

FIELD EXPERIENCE REPORT
CHANGING BEHAVIOR – SUGARY DRINKS

by

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Field Experience Report

Introduction

My public health field experience was completed at the Riley County Research and Extension office at 110 Courthouse Plaza in Manhattan, KS, during January to March 2015, total 180 hour.

The objective of K-State Research Extension is to help the community by providing evidence-based university knowledge in the most practical ways so that people can apply in real-life and benefit in many areas such as agriculture, economics, family life, youth development, community leadership and business.

Cooperative Extension was established in 1914. Various level of government and land-grant universities funded the county extension programs to extend technical expertise and research findings to help people improving their homes, families, farms, business and communities⁵⁴.

In Riley County, Kansas State University is the land-grant university that supports the research extension⁵⁴. The program is funded and guided by a partnership of federal, state and county government. The Riley County office is directed by a county Extension director, and there are four Extension agents, one receptionist and two assistants. The agents specialize in the disciplines of family and consumer sciences, 4-H, horticulture and agriculture⁵⁴.

I completed the internship under the supervision and guidance of Ms. Virginia (Ginny) Barnard, MPH, Family and Consumer Sciences Agent of the Riley County. Her specialization is in the areas of nutrition, food safety, health and indoor environments. Ginny has several program schedules and during my time the Head Start - Mothers (Parents) and Children Health and Nutrition Program was a new program possible to add into existing programs. That parents and

children health and nutrition program (Head Start) interested me and Ginny also found that program fitted my education, previous experiences and passions. Therefore, after consultations of myself, Ginny and Program Director of Head Start, I agreed to focus on this program as my internship program assignment.

Head Start/Early Head Start⁵⁵ is a free, federally funded early childhood program. The program serves families with low incomes in Riley County and the Manhattan-Ogden School District with education, health, nutrition, and social services. Head Start enrolls children ages 3-5 years and offers full-day and half-day preschool classes. Early Head Start is a home visitation program that enrolls pregnant mothers and children from birth to 3 years of age. Head Start promotes the belief that parents are their child's lifelong teacher, so it supports the involvement of parents, efforts to reach goals, changes and transitions in the family's life. Head Start provides a supportive learning environment for children, parents, staff, and the community. During my field experience, I was able to provide nutrition education for parents and children relating to some nutrition concerns that were widespread in the community but not frequently addressed.

Sugary drinks

More than 2 in 3 adults and 1 in 3 children in the United States are overweight or obese⁵⁶. This puts huge burden on the nation costing \$190 billion a year to treat obesity-related complications^{57,58}. Increased consumption of sugary drinks has been a key contributor to the obesity epidemic⁵⁷. Sugary beverage consumption was reported to decrease⁵⁹ recently, however the average American per capita consumption is still 150 calories⁵⁹ of sugar-sweetened beverages a day, which is amounting to the total 45 gallons per year⁶⁰. About 66% of children and 77% of adolescents⁶¹ consume at least one sugar-sweetened beverage every day. Approximately 10% of teen's caloric intake is from sugary drinks^{59, 62}. Most people usually think

about what they eat when they try to reduce the calorie intake and their bodyweight, however many of them do not realize how many calories beverages can contribute to their daily calorie intake⁶³. The children's drinking a lot of sugary beverages has been the prevailing issue leading to the important public health issues such as tooth decay (cavities) and obesity. National figures and findings on sugary beverage consumption issues also imply the local concerns as well. To prevent and to combat the overconsumption of sugary beverages and its negative health consequences, there are CDC recommended strategies⁶⁴ based on the evidence. I applied these recommended strategies in the community level nutrition education for behavior change communication such as "to ensure ready access to potable drinking water, to limit access to sugar-sweetened beverage (SSBs), to promote access to and consumption of more healthful alternatives to SSBs".

Oral health

Tooth decay is the most common health problem of chronic childhood disease⁶⁵. It is 5 times more common than asthma, 7 times more common than hay fever and 52 million school hours missed annually because of oral health problems⁶⁵. Globally, tooth decay is still a major problem, even in the developed countries, it affects 60-90% of schoolchildren and a majority of adults⁶⁵. Tooth decay affects more than one-fourth of U.S. children aged 2–5 years and half of those aged 12–15 years. About half of all children and two-thirds of adolescents aged 12–19 years from lower-income families have had decay⁶⁶. The data from CDC showed that in 2011-2012, 37% of 2-8 years old children in the USA had dental caries in primary teeth. Dental caries were highly prevalent in Hispanic (46%) and non-Hispanic black (44%) children compared with non-Hispanic white children (31%) aged 2–8⁶⁷. Dental caries prevalence in poor children are

twice of prevalence in their more affluent peers, and poor children's disease is more likely to be untreated⁶⁸ and these poor- non-poor differences continue into adolescence.

Therefore, to prevent early childhood caries, studies have shown that nutrition education and counseling needs to teach parents the importance of reducing their infant's or child's prolonged and frequent exposures to sugary drinks and foods⁶⁹ at the same time giving them the knowledge that plaque reacts with sugar to produce acid; and acid reacts with tooth to get decay. I applied these important study findings and recommendation for the nutrition education and behavior change communication process during my internship project.

Field experience scope of work

My field experience work started with a planning process. I had a series of meetings with Ginny to plan for my internship project. I was called for an interview meeting by Ginny before I was accepted as her intern in the K-State Research Extension office. After this interview meeting and initial discussion on the need areas of nutrition education in the local context, I had developed the learning objectives and internship program framework in consultation my major professor and got approval from MPH Program Director to start the field experience.

When I started my internship, Ginny explained me the scope of mothers (parents) and children nutrition education which we were going to implement through Head Start program and she gave me the responsibilities relating to communication, coordination with Head Start Program, drawing the nutrition education program design and contents of education. She also provided some reading materials and online resources to use in drawing the course. Ginny, Andy and I consulted and scheduled this nutrition program "mothers (parents) and children nutrition education program for Head Start" to start in February 2015. The Head Start office hosted the

nutrition education session in the parents' meeting room in the Head Start Program Office, 1700 Leavenworth St Manhattan, KS 66502.

This parents-and-children nutrition program was targeted to serve low income families in Riley County through the network of Head Start program in Manhattan. The families included both Hispanic and non-Hispanic whites. This nutrition program included: (a) nutrition education and behavior change communication on dealing with sugary drinks/ sugar sweetened beverages (SSBs) and sweet tooth and dental health; (b) on-site nutritious meal provision for the whole families; (c) provision of low cost and nutritious meal recipes; and (d) fun, hands-on science activities for kids. These sessions were planned in the evening when most of the parents were done with their work and could participate in the program. In this internship program, I was responsible as the focal person for this Head Start nutrition program. This project required teamwork, efficient communication, coordination and collaboration, which were keys to successfully implementing a public health nutrition program in the community. As some participants were Spanish-speaking families, this program had the Spanish translator translate the handouts I prepared in English after being proofread by Ginny. The program had the Spanish translator to translate during the nutrition education sessions. Head Start Office provided the Spanish translator. My main responsibilities were planning the nutrition education sessions, designing, preparing the education materials including visual aids, delivering the nutrition education/ behavior change communication sessions, reviewing the 1st session delivery by sitting together with the supervisor and incorporating the findings of 1st session in the following session.

This nutrition education program was behavior change communication oriented, which required me to interact with the participant families during the session. The nutrition session on “how to deal with sugary drinks” was delivered in February, and the session on “sweet tooth and

dental health” was organized in March 2015. The program delivery was intended for behavior change not by means of one time meeting and interaction with the targeted families. The scope of this nutrition program (during my internship period) was to introduce an initial step of specific nutritional behaviors changes for some participants and/or to affirm and encourage to move forward those who have had nutritional positive behavior changes to some extent.

Head Start program had plans to continue with nutrition education for these families. Therefore, this behavior change communication on “sugary drinks, sweet tooth and dental health” implemented during my internship time would link with follow ups in the future nutrition sessions with similar scopes, which are likely to be run by upcoming MPH student interns from Kansas State University or other health and nutrition interns by the coordination between Research Extension and Head Start Program offices.

Learning objectives

My field experience learning objectives were set up in consultation with Ginny prior to starting my field experience period. The objectives were developed in relation with public health nutrition education and project management. My first objective was to understand the role of a public health agency in the community. This objective was fulfilled throughout my field experience period by undertaking the whole project cycle management of mother and child nutrition project. Ginny was the well experienced mentor, she helped me understand how the community expected the public health agency and how a public health agency could outreach to the community and provide the services, how the public health agency could work with community based center increasing its coverage to the people who really needed health and nutrition education services.

Secondly, I wanted to learn how a public health nutrition project is managed. With the guidance of Ginny, I was able to tackle the whole project management cycle. Since the inception time, I was able to communicate and collaborate with Head Start Program and identify which area of health and nutrition education would be relevant for the targeted beneficiaries. Based on the reviews and initial consultations with Head Start program director, we could identify “Sweet Drinks”, “Sweet tooth” and “Oral Health” were relevant topics for the parents and children covered by Head Start program.

Another objective was to apply knowledge to implement parents and children health and nutrition project. I was able to apply the knowledge of nutrition education theories since the time of designing the contents and method of nutrition education sessions. As my field experience time was the beginning of a year (January), we considered time factor as one of the relevant factors to apply in designing the project. People might be interested in setting their own New Year resolution at the beginning of a year. And February had been “the children national dental health month.” So taking into account of all these seasonal factors, I was able to incorporate in designing the health education sessions for sweet drinks, oral and dental health topics using “Transtheoretical model (stages of change)”. Participants received the chance to draw their own action plan which was “preparation stage” in the stages of change model and it was like in line with sense of drawing new year resolution.

Finally I intended to understand barriers and motivation for the low income minority parents on provision of healthy food choices. Ginny helped me comprehend and prepare for probable challenges of nutrition education for the target group since the planning phase. Therefore I was able to prepare different plans (plan A, plan B) for possible situations such as I prepared how I would deliver if the participants were mainly Spanish speaking families, how I

would facilitate the session, if the participants were quiet, to be a participatory nutrition education session with behavior change oriented rather than one way communication. Trying to understand their motivations and limitations, I also planned what I would ask the participants and what might not. In this way, I was able to deliver the nutrition education sessions well as were planned. Therefore my learning objectives were met, I was able to facilitate the participants, understand their motivation and barriers, help them aware themselves and plan for further positive change actions to the extent as time allowed for my field experience.

Activities performed

Planning

Very first step, I had series of initiation meetings with my major professor and potential preceptor/mentor to plan for my internship/ field experience in the public health work. At this step, I was interviewed first by the preceptor whether to accept as her intern. Ginny and I went through the current nutrition programs which Research Extension Office was implementing and we explored the other nutrition related need areas prevailing in the community and which also fitted my education and passion. After reviewing, we found that nutrition issues on dealing with sugar drinks/ sugar sweetened beverages, sweet tooth and oral/dental health were less frequently addressed compared with other nutrition issues though these sugary drinks issues were in fact prevailing in the local community especially among the low income families. Moreover the preliminarily identified nutrition topics harmonized in timing with the national public health response on dental health because February was “*the Children’s National Dental Health Month*”.

In the literature and in the public health nutrition lecture (HN600, KSU), Head Start program was indicated as potential partner for dental health response. And based on the local context, we identified Head Start Program as most relevant community organization or program

to collaborate in delivering nutritional education on these topics because Head Start's program's scope of work and targets were in line with needs of our targeted beneficiaries. Then based on the information collected from Head Start Program, the nutrition education and behavior change communication program design and implementation plan was drawn. Detailed implementation plan (time, place, persons, communication channels) were set up.

Organizing

Based on the program design and implementation plan, I did a literature review and searched for resources to develop the nutrition education presentation and handouts, theory background for behavior change communication.

Transtheoretical model, Stages of change

The Transtheoretical Model (Prochaska & DiClemente, 1983; Prochaska, DiClemente, & Norcross, 1992) is an integrative, biopsychosocial model to conceptualize the process of intentional behavior change⁷⁰. This model is one of the most popular model currently in use by professionals worldwide.

Stages of Change is the essence of the transtheoretical model - people change behavior by moving through a series of stages⁷⁰. Stages of change is a temporal dimension, changes occur over time. Transtheoretical model's concept is change is a process that unfolds over time⁷⁰. Progress of change can either be linear or nonlinear meaning that sometimes people recycle through the stages or regress to earlier stages from later stages⁷⁰. The stages are (1) precontemplation (2) contemplation (3) preparation (4) action and (5) maintenance. The each stages of change are mentioned in table (6.1)⁷¹.

Table 0.1 Stages of change model⁷¹

<i>Stage</i>	<i>Definition</i>	<i>Potential Change Strategies</i>
Precontemplation	Has no intention of taking action within the next six months	Increase awareness of need for change; personalize information about risks and benefits
Contemplation	Intends to take action in the next six months	Motivate; encourage making specific plans
Preparation	Intends to take action within the next thirty days and has taken some behavioral steps in this direction	Assist with developing and implementing concrete action plans; help set gradual goals
Action	Has changed behavior for less than six months	Assist with feedback, problem solving, social support, and reinforcement
Maintenance	Has changed behavior for more than six months	Assist with coping, reminders, finding alternatives, avoiding slips/relapses (as applicable)

I prepared the invitation flyers for the two sessions (figure 6.4 and 6.8), searched for the recipes, searched relevant video clips for visual aids, drafted the handouts (figure 6.4) and power-point presentations (Children playing education presentation design and Fall fun education presentation design layouts of Microsoft PowerPoint 2013 were used), got approval from Ginny after her review and the handouts were translated to Spanish by the help of a Spanish Translator provided by Health Start, and identified the printed materials, pamphlets / booklets to be used. Some teaching aids (figure B.5, B.6) and promotional items such as tooth brushes for adults and kids were mobilized from a dental care program in Wamego, Kansas. By the nature of the program and targeted families, the education session needed to plan for 30 to 45 minutes sessions. I applied the learning points from the MPH classes in preparing the PowerPoint

presentation to tailor to the audience and limited time, visual aids were mainly used rather than texts. As the nutrition education session was oriented for behavior change communication, individual action plan checklist was also prepared for the participants (figure 6.5)

Delivering

“How to deal with sweet drinks?”

The nutrition education- behavior change communication program was 1 hour program. The program started at 5:30 pm and served the families with a nutritious meal cooked by Ginny. The number of participating families (7 families) was good size to have more interactive discussion which were as planned for behavior change communication style. After the families had a meal, John Joe (4H Agent) had the kids play games and build blocks while I continued with the parents for behavior change communication session. I also observed that kids were interested in watching video as some kids asked me whether I was showing video to them as they saw screen and LCD projector set-up in the meeting room. So I used this observation in designing second nutrition education session in order to include some more edutainment video clips for kids.

First, I used the “social line-up method” for rapport building and quick assessment of the participants’ current status relating to the perceptions and sugary beverages drinking practices and participants could learn each other during the discussion on their location on the lined. The social line results indicated that 67% of the participants (4/6) identified themselves that their daily consumption of sweetened beverages was a lot and 17% (1/6) thought very few consumption and 17% (1/6) thought moderate consumption. Two third (4/6) of the participants were not sure whether sugar sweetened beverages were good or bad for health, one third (2/6) thought sugary beverages were bad for health. Concerning with sugary drinks, 67% of 6

participants said they tried somehow to reduce consumption, 17% of them (1/6) said she tried not to drink sugar sweetened beverages at all and 17% of them (1/6) said she was seriously wanting to reduce sugar sweetened beverages (table 6.2).

Table 0.2 Rapid assessment results of participants' practice and view on sweet drinks

Line (1)	I'm having sweet drinks/ sugar sweetened beverages every day.	Not consume	Consume moderately	Consume a lot	Total
	Number (n)	1	1	4	6
	Percentage (%)	16.7%	16.7%	66.7%	100.0%
Line (2)	I think sweet drinks / SSBs are (bad/not sure/ good) for health.	Bad	Not sure	Good	Total
	Number (n)	2	4	0	6
	Percentage (%)	33.3%	66.7%	0.0%	100.0%
Line (3)	Concerning sweet drinks, I am going to / doing	To not drink at all	Try somehow to reduce	Not serious to reduce	Total
	Number (n)	1	4	1	6
	Percentage (%)	16.7%	66.7%	16.7%	100.0%

Following the lined-up exercise, the participants looked more relaxed, became more open and interactive throughout the remaining session. The rapport building and social lined-up helped for relationships, trust and supportive environment for learning for change.

Behavior change communication oriented

In every nutrition education sessions, I tried to increase the participants' awareness of the need of change, what were risks and what were the benefits of positive change. I had encouraged the participants to make specific action plans and setting goals meaningful for them. I helped the participants by answering their questions and concerns, appreciating some participants who had been taking some steps of actions etc.

I used the PowerPoint presentation in the way to enhance discussion points. This PowerPoint was designed to increase the participants' awareness of the need of change (targeting for those in precontemplation stage), to motivate and encourage them by showing some families as models who had been implementing the good behaviors for sweet drinks (targeting for those in contemplation stage) and to help them know what were recommended actions so that they could set up their own actions based on sound and effective recommended actions (targeting for those in preparation stage). During the discussion, overweight/ obesity, dental caries and malnutrition were identified as the key negative health outcomes of drinking a lot of sugar sweetened beverages. Then came up with some recommended actions for dealing with sugary drinks, preventing negative health outcomes such as to offer water to drink instead of sugary beverages, to keep a pitcher of cold water in the refrigerator at home, to limit sodas, to keep sugary drinks out of the house, to limit juice 4 to 6 ounce /day, to snack on fruits and vegetables and to model good habits for their child. I had the participants identify their status on "the 5 steps of behavior change model" locating where they were. The 5 steps of behavior change model was

described in terms of the actions relating to sweet drinks (not in the academic terminology) and was posted on the wall of the meeting room. The status of the participants are shown in table 6.3 and figure 6.1. One participant said he never think about needing to change with drinking sugar sweetened beverages. Then the participants were handed with one-sheet action plan to set their own action plan in dealing with sugary drinks. Provision of fruits and vegetables for snacks resulted as the most feasible strategy to deal with the sugar sweetened beverages issues among these participants and unsurprisingly many of them were not ready for limiting soda and juices. Their action plans results indicated most of the participants (100%, 6/6 participants) planned to “provide fruits and vegetables for snacks” and least participants (50%, 3/6) planned to “limit the soda, to keep sugary drinks out of the house” and “to limit juice to 4-6 ounces / day” (table 6.4).

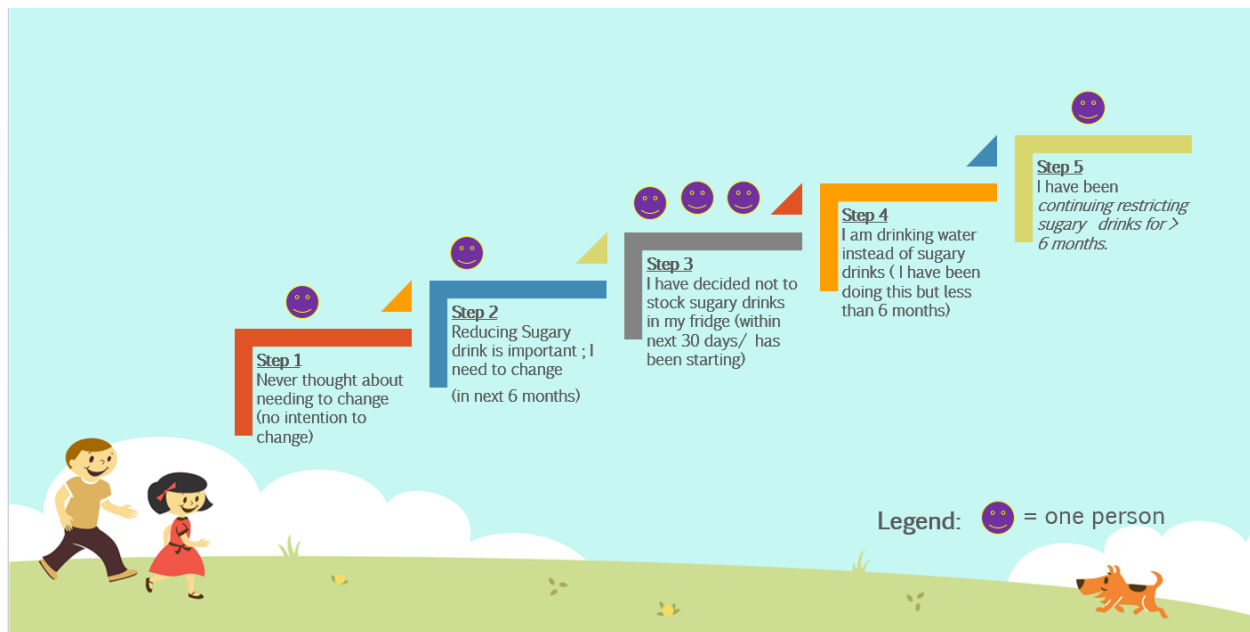


Figure 0.1 Stages of Change of the participants relating to the behavior of reducing sweet drinks and drinking water instead

Table 0.3 Stages of Change of the participants relating to the behavior of reducing sweet drinks and drinking water instead

Stages of change	Number (n)	Percentage (%)
Stage 1. Precontemplation (not ready)	1	16.7%
Stage 2. Contemplation (getting ready)	1	16.7%
Stage 3. Preparation (Ready)	3	50.0%
Stage 4. Action	0	0.0%
Stage 5. Maintenance	1	16.7%
Total	6	100.0%

One participant asked about “sport drinks” as he assumed sport drinks were good for health, he also asked about “whey protein shake”. One participant asked about “fruit juices” as she assumed they were healthy. I replied to the questions that almost all sport drinks were in the same category as sugar sweetened beverages so they should be treated the same, whey protein was different from sugary drinks category, protein supplements were used by bodybuilders and athletics to support muscle protein synthesis. Normally, no objection for optimal consumption of non-sweetened whey protein supplements providing that there were no contraindication for one’s medical condition.

I noticed that the participants were smiling when the concept of drinking water as a replacement of sugary drinks was discussed. Some participants admitted that they like sugar sweetened beverages and could not stop. In the “line-up” assessing amount of the participants’ daily consumption of sugary drinks, a lady stood even at the point beyond 100% scale of the end of the line and when I asked why, she explicitly told, with a smile, to the group that she knew she drank sugary drinks way too much. It was acknowledged and congratulated among the participants as one participant was found to be quite knowledgeable and she said she had reduced sugary drinks already for more than 6 months as she had heard about negative effects of over-drinking of SSBs. This session concluded showing the video making “Falafel “and giving the

recipes notes and receiving feedbacks. The video and falafel recipe (figure 6.6) were from YouTube: The Domestic Geek, Healthy Meal Prep, Week 2.

Table 0.4 Summary of the participants' individual action plan to deal with sweet drinks (linking to preparation stage of stages of change in transtheoretical model)

Participants	1	2	3	4	5	6	Total	% participants
Action plan								
1. I can offer my children water to drink	Y	Y	Y	Y	Y		5	83.3%
2. I will keep a pitcher of cold water in my refrigerator	Y	Y	Y	Y	Y		5	83.3%
3. I will limit sodas	Y	Y			Y		3	50.0%
4. I will keep sugary drinks out of the house	Y	Y	Y				3	50.0%
5. I will limit juice to 4-6 ounces / day			Y	Y	Y		3	50.0%
6. I will provide fruits and vegetables for snacks	Y	Y	Y	Y	Y	Y	6	100.0%
7. I will be the model of good habits for my children	Y	Y	Y	Y	Y		5	83.3%
Total	6	6	6	5	6	1		
% out of 7 actions	85.7%	85.7%	85.7%	71.4%	85.7%	14.3%		

“Sweet tooth & dental health”

This nutrition education – behavior change communication session was also an hour session held in the evening from 5:30 to 6:30 pm. Ginny cooked nutritious foods for the participants and I helped in serving the meals to the participants. Based on the review on first nutrition education session, I designed to include some more edutainment video clips for kids such as “Clean teeth are healthy teeth”, “How to brush your teeth properly” and “Crest dental defenders”. I searched for these video clips from YouTube and confirmed with the preceptor. These videos worked very well in educating the kids what caused dental cavities, what happened if the kids did not regularly tooth brush and how to properly tooth brush. I found the kids were very interested in the edutainment cartoons and learnt some important information included in them. I assessed whether the kids learn some relevant information by asking questions and the kids could answer correctly.

Moreover, using the “tooth game board and magnets”, I made a demonstration of sticky foods that harmed tooth. The kids liked this demonstration and they learned which kinds of foods were sticky for the teeth. The models of sticky foods/ sugar sweetened foods and drinks were made with magnet so they stuck on the tooth game board while the other models of fruits and vegetables were made without magnet so they did not stick on the tooth game board. This tooth game board attracted not only the kids but also parents, I could explain the concept that “Sugar + Bacteria = Acid” and “Acid + Plaque = Cavities” using these special magnets pieces. From this concept, my discussion with the parents was expanded to concepts that in fact any acids were bad for tooth even gastric acids from the stomach. Then John Joe (4H Agent) had the kids play science activity games in a separate room while I continued with the parents for nutrition education discussions. In this session, we discussed that too many sweets, too many empty

calories could cause malnutrition, obesity and dental cavities. Giving sweets to children easily ruined their appetite. The child would only eat sweet foods if the parents kept giving the sweet as they wanted their child to eat something. The worse thing was some parents thought giving long-lasting sweets such as suckers would keep the children calm longer so that it reduce the time the kids would disturb the parents by frequently for sweets. During the discussion, I highlighted that longer contact time of sweets with tooth was more harmful so if they were about to give sweets as special treats they should choose sweets with lesser contact time such as “chocolate” compared to sweets with longer contact time such as “suckers/ lollipops”. I had the parents realize what the unhealthy tooth could affect their kids such as decreased school performance, poor social relationships, distracted and unable to concentrate on schoolwork etc. The education offered some recommended actions: to keep sweets out of the house, not to eat a lot of sweets themselves (parents), to enjoy eating smaller servings of sweet foods, to offer nutritious snacks with a natural sweet taste, to limit sweet drinks such as soda and fruit drinks, to limit fruit juice to 6 ounces or less each day, to offer 3 meals and 2 to 3 snacks each day and to offer foods with a sweet taste at the end of the meal, as part of the meal. To prevent cavities, we discussed the CDC’s recommended actions to start cleaning teeth early, to use the right amount of fluoride toothpaste, to supervise the kids’ brushing and to talk to their child’s doctor or dentist. Then the parents answered the quiz followed by giving them with full answers. Summary scores of brush up quiz was tabulated (table 6.7). By the support from dental health care program in Wamego, I gave adult and kid tooth brushes to all participating families and also as a prize for highest scorer of the quiz. Same as the 1st session, the parents placed themselves on the 5 steps of behavior change model (table 6.5, figure 6.2) and drew personal action plans check list (table 6.6).

Table 0.5 Status of stages of change for limiting sweets and regular tooth brushing

Stages of change	number (n)	Percentage (%)
Stage 1. Precontemplation (not ready)	0	0.0%
Stage 2. Contemplation (getting ready)	0	0.0%
Stage 3. Preparation (Ready)	3	100.0%
Stage 4. Action	0	0.0%
Stage 5. Maintenance	0	0.0%
Total	3	100.0%

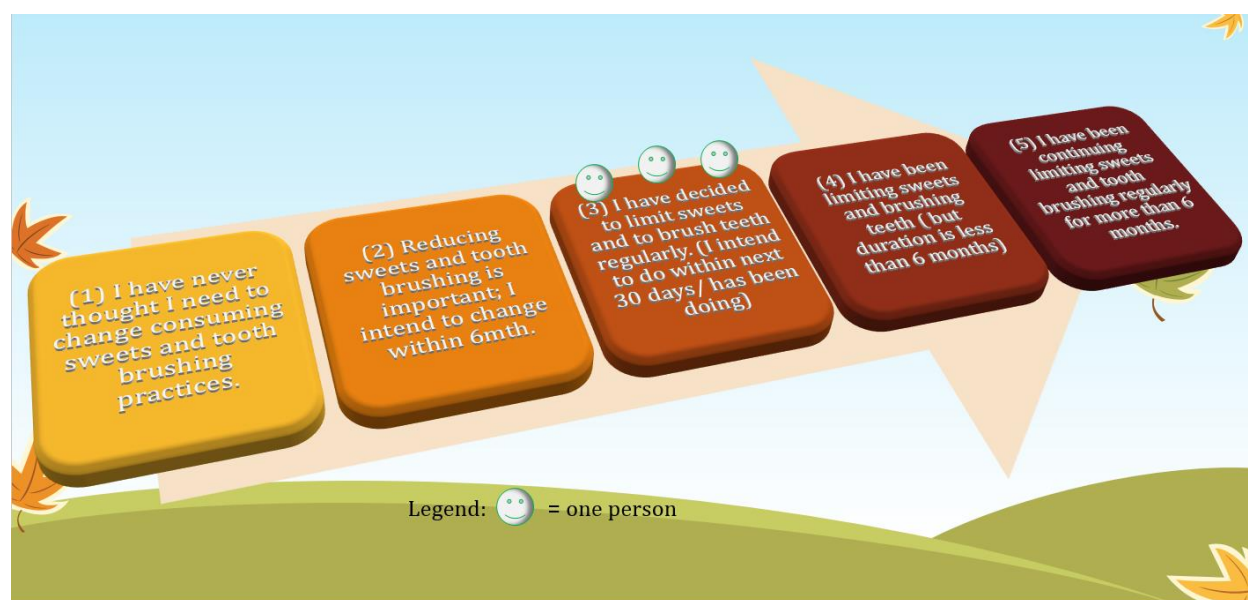


Figure 0.2 Status of stages of change for limiting sweets and regular tooth brushing

Table 0.6 Summary of the participants' individual action plan to deal with sweet tooth and dental cavities

Participants	1	2	3	4	Total	% of participants
Action plan						
1. I can keep sweets out of the house					0	0.0%
2. I won't eat a lot of sweets myself			Y	Y	2	50.0%
3. I will limit sweet drinks such as soda and fruit drinks			Y	Y	2	50.0%
4. I will limit juices to 6 ounce or less per day	Y		Y	Y	3	75.0%
5. I will offer nutritious snacks with a natural sweet taste	Y	Y	Y	Y	4	100.0%
6. I will be the model of good habits for my children		Y	Y	Y	3	75.0%
Total	2	2	5	5		
% out of 6 actions	33.3%	33.3%	83.3%	83.3%		

Table 0.7 Summary scores of brush up knowledge quiz

Participants	A	B	C	D	Total	% of participants
Quiz						
1. All children older than 6 months should receive a fluoride supplement every day.	1	1	1	1	4	100.0%
2. Parents should start cleaning their child's teeth as soon as the first tooth appears.	1	1	1	1	4	100.0%
3. Parents should start brushing their child's teeth with toothpaste that contains fluoride at age 3.	0	0	1	0	1	25.0%
4. Children younger than 6 years should use enough toothpaste with fluoride to cover the toothbrush.	1	1	1	1	4	100.0%
5. Parents should brush their child's teeth twice a day until the child can handle the toothbrush alone.	1	1	1	1	4	100.0%
6. Young children should always use fluoride mouth rinses after brushing.	1	1	1	1	4	100.0%
Total	5	5	6	5		
Participant's individual score (%)	83.3%	83.3%	100.0%	83.3%		

Monitoring

The mothers (parents) and children nutrition education Head Start program was monitored throughout my internship time and necessary adjustments, improvements were made based on the monitoring findings such as in the second session I included more edutainment for kids.



Figure 0.3 Edutainment for kids

Evaluation

When we designed this nutrition education session, we had plan B to divide the session in to two groups if many families came in. However, the number of families were just the good size to have enough time for interactive discussion and more behavior change communication oriented. The Head Start program director said: “We haven’t hosted activities, workshops, etc. on a very regular basis so we haven’t trained parents to expect wonderful programs. Sweet/sugary drinks are extremely common and people are resistant to cutting them out of their diet/routine or people already avoid them and didn’t connect with the content.” Ginny was my great mentor, she was always there throughout the nutrition education sessions to monitor and to help if necessary. I got her recognition and positive feedback on the performance and contents of education sessions.

I got the positive feedbacks from participants in both sessions. One participant specifically mentioned the second session was better than first session. One participant told to Ginny and me that there were only one education session in Head Start last year (2014) this year their family had received two education sessions in February and March 2015. So he expected to have monthly education session this year.

Use of evaluation for planning next cycle

Based on the evaluations and participating families’ feedback request, we, Ginny (K-State Research Extension Office) and Andy (Head Start Program, Manhattan and Ogden) and I discussed and plan to continue next rounds, to expand education sessions like these ones in the future and plan to integrate a brief follow up on their behavior change process as and when relevant.

Gardening and nutrition education activities

During my field experience, there were gardening and nutrition education activities for 4th graders in Northview elementary school. During the education sessions, we gave the varieties of seed sachets to the children, then discussed the characteristics of the seeds they got – what kind of seeds, where they were from originally, the time frame for growing and harvesting, the methods of growing, what kind of vitamins and minerals those fruits/vegetables have, how people usually eat these fruits/vegetables and how the children liked to eat the fruit/vegetables they got etc. The education session was led by Ginny and John mainly and two master gardeners also assisted. My responsibilities were to assist throughout the nutrition education activities, handing seeds and educational materials to the children, assisting the children in looking for the nutrient categories and answering children's questions during these exercises.

Products developed

During my field training, parents and children nutrition project was designed and developed. Invitation flyers, a low cost nutritious recipe handout, health and nutrition education handout and action plan sheet (part of the stages of change for transtheoretical model behavior change communication) were developed. Many other recipes which were already developed by Research Extension office were also given to the participants. Two health and nutrition education sessions were conducted which were integrated with onsite nutritious meal provision. This project report is also part of the field training products. The developed products were shown in the following figures (figure 6.4 to figure 6.19)

How to deal with sweet drinks?

Does your family drink a lot of sugary beverages? You are not alone. Soda, juice, and sports drinks are very common, so don't worry. Come learn some easy ways to deal with sugary drinks.



- Free meal for the whole family
- Fun, hands-on science activity for the kids
- And a chance to win door prizes!

Every family will receive low-cost, easy meal ideas.

Date: Thursday, February 19
Time: 5:30 pm to 6:30 pm
Location: Head Start
1700 Leavenworth St.
Manhattan, KS 66502

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Figure 0.4 Invitation flyers for nutrition education session on "How to deal with sugary drinks?"

Sweet Drinks

Today's children drink a lot of sugary drinks such as soda, fruit drinks and other sweet drinks. **This can be a problem!**



Small children are usually good at controlling how many calories they eat. They tend to eat when they are hungry, and stop eating when they are full. However, drinking sugary drinks is not the same as eating solid foods. Studies have shown that the calories in sugary drinks are not as satisfying as the calories in solid foods.

Small children may become overweight from drinking too many sweet drinks. Sometimes a child's overweight problem is not caused by what the child eats. It may be caused by what the child drinks.



Cavities



Small children may develop cavities from drinking sweet drinks. Bacteria use sugar to make cavities in children's teeth.

Poor nutrition

Children who drink lots of sweet drinks are probably not drinking enough milk. Their diets can be low in calcium. Serve skim or 1% milk at meals for children over the age of 2 years. There are a lot of calories in sugary drinks. A 12 ounce can of soda has 150 calories. An average preschool child needs only 1600 calories per day. An extra can of soda every day can add up to 1050 calories in a week. At that rate, a preschool child could gain an extra pound each month or 12 extra pounds in a year above their normal growth.



Help your child develop healthy eating habits which will last a lifetime.

Limit sugary drinks!

- **Offer water to drink.** Small children can be thirsty. Drinking water is healthy habit your child can learn early in life.
- **Keep a pitcher of cold water in your refrigerator.** Your child will want a drink of the 'special water'. A cold glass of water is refreshing.
- **Limit sodas.** Don't drink soda every day.
- **Keep sugary drinks out of the house.** If there are sugary drinks in the house, your child will want to drink them.
- **Limit juice.** Too much juice can also be a problem. Limit juice to 4 to 6 ounces each day.



This sheet provides general nutrition information; medical advice should be obtained from your health care provider. Contents references: Nutrition Matters, Inc., Riley County Extension, www.riley.ksu.edu, Weekly meal preparation for healthy eating; Pictures sources: personalexcellence.co, www.usignolnews.com, www.tarazifoods.com, whatscookingmom.in, www.vegiebelly.com, brooklynbrewshop.com, www.girlsgonesparty.com, www.zastavki.com, www.desktopedia.com, www.boston.com, lexicondaily.blogspot.com, pixshark.com, kingdm.com

Figure 0.5 Handout for dealing with sweet drinks

- **Snack on fruits and vegetables.** Fruits and vegetables are naturally high in water and will help satisfy your child's thirst. Enjoy apples, melon, kiwi, tangerines, carrots and oranges!
- **Model good habits for your child.** Your child will learn to drink what he sees you drinking. Drink water and limit soda to rare occasions.

Eating Smart

Falafel

1 can chickpeas, rinsed and drained
 1 small red onion, minced
 3 cloves garlic, minced
 ¼ cup fresh parsley, chopped
 ¼ cup fresh cilantro, chopped
 1 tsp cumin
 ½ tsp coriander
 ½ tsp salt
 3 tbsp olive oil

Preheat oven to 400°F.

In a food processor, combine chickpeas, red onion, garlic, parsley, cilantro, cumin, coriander, salt and 2 tbsp olive oil.

Pulse until mixture resembles fine crumbs.

Roll mixture into 12-15 balls and place on a parchment lined baking sheet.

Brush each ball with olive oil.

Bake for 40 minutes, turning once half way through cooking.

Serve immediately with tahini or garlic sauce.

Refrigerate for 4-5 days or freeze for up to six months.

Enjoy!

Tomato Cucumber Salad

2 tomatoes, diced
 1 cup cucumber, diced
 ½ red onion, minced
 ¼ cup fresh parsley, finely chopped
 ½ lemon, juiced
 1 tbsp olive oil
 Salt and pepper



In a large mixing bowl, combine all of the ingredients. Stir to coat. Store in the refrigerator for up to 5 days. Enjoy!



This sheet provides general nutrition information; medical advice should be obtained from your health care provider. Contents references: Nutrition Matters, Inc., Riley County Extension, www.riley.ksu.edu, Weekly meal preparation for healthy eating: Pictures sources: personalexcellence.co, www.usignolone.com, www.tarasfoods.com, whatscookingmom.in, www.vegiebelly.com, brooklynbrewshop.com, www.girlsgonesparty.com, www.zastavki.com, www.desktopedia.com, www.boston.com, lexicondaily.blogspot.com, pixshark.com, king4m.com

Figure 0.6 Handouts for nutritious recipes (Falafel)



30 | P a g e

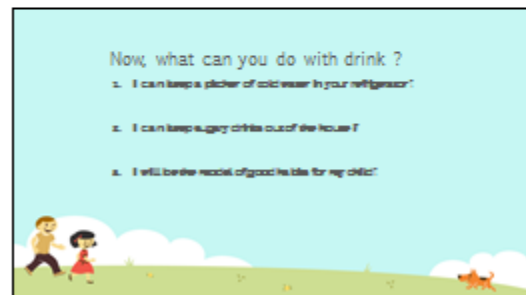
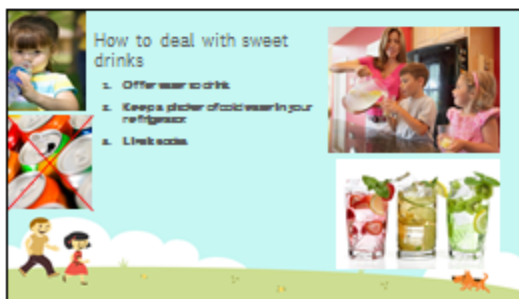
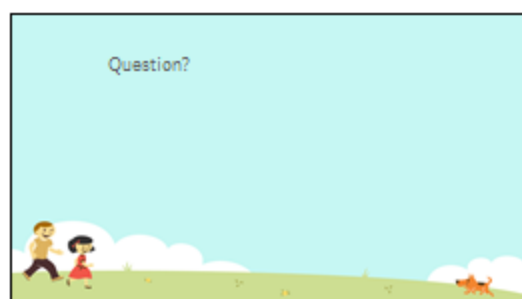


Figure 0.8 PowerPoint Presentation for "dealing with sweet drinks" continued 1



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Please check on the number that you can do from now on:

1. I can offer my children water to drink.



2. I will keep a pitcher of cold water in my refrigerator.



3. I will limit sodas.



4. I will keep sugary drinks out of the house.



5. I will limit juice 4 to 6 ounce /day.



6. I will provide snack on fruits and vegetables.

7. I will be the model of good habits for my children.



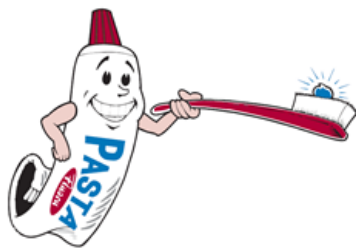
Figure 0.10 Action plan for dealing with sweet drinks

How to deal with the sweet tooth?

Does your family consume a lot of sweet foods and drinks? Cookies, candy, cake, pie and soda are common. You are not alone. Come learn some easy ways to deal with the sweet tooth.



- Free meal for the whole family
- Fun, hands-on activity for the kids
- And a chance to win door prizes!



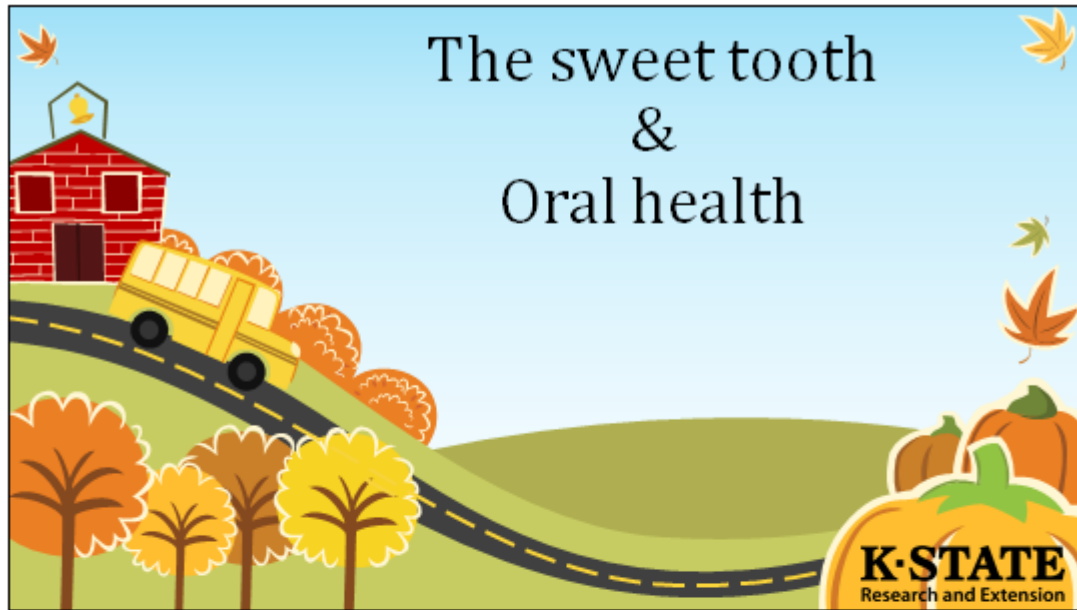
Every family will receive low-cost, easy meal ideas.

Date: Tuesday, March 10
Time: 5:30 pm to 6:30 pm
Location: Head Start
1700 Leavenworth St.
Manhattan, KS 66502

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Figure 0.11 Invitation flyers for nutrition education session on "How to deal with sweet tooth?"



Oral health video for kids

- 1 (Clean Teeth Are Healthy Teeth - Value based Story ; 4.45 min)
• https://www.youtube.com/watch?v=P7oFmloL4IM&list=PLNFnn94PACGB92V7hnipb00_1VCQ2HfMs&index=3
- 2 (How to Brush Your Teeth Properly - For Kids ; 3.29 min)
• https://www.youtube.com/watch?v=hDZXSMU2lAk&list=PLNFnn94PACGB92V7hnipb00_1VCQ2HfMs
- 3 (Crest Dental Defenders Video ; 7.23 min)
• <https://www.youtube.com/watch?v=0NOwvxvEmjU>

Figure 0.12 PowerPoint Presentation for "sweet tooth and oral health"

Intro discussion points:

- What is your favorite taste? (salty, sweet, sour, bitter)
- How much do you consume those foods/drinks per day? (a little/ moderate/ a lot)
- Have you ever heard/ experienced any health issues relating to having too much sweets? What are they?
- Any willingness to change the habit of consuming too much sweets?

Children are born with a sweet tooth.




The slide features three photographs of children enjoying sweets. On the left, a baby is shown holding a large, colorful, spiral-shaped lollipop. In the center, a young girl with blonde pigtails is eating a piece of chocolate. On the right, a boy is looking at a tray of cookies with an excited expression.

Figure 0.13 PowerPoint Presentation for "sweet tooth and oral health" continued 1

We should enjoy a variety of foods.

- However, some children can eat too many sweets – too many empty calories.
- Too much sugar can cause problems for small children such as:
- Tooth decay



Too much sugar can cause problems for small children such as:

- Obesity




Figure 0.14 PowerPoint Presentation for "sweet tooth and oral health" continued 2

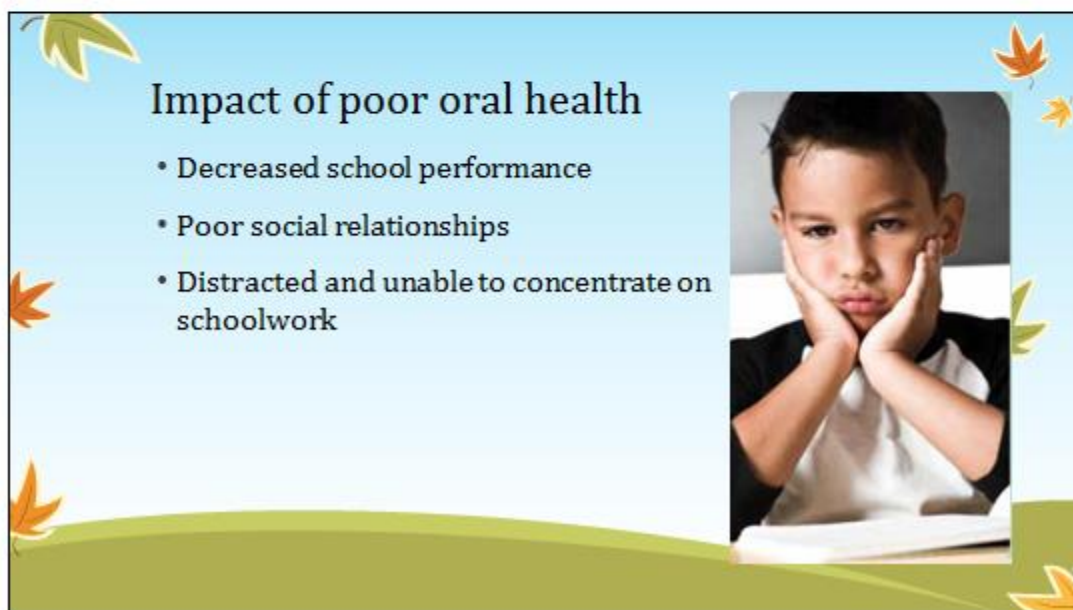
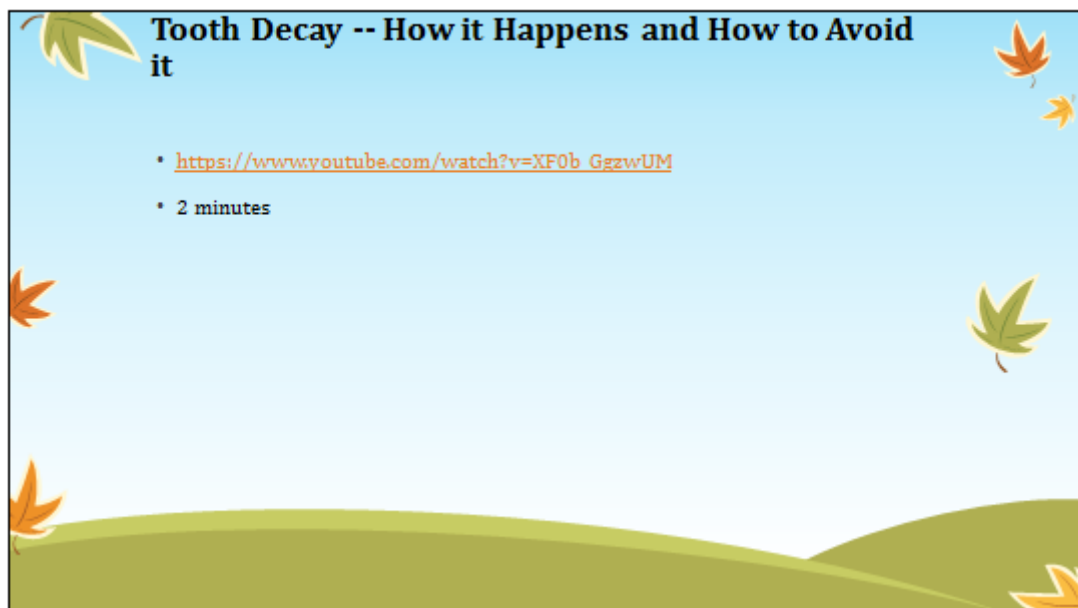


Figure 0.15 PowerPoint Presentation for "sweet tooth and oral health" continued 3



What should we do?

1. Keep sweets **out of** the house.
2. Don't eat **a lot of** sweets yourself.
3. Enjoy eating **smaller** servings of sweet foods.
4. Offer nutritious snacks with a **natural** sweet taste.
5. **Limit** sweet drinks such as soda and fruit drinks.
6. **Limit** fruit juice to 6 ounces or less each day.
7. Offer **3** meals and 2 to 3 snacks each day.
8. Offer **foods** with a sweet taste at the end of the meal, as part of the meal.



Tooth Decay -- How it Happens and How to Avoid it

- https://www.youtube.com/watch?v=XF0b_GgzwUM
- 2 minutes

Figure 0.16 PowerPoint Presentation for "sweet tooth and oral health" continued 4

Brush up on healthy teeth

1. Start cleaning teeth early.
2. Use the right amount of fluoride toothpaste.
3. Supervise brushing.
4. Talk to your child's doctor or dentist.



A cartoon character of a toothpaste tube with a face, arms, and legs. It is wearing a red cap and is brushing a large white tooth with a red toothbrush. The tube has the word 'PASTA' written on it in blue letters. The background of the slide is light blue with green hills at the bottom and several orange and yellow leaves scattered around.

Question?

A slide with a light blue background, green hills at the bottom, and several orange and yellow leaves scattered around. The word 'Question?' is written in the upper left area.

Figure 0.17 PowerPoint Presentation for "sweet tooth and oral health" continued 5



Figure 0.18 PowerPoint Presentation for "sweet tooth and oral health" continued 6

Please check on the number that you can do from now on:

1. I can keep sweets out of the house.
2. I won't eat a lot of sweets myself.
3. I will limit sweet drinks such as soda and fruit drinks.
4. I will limit juice 6 ounce /day or less each day.
5. I will offer nutritious snacks with a natural sweet taste.
6. I will be the model of good habits for my children.



Figure 0.19 Action plan for sweet tooth and oral health

Alignment with public health core competencies

My thesis research and field experience required me to apply all of the core competencies of a master's of public health. Biostatistics is the first core competency. I learned a great deal of knowledge and achieved good experience in biostatistics especially throughout my thesis research of systematic review and meta-analysis. I assessed many studies and identified the relevant studies, extracted data, decided the suitable statistical methods in pooling the extracted data (selecting either fixed effect model or random effect model), computed standard deviations from the studies which only gave standard error values, analyzed for overall effect size, standardized mean differences and heterogeneity etc.

The second core competency is environmental health / toxicology. I was able to meet this core competency, I needed this knowledge during my field experience because when I talked about dental health during the mother (parents) and children - Head Start- nutrition education program, fluoride was the one of the important key players to talk about. Water fluoridation in the public water supply and no fluoride in the bottled water were important factors included in deciding the need of fluoride supplementation for the kids. Long-term ingestion of fluoridated toothpaste in young kids if the parents did not supervise could cause dental fluorosis (white spots in the tooth). Moreover ingestion of fluoride could cause gastrointestinal discomfort at doses, which were much lower than lethal doses. Therefore, during the health education I had highlighted the parents to supervise the young kids' tooth brushing and to use the right amount of fluoridated toothpaste (i.e. pea size for small kids).

The third core competency is "Epidemiology". I got the chance to understand and apply this core competency in my thesis research and also for my field experiences. Epidemiology was

required to apply in my thesis research since the very beginning. I needed to apply this core competency throughout my research in many steps, to research the geographical distribution of diabetes mellitus, prevalence trends, to review the different type of research papers, to apply in search strategy for many electronic databases, to assess of the types of studies, to identify and select randomized controlled trials, to appraise the study design preliminarily selected articles, to analyze and generate pooled effect and to apply the understanding of “internal validity” and “external validity” in case of the judgment call.

The fourth core competency is the health care administration. This core competency is very relevant for public health practice and I was able to apply the learning from the coursework to meet this core competency. Medical care should not be the stand-alone program. Medical care needs to be strongly linked with public health care system for the best health outcomes.

Otherwise, it would be just “sick care” rather than “health care”. My field experience gave me the chance to practice “learning by doing” through the community public health interventions, to better understand how public health system is linking with medical care to prevent the disease primarily and to improve the health outcomes, for instance during my internship time I focused on the community public health nutrition intervention - Head Start nutrition program and the targeted beneficiaries of this program were families with low income whose health and nutritional illness were usually remain untreated due to lack of health insurance. So, primary prevention by public health nutrition education and behavior change communication is critically important.

The final core competency is social and behavioral sciences. I was able to meet this competency in both my thesis research and field experiences. My thesis question “Is lifestyle modification effective for glycemic control in type 2 adults in Southeast Asia?” based on the

understanding the differences of Southeast Asia in geographical, epidemiological and social and behavioral factors from the Western population. Southeast Asia is composed of developing countries, and in terms of eating behavior, their main staple food for carbohydrate is rice (white rice) while the carbohydrate for the western population come from potatoes, wheat etc. These differences need to be considered to generalize the findings of Western literature for the Southeast Asia. So, I was able to link and apply the socio behavioral concepts/ competency throughout my thesis research. Moreover, in my field experience program, the targeted families in the Head Start program are low income families with certain social and behavioral factors who usually do not have health insurance. So the dental problems, overweight issues were mostly untreated though the prevalence rate is higher in such populations. Therefore, the nutrition education targeted to these families by understanding their social and behavioral factors was of great help to design and address the health education for the better intervention.

Therefore, I was able to apply the learning from the coursework and meet all of the core competencies throughout my thesis research and field experience.

Conclusion

This MPH field experience gave me fruitful experiences of how a public health program works in the community and the whole project cycle management experiences- planning, organizing, developing, implementing, monitoring and evaluation. My internship in K-State Research Extension Office gave me the great opportunities to apply the theoretical backgrounds, literatures learned from the university in the real-life public health programming and implementation process, the exposure to directly deal with community who needs us. My thesis research also helped me to link with public health practice during field experience training.

Learning from my thesis relating to the facts that epidemiological differences, biomedical, genetics, social and behavioral factors, tradition and cultural differences may be important modifying factors for the health and nutrition situation of the population enabled me to appropriately program the health and nutrition project for targeted community during my field experience training. Theoretical backgrounds are also important to perform a better public health work. I learned Leonardo da Vinci's quote "He who loves practice without theory is like the sailor who boards ship without a rudder and compass and never knows where he may cast." Therefore, the education I learned from public health program at Kansas State University and these experiences I gained through K-State Research Extension are the perfect combination that enables me to continue my career as a better public health professional both in academia, research works, and public health program administration. I would not be able to learn this much without the guidance and supports from the mentor/preceptor, major professor, faculty of the Kansas State University, Head Start program team, the participants and my friends. I am deeply thankful to everyone who have supported me in different ways to achieve a successful learning in the public health nutrition.

Bibliography

54. K-State Research and Extension. Riley County. K-State Research and Extension Web site. <http://www.riley.ksu.edu/p.aspx?tabid=192>. Accessed April 3, 2015.
55. Head Start and Early Head Start. Manhattan Ogden unified school district 383 Web site. <http://www.usd383.org/manhattan-ogden/usd-383-schools/early-learning-programs/head-start>. Accessed March 29, 2015.
56. National Institutes of Health, NIH. Overweight and obesity statistics. National Institute of Diabetes and Digestive and Kidney Diseases Web site. <http://www.niddk.nih.gov/health-information/health-statistics/Pages/overweight-obesity-statistics.aspx>. Updated 2012. Accessed April, 2015.
57. Harvard , School of Public Health. Sugary drinks and obesity fact sheet. The Nutrition Source Web site. <http://www.hsph.harvard.edu/nutritionsource/sugary-drinks-fact-sheet/>. Accessed March 28, 2015.
58. Cawley J, Meyerhoefer C. The medical care costs of obesity: An instrumental variables approach. *J Health Econ*. 2012; 31(1):219-230.
59. Kit B, Fakhouri THI, Park S, Nielsen S, Ogden C. Trends in sugar-sweetened beverage consumption among youth and adults in the United States: 1999-2010. *Am J Clin Nutr*. 2013; 98(1):180-8.
60. Andreyeva T, Chaloupka FJ, Brownell KD. Estimating the potential of taxes on sugar-sweetened beverages to reduce consumption and generate revenue. *Prev Med*. 2011; 52(6):413-416.
61. Han E, Powell LM. Consumption patterns of sugar-sweetened beverages in the United States. *J Acad Nutr Diet*. 2013; 113(1):43-53.
62. The health consequences of drinking soda and other sugar-sweetened beverages. KichtheCan Web site. http://www.kickthecan.info/files/documents/Health%20Consequences_7.26.13.pdf. Updated 1st July 2013. Accessed March 29, 2015.
63. Centers for Disease Control and Prevention,CDC. Rethink your drink. http://www.cdc.gov/nccdphp/dnpa/nutrition/pdf/rethink_your_drink.pdf2015.
64. Centers for Disease Control and Prevention,CDC. The CDC guide to strategies for reducing the consumption of sugar-sweetened beverages. http://www.cdph.ca.gov/SiteCollectionDocuments/StratstoReduce_Sugar_Sweetened_Be_vs.pdf. Updated 2010. Accessed March 29, 2015.

65. National Children's Oral Health Foundation, NCOHF. Tooth decay facts. Facts about tooth decay Web site. <http://www.ncohf.org/resources/tooth-decay-facts>. Accessed March 28, 2015.
66. Centers for Disease Control and Prevention, CDC. Preventing cavities, gum disease, tooth loss, and oral cancers. Oral Health Web site. <http://www.cdc.gov/chronicdisease/resources/publications/aag/doh.htm>. Updated 2011. Accessed March 28, 2015.
67. Dye B, Thornton-Evans G, Li X, Iafolla T. Dental caries and sealant prevalence in children and adolescents in the United States, 2011–2012. NCHS Data Brief Web site. <http://www.cdc.gov/nchs/data/databriefs/db191.htm>. Published 5th March 2015. Updated 5th March 2015. Accessed March 29, 2015.
68. US Department of Health and Human Services, DHSS. *Oral health in America: A report of the Surgeon General executive summary*. NIH, National Institute of Dental and Craniofacial Research Web site. <http://nidcr.nih.gov/DataStatistics/SurgeonGeneral/Report/ExecutiveSummary.htm>. Updated 7th March 2014. Accessed March 29, 2015.
69. Tinanoff N, Palmer CA. Dietary determinants of dental caries and dietary recommendations for preschool children. *J Public Health Dent*. 2000;60(3):197-206; discussion 207.
70. The Transtheoretical Model. prochange Web site. <http://www.prochange.com/transtheoretical-model-of-behavior-change>. Accessed March 31, 2015.
71. U.S. Department of Health and Human Services, National Institutes of Health, National Cancer Institute. *Theory at a glance – A guide for health promotion practice (Second edition)*. Second Edition ed. <http://www.sneb.org/2014/Theory%20at%20a%20Glance.pdf>; 2005:52. <http://www.sneb.org/2014/Theory%20at%20a%20Glance.pdf>. Accessed 31 March 2015.

Brush Up on Healthy Teeth

Simple Steps for Kids' Smiles



1 Start cleaning teeth early.

- As soon as the first tooth appears, begin cleaning by wiping with a clean, damp cloth every day.
- When more teeth come in, switch to a small, soft toothbrush.
- Begin using toothpaste with fluoride when your child is 2 years old.
- Use toothpaste with fluoride before age 2 if your child's doctor or dentist recommends it.

2 Use the right amount of fluoride toothpaste.

- Use only a small amount of toothpaste (about the size of a pea). Fluoride is important for fighting cavities. But if children younger than 6 years old swallow too much fluoride, their permanent teeth may have white spots.
- Teach your child to spit out the toothpaste and to rinse well after brushing.

3 Supervise brushing.

- Brush your child's teeth twice a day until your child has the skill to handle the toothbrush alone.
- Continue to closely watch brushing to make sure the child is doing a good job and using only a small amount of toothpaste.

4 Talk to your child's doctor or dentist.

- Ask the doctor or dentist about your child's specific fluoride needs. Children older than 6 months may need extra fluoride if the drinking water does not have enough. Children younger than 6 years old should not use a fluoride mouth rinse unless recommended by a doctor or dentist.
- After age 2, most children get the right amount of fluoride to help prevent cavities if they drink water that contains fluoride and brush their teeth with a pea-sized amount of fluoride toothpaste twice a day.

Early care for your children's teeth will protect their smile and their health.



Appendix A - Materials used for nutrition education

Figure A.1 Material used in nutrition education (Brush up on healthy teeth, Source CDC)

Brush Up on Healthy Teeth

Simple Steps for Kids' Smiles



- 1. Start cleaning teeth early.***
As soon as the first tooth appears, begin cleaning by wiping with a clean, damp cloth every day. When more teeth come in, switch to a small, soft toothbrush. Begin using toothpaste with fluoride when the child is 2 years old. Use toothpaste with fluoride earlier if your child's doctor or dentist recommends it.
- 2. Use the right amount of fluoride toothpaste.***
Fluoride is important for fighting cavities. But if children younger than 6 years old swallow too much fluoride, their permanent teeth may have white spots. To keep this from happening, use only a small amount of toothpaste (about the size of a pea). Teach your child to spit out the toothpaste and to rinse well after brushing.
- 3. Supervise brushing.***
Brush your child's teeth twice a day until your child has the skill to handle the toothbrush alone. Then continue to closely watch brushing to make sure the child is doing a thorough job and using only a small amount of toothpaste.
- 4. Talk to your child's doctor or dentist.***
Check with the doctor or dentist about your child's specific fluoride needs. After age 2, most children get the right amount of fluoride to help prevent cavities if they drink water that contains fluoride and brush their teeth with a pea-sized amount of fluoride toothpaste twice a day.

Parents of children older than 6 months should ask about the need for a fluoride supplement if drinking water does not have enough fluoride.

Do not let a child younger than 6 years old use a fluoride mouth rinse unless the child's doctor or dentist recommends it.

Early care for your children's teeth will protect their smile and their health.



Figure A.2 Material used in nutrition education (CDC)

Refresque Sus Conocimientos sobre Dientes Sanos

Pasos Sencillos para Sonrisas Infantiles



1. Empiece a limpiar los dientes desde muy temprano.

Tan pronto como aparezca el primer diente, empiece a limpiarlo con un trapo limpio y húmedo todos los días. Cuando salgan más dientes, utilice un cepillo de dientes pequeño de cerdas suaves. Inicie el uso de pasta de dientes con fluoruro cuando el niño cumpla los dos años de edad. Utilice pasta de dientes con fluoruro antes si el médico o dentista del niño lo recomienda.

2. Utilice la cantidad correcta de pasta de dientes con fluoruro.

El fluoruro es importante para prevenir las caries. Sin embargo, si un niño menor de seis años traga demasiado fluoruro sus dientes permanentes podrían desarrollar manchas blancas. Para evitar esto, utilice una cantidad pequeña de pasta de dientes (aproximadamente el tamaño de un pequeño grano de maíz). Enseñe a su hijo a escupir la pasta de dientes y a enjuagarse bien después de cepillarse.

3. Supervise el cepillado.

Cepille los dientes de su hijo dos veces al día hasta que él aprenda a utilizar el cepillo de dientes sin ayuda. Luego continúe supervisando al niño cuidadosamente hasta que esté seguro que se cepilla correctamente y que utiliza una cantidad pequeña de pasta de dientes.

4. Hable con el doctor o dentista de su hijo.

Converse con el doctor o dentista acerca de las necesidades de fluoruro de su hijo. Después de cumplir los dos años, la mayoría de los niños ingieren la cantidad necesaria de fluoruro para prevenir las caries si beben agua que contenga esta sustancia y se cepillan los dientes dos veces al día con una pequeña cantidad (del tamaño de un pequeño grano de maíz) de pasta de dientes con fluoruro.

Los padres de niños mayores de seis meses deben preguntar si es necesario administrar un suplemento de fluoruro en caso de que el agua potable no contenga cantidad suficiente.

No deje que un niño menor de seis años utilice enjuague bucal con fluoruro a menos que el doctor o dentista del niño lo haya recomendado.

Si empieza a cuidar desde muy temprano los dientes de su hijo protegerá su sonrisa y su salud.



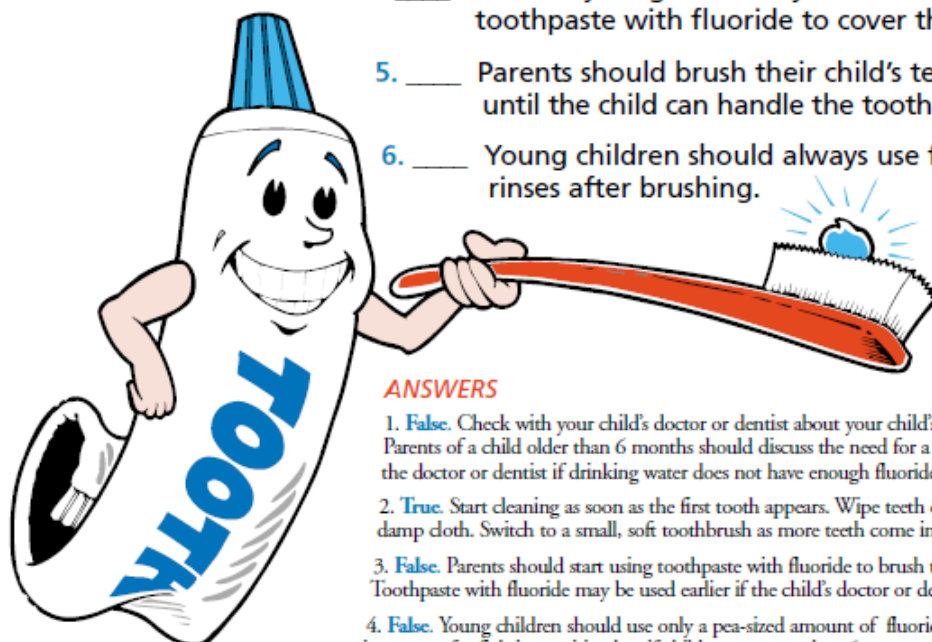
Figure A.3 Material used in nutrition education (Brush up on healthy teeth, Spanish version, Source CDC)

Brush Up on Healthy Teeth

A Quiz for Parents About Simple Steps for Kids' Smiles

Learn more about keeping your child's teeth healthy with this true or false quiz.

1. ____ All children older than 6 months should receive a fluoride supplement every day.
2. ____ Parents should start cleaning their child's teeth as soon as the first tooth appears.
3. ____ Parents should start brushing their child's teeth with toothpaste that contains fluoride at age 3.
4. ____ Children younger than 6 years should use enough toothpaste with fluoride to cover the toothbrush.
5. ____ Parents should brush their child's teeth twice a day until the child can handle the toothbrush alone.
6. ____ Young children should always use fluoride mouth rinses after brushing.



ANSWERS

1. **False.** Check with your child's doctor or dentist about your child's specific fluoride needs. Parents of a child older than 6 months should discuss the need for a fluoride supplement with the doctor or dentist if drinking water does not have enough fluoride to help prevent cavities.
2. **True.** Start cleaning as soon as the first tooth appears. Wipe teeth every day with a clean, damp cloth. Switch to a small, soft toothbrush as more teeth come in.
3. **False.** Parents should start using toothpaste with fluoride to brush their child's teeth at age 2. Toothpaste with fluoride may be used earlier if the child's doctor or dentist recommends it.
4. **False.** Young children should use only a pea-sized amount of fluoride toothpaste. Fluoride is important for fighting cavities, but if children younger than 6 years swallow too much fluoride, their permanent teeth may have white spots. Using no more than a pea-sized amount of toothpaste with fluoride can help keep this from happening.
5. **True.** Children usually do not have the skill to brush their teeth well until around age 4 or 5. Parents should brush their young child's teeth thoroughly twice a day until the child can handle the toothbrush alone.
6. **False.** Fluoride mouth rinses have a high concentration of fluoride. Children younger than 6 years should not use fluoride mouth rinses unless the child's doctor or dentist recommends it. Young children tend to swallow rather than spit, and swallowing too much fluoride before age 6 may cause the permanent teeth to have white spots.



Figure A.4 Material used in nutrition education (A quiz for parents, Source CDC)

HEALTHY SNACKS LIMIT ACID ATTACKS

FAST FACTS

Germs + Carbohydrates = Acid + Tooth = Cavity

- Foods mix with germs to make acid
- Acid attacks teeth for 20 minutes

Acid levels in the mouth throughout the day

3 meals a day and healthy snacks reduce acid attacks

Breakfast Snack Lunch Snack Dinner Snack

Lots of snacking and sweet drinks in sippy cups increase acid attacks

REACH
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DELTA DENTAL
Delta Dental of Kansas Foundation

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TASTY TREATS FOR TEETH

FAST FACTS

Cavity Free Try This:

- Grapes or other fresh fruit
- String cheese or other cheeses, whole grains
- Carrots, celery or other fresh vegetables

Tooth Decay Not This:

- Dried fruit snack or other sticky sweets
- Cracker, chips or other starchy foods
- Cookies, cupcakes or other baked goods

Sweet Treats for Special Occasions:
Choose something that leaves the mouth quickly.
Example: Bite size chocolate that melts away instead of a sucker that coats teeth in sugar over a longer time.

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Figure A.5 Material used in nutrition education (Healthy snacks limit acid attacks, Source REACH and Kansas Cavity Free Kids)

■ BOTANAS TODO EL DÍA — RESULTA EN DECAIMIENTO DENTAL ■

BOTANAS SALUDABLES LIMITAN LOS ATAQUES DE ACIDO

HECHOS RÁPIDOS

Gérmenes + Carbohidratos + Acido = Diente = Caries

- Comidas revueltas con gérmenes resultan en acido
- El Acido ataca los dientes por 20 minutos

Los Niveles de Acido en la boca durante todo el día

3 comidas al día y 3 botanas saludables reducen los ataques de acido

Desayuno Almuerzo Comida

Botana Botana Botana

Comer muchas botanas y bebidas dulces en vasos con popote aumentan los ataques de acido

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■ BEBER TODO EL DÍA — RESULTA EN DECAIMIENTO DENTAL ■

■ HAGA BUENAS DECISIONES CON SUS BOTANAS ■

BOTANITAS AGRADABLES PARA LOS DIENTES

HECHOS RÁPIDOS

Libre de Caries
Intente Esto:

- Uvas u otras frutas frescas
- Queso de tiras u otros quesos, trigos
- Zanahorias, apio u otros vegetales frescos

Decaimiento Dental
Esto No:

- Botanas de frutas secas u otros dulces pegajosos
- Galletas, papitas u otras comidas de harina
- Galletas, pasteles u otras comidas horneadas

Bocadillos dulces para ocasiones especiales:
Elija algo que se quite de la boca rápidamente.
Ejemplo: Chocolate pequeño que se derrita en lugar de una paleta que cubra los dientes de azúcar por un periodo largo.

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■ HAGA BUENAS DECISIONES CON SUS BOTANAS ■

Figure A.6 Material used in nutrition education (Healthy snacks limit acid attacks, Spanish version, Source REACH and Kansas Cavity Free Kids)