baseline to six-month follow-up. Overall results regarding dietary habits are encouraging since frequent ingestion of sugars and other carbohydrates are risk factors in caries development.[26] Furthermore, excessive consumption of juice and sugared beverages not only increases the

risk for ECC,[27] but has also been implicated in failure to thrive in toddlers[28] and increased risk for a child to become overweight.[29]

Other studies have utilized motivational interventions to prevent ECC.[30,31] A particular motivational approach that has been used in dentistry that shares similar psychological techniques as SDT is "Motivational Interviewing" (**MI**).[32] In a longitudinal study,[31] 1021 low-income African-American children aged zero to five years and their families were randomly assigned to two educational groups. Families assigned to the MI intervention group, met a trained interviewer who engaged caregivers in a dialogue on the potential actions for improving their child's oral health, watched a 15-minute DVD on the importance of good health in children, and were given a set of goals developed by the own caregivers. Families assigned to the control group met an interviewer, watched the DVD, and received a list of 10 recommendations developed for this project. Of the nine behavioral outcomes studied, results showed that at six-months follow-up families in the intervention group were more likely to make sure the child brushed at bedtime and to check the child for white spot lesions. In the present study, mothers from the control and intervention groups increased their child's habits of brushing at bedtime at six-month follow-up relative to baseline; therefore, no statistical difference was observed when comparing groups. On the other hand, restricting consideration only to mothers who were not checking for white spot lesions at baseline, results showed a significantly greater proportion of intervention mothers performing this desirable behavior at six-month follow-up than the controls, consistent with the MI study.[31] It seems that at six-month follow-up the present study showed more significant intervention related effects on behavioral oral hygiene and dietary outcomes when compared to this MI study.[31] However, it is important to note that our control group received the oral health message through a brochure, while mothers in the control group of the MI study[31] were exposed to a videotaped oral health message.

Freudenthal et al conducted a MI study[30] similar to the present study to test if an individualized MI approach decreased risk-related ECC behaviors among 72 mothers of six- to 24-month-old WIC-enrolled children. Mothers assigned to the intervention group experienced a 20-30 minute individualized MI intervention and received follow-up telephone calls at one and two weeks. Mothers assigned to the control group received no formal education, however pamphlets were available for mothers who wished to take one home and questions were answered if posed. At one-month follow-up, intervention group mothers showed a significant increase in the number of times they brushed their children's teeth weekly compared to the controls. A statistically significant change in sharing utensils among mother-child dyads in the intervention group was found. However, fewer control group mothers reported sharing utensils with their children at pretest. Therefore, there was more room for intervention mothers to improve this behavior when compared to the controls. Our present study did not find a statistically significant difference at one-month follow-up between groups regarding frequency of daily toothbrushing since mothers from both groups increased their child's frequency of daily brushing relative to baseline. However, at six-month follow-up mothers from the intervention group maintained this desirable behavior, while control group mothers did not. In terms of sharing utensils among mother-child dyads, the present study showed that significantly fewer mothers in the video

intervention group shared dining ware with their children at one-month relative to baseline as also observed in Freudenthal et al study.[30] No statistical difference was found between the intervention and control groups in the MI study[30] regarding the frequency of sweets used as rewards or in most cariogenic feeding practices (ie, bedtime bottle-feeding, frequency of snacks/drinks between meals). One explanation offered by the authors regarding the modest impact the MI study[30] had on some of the high-risk ECC behaviors was the short period of time between pre- and posttest (one month) that may not have been enough time for mothers to significantly change their values, attitudes and behaviors. Such argument is contrary to SDT principles. According to Ryan & Deci,[9] when people internalize the requested behavior and consider it as their own, greater autonomy is experienced and changes should be evident within a short period of time. As predicted by SDT, our study showed significant changes in several desirable outcomes among the intervention mothers as early as one month, and were maintained at six months.

Besides the limitations discussed in Paper I,[16] this study targeted mothers of WIC-enrolled children in the state Iowa, and our sample population may not be entirely representative of other populations. Volunteer bias should also be mentioned as a possible study limitation. Behavioral comparisons between the two groups may have been underpowered due to the small sample size in the control group relative to the intervention group. Finally, the study's six-month time frame was too brief to allow for longer-term assessments on oral health related behavior-induced improvements in children's caries and plaque status. Still, it was very encouraging that the videotaped oral health message significantly improved maternal care clearly linked to future improvements in children's caries and plaque status: daily brushing (including at bedtime), fluoridate toothpaste use (including pea-sized amount), decrease in daytime use of sippy-cup to drink sugared beverages, and in mother's habit of sharing dining ware, limiting consumption of daily 100 percent juice intake and cariogenic snacks, and “lifting the lip” to look for early signs of ECC.

It is important to develop preventive approaches using psychological/behavioral strategies that will potentially motivate caretakers to use their knowledge to adjust their daily parenting care to maximize their child's oral health. An oral health message geared to promote behavioral change should be communicated in a way that is flexible, centered to and focused on the concerns and priorities of the parent and not of the health professional delivering the message. Additionally, the one delivering the message should communicate about competence and coping by giving tips on how to increase skill versus putting pressure; nurture parent's autonomy by giving choices for the parent; encourage parent to make the decisions and to be more active versus following instructions only; and understand parent's boredom, anger, and indecision regarding the suggested recommendations. The application of SDT as the motivational basis to oral health education geared to ECC prevention among high caries-risk populations seems promising and merits further investigations, especially, in terms of its effect on long-term caries prevention.

## Conclusions

1. Significantly more positive changes were observed for dietary habits and oral hygiene behaviors among mothers in the SDT-based video intervention group at one- and six-month follow-ups than were observed for the control group.
2. Overall data provided evidence of the effectiveness of the SDT videotaped oral health message relative to a neutral brochure control.

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## Table 1

ORAL HEALTH MEASURES: CARIES AND PLAQUE STATUS AT BASELINE

| | Brochure intervention group N = 132 | | Video intervention group N = 283 | |
|---|---|---|---|---|
| | **Frequency** | **%** | **Frequency** | **%** |
| *Caries status* | | | | |
| No lesions | 60 | 45 | 139 | 50 |
| Noncavitated lesions only | 54 | 41 | 115 | 40 |
| Cavitated±noncavitated lesions* | 18 | 14 | 29 | 10 |
| *Plaque status* | | | | |
| Children with visible plaque | 98 | 74 | 209 | 74 |

*With the exception of 1 child in the video intervention group, all children with cavitated lesions also had noncavitated lesions. All children with filled surfaces also had untreated decay.

## Table 2

FREQUENCY OF BEHAVIORS AT BASELINE, 1- AND 6-MONTH FOLLOW-UPS WITH EVALUATIONS OF SHIFT IN FREQUENCIES AT EACH FOLLOW-UP RELATIVE TO BASELINE FOR BROCHURE CONTROL AND VIDEO INTERVENTION GROUPS

| **Behavior** | **Baseline (%)** | | **1-month follow-up (shift from baseline)* % (*P*-value)** | | **6-month follow-up (shift from baseline)* % (*P*-value)** | |
|---|---|---|---|---|---|---|
| | **Control N = 132** | **Video N = 283** | **Control N = 78** | **Video N = 155** | **Control N = 86** | **Video N = 181** |
| *Oral hygiene* | | | | | | |
| Daily tooth-brushing | 68 | 74 | 84 (.002) | 87 (<.001) | 79 (.06) | 87 (<.001) |
| Bedtime tooth-brushing | 77 | 77 | 87 (.02) | 88 (<.001) | 93 (.005) | 86 (.005) |
| Use fluoridated toothpaste | 63 | 53 | 74 (.003) | 83 (<.001) | 77 (.006) | 81 (<.001) |
| Pea-sized amount of toothpaste used | 42 | 36 | † | † | 56 (.22) | 69 (<.001) |
| *Dietary habits* | | | | | | |
| Use sippy cup at night for nonwater beverages | 16 | 16 | † | † | 14 (1.00) | 13 (.07) |
| Use sippy cup at daytime to drink sugared beverages | 64 | 72 | † | † | 52 (.01) | 62 (<.001) |
| Child drinks sugared beverages between meals | 65 | 65 | † | † | 58 (.40) | 55 (.08) |
| Child drinks more than 6 ounces of 100% juice/day | 44 | 45 | 33 (>.07) | 34 (<.12) | 37 (.12) | 35 (.03) |
| Child eats more than 2 cariogenic snacks/day | 16 | 17 | 10 (>.10) | 7 (<.001) | 9 (.07) | 12 (.04) |
| “Lift the lip” to check for early signs of cavities | 52 | 55 | 77 (<.001) | 84 (<.001) | 72 (.002) | 89 (<.001) |
| *Bacterial transmission* | | | | | | |
| Sharing dining ware | 29 | 27 | 25 (1.00) | 17 (.005) | 19 (.05) | 13 (<.001) |

*Significance probabilities (*P*-values) associated with the McNemar's test for a significant shift in performance of the specified behavior relative to the baseline, for the designated intervention group. Exact tests were used as needed.

†Question not asked at the 1-month follow-up questionnaire. Information was not collected for all beverages at the 1-month follow-up.

## Table 3

OUNCES OF BEVERAGE INTAKE AT BASELINE AND AVAILABLE FOLLOW-UPS

| | Control | | | | Video | | | |
|---|---|---|---|---|---|---|---|---|
| | **Mean±(SD)** | **Median** | **$Q_1$,$Q_3$†** | ***P*-value* (vs baseline)** | **Mean±(SD)** | **Median** | **$Q_1$, $Q_3$** | ***P*-value* (vs baseline)** |
| *100% juice* | | | | | | | | |
| Baseline | 8.7±10.9 | 6.0 | 3.6, 11.4 | | 7.3±6.9 | 6.0 | 3.4, 9 | |
| 1-month | 8.7±13.6 | 5.7 | 2.9, 9.1 | .59 | 7.0±6.5 | 5.9 | 2.9, 8.0 | .71 |
| 6-month | 8.1±7.6 | 6.0 | 3, 10.3 | .80 | 6.6±6.3 | 5.7 | 3.4, 8 | >.05 |
| *Added sugar beverages excluding 100% juice‡* | | | | | | | | |
| Baseline | 5.2±13.1 | 1.1 | 0, 5.4 | | 4.0±8.1 | 0.9 | 0, 5.1 | |
| 6-month | 3.7±7.6 | 0.6 | 0, 4 | .85 | 3.5±7.7 | 0.9 | 0, 3.4 | .41 |
| *All sugared beverages §* | | | | | | | | |
| Baseline | 13.9 | 9.7 | 4.7, 14.9 | | 11.3±12.6 | 8.0 | 4.3, 13.7 | |
| 6-month | 11.8 | 8.0 | 4.3, 13.7 | .93 | 10.1±11.0 | 7.0 | 4, 12 | <.06 |

*Significance probability associated with the Wilcoxon signed rank test of the null hypothesis that the distribution of the particular measure at 6 months differs from that at the baseline.

†Information provided is (25th percentile, 75th percentile).

‡Includes beverages with added sugar (juice drinks, sugared powder drinks, soda pop, sports drinks, and other sugared beverages). Note that information was not collected for all beverages at the 1-month follow-up.

§Includes added sugar beverages and 100 percent juice. Note that information was not collected for all beverages at the 1-month follow-up.