

An Epidemic: Childhood Obesity



SELF-STUDY MODULE FOR WIC CPA'S

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OBJECTIVES

Upon completion of this module the participant will be able to:

1. Describe the extent of the problem of childhood obesity by listing at least three statistics.
2. List at least three consequences of childhood obesity.
3. List at least three causes of childhood obesity.



PRE-ASSESSMENT

Complete the following questions. Upon completion of the module, a post assessment will be completed.

1. T___ F___ Research has shown that most young children are unable to regulate their food and energy intake regardless of the type of food and the way it is provided by the family.
2. T___ F___ Although obesity in children has been a continuing problem over the past few years, in the most recent studies there seems to be a leveling off of the numbers.
3. T___ F___ The Centers for Disease Control BMI-for-age charts should be used for ages 0-18.
4. T___ F___ Daily calorie consumption has decreased in children over the past 15 years.
5. T___ F___ The Body Mass Index is a screening tool that is used to help identify a child's weight status.
6. T___ F___ In Arkansas, white school children have the highest prevalence of overweight.
7. T___ F___ Certain medical conditions in children tend to rise as childhood obesity increases.
8. T___ F___ Current research indicates that breastfeeding has no effect on reducing the risk of childhood obesity.
9. T___ F___ Studies have shown that obesity in birth parents has little to do with obesity in their children.
10. T___ F___ Evidence indicates that early environments greatly impact the development of eating and activity patterns of children.

ORIENTATION/RATIONALE

Childhood obesity is a serious and complex issue with many health and social consequences that often continue into adulthood. The rate at which obesity in children has risen is at epidemic proportions. If the rate of overweight continues to climb, our society will face many health, financial, and social challenges. Since there is no proven or easy way to treat obesity, prevention is crucial. WIC clinics are important places to help families develop and maintain healthy growth.

DEFINING OVERWEIGHT IN CHILDREN & ADOLESCENTS

Measurements of height and weight help to assess the overall health and nutritional status of children and adolescents. In the past, overweight in children was defined using the weight for height growth charts. Today, to identify children who are overweight, measures of height and weight are combined in the body mass index (BMI) for ages 2 to 20 years. BMI measures how heavy the body is, which is a good indicator of how fat the body is. However, the BMI classification is a screening tool only and should not be used as the final indicator of whether or not a child has a weight problem that requires attention.

- An advantage of using BMI-for-age is that it can be used to track growth from age 2 years through adulthood. BMI scales and standardized growth charts are available to compare a child's size and growth

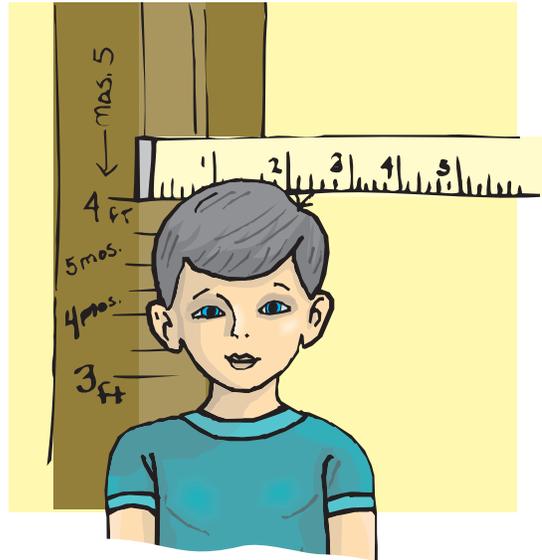
patterns to standards (see appendix). Growth charts showing weight for height are still used for children up to two years of age. For an in depth review of the growth charts you may go to the following website:
<http://www.cdc.gov/growthcharts>.

Today, to identify children who are overweight, measures of height and weight are combined in the body mass index (BMI) for ages 2 to 20 years.

- A calculator friendly formula to determine BMI is as follows:
BMI = weight (lbs.) ÷ height (in.) ÷ height (in.) x 703

- Once BMI is determined, it is plotted on the Body Mass Index-for-Age Percentiles. The BMI percentile is used to determine weight status using the following categories:
 - **Underweight:** < 5th percentile
 - **Normal Weight:** ≥ 5th to 85th percentile
 - **At Risk for Overweight:** 85th to < 95th percentile
 - **Overweight/Obese:** ≥ 95th percentile

- It is expected that 5% of 100 children of the same gender and age will be over the 95th percentile on the BMI-for-age charts. When the percentage of overweight exceeds the expected 5%, then there is a problem. Similarly, it is expected that 10% have a BMI-for-age between the 85th and 95th percentiles.



Activity 1

Jason, a 4 year old boy, weighs 51 pounds and is 42 inches tall. What is his calculated BMI?

- A) 20
- B) 25
- C) 25

What percentile on the 2000 CDC growth chart does this BMI plot? (Find appropriate sex and age chart in the appendix).

- A) 20th
- B) <5th
- C) >95th

Jason's BMI indicates he is _____.

- A) Underweight
- B) Normal Weight
- C) Overweight

OBESITY RATES (Nation, State, Local)

In the United States, more children are overweight than ever before with no slow-down in sight. No race, gender, or age group has been left behind.

National Data

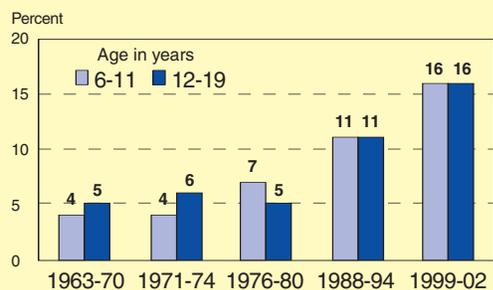
- Hispanic and non-Hispanic black adolescents have had an explosion of weight gain. From the 1988–1994 National Health and Nutrition Examination Surveys (NHANES) study to the 1999–2000 study, obesity in non-Hispanic blacks increased from 10.7% to 20.7%, and in Hispanics from 14.1% to 27.5%. The prevalence of obesity in these two groups increased at least 10 percentage points.
- The nationwide rise in obesity from 1963 to 2002 for the ages of 6–19 years is illustrated in Figure 1. As seen in Figure 1, the increase in prevalence in overweight children has been steady since 1963 with both age categories (6–11; 12–19) reaching 16% in 1999–2002.



Arkansas Data

- Parents of school children in Arkansas now know their children's BMI. Act 1220 of the 2003 Arkansas General Assembly created an approach to address the state of Arkansas' problem with childhood obesity. One part of the act is that each public school child will have an annual body mass index-for-age assessment performed and confidentially reported to parents. This began in the 2003–2004 school year. The results reveal that the problem of childhood obesity in Arkansas is even more than expected with 38% of the school children being either overweight or at risk of being overweight.

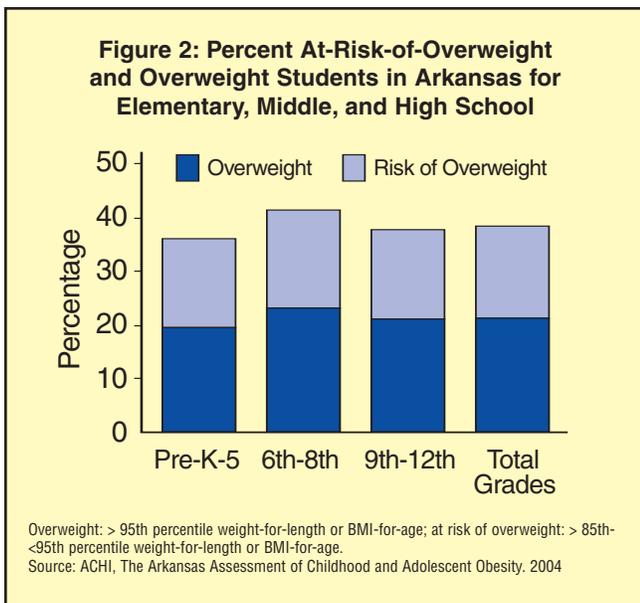
Figure 1: Prevalence of Overweight Among Children & Adolescents Ages 6–19 Years



NOTE: Excludes pregnant women starting with 1971-74. Pregnancy status not available for 1963-65 and 1966-70. Data for 1963-65 are for children 6-11 years of age; data for 1966-70 are for adolescents 12-17 years of age, not 12-19 years. SOURCE: CDC/NCHS, NHES and NHANES

(<http://www.cdc.gov/nchs/products/pubs/pubd/hestats/overwght99.htm>)

- Figure 2 shows the percentage of children at-risk-of-overweight and those overweight in elementary, middle school, and high school.



- Overall, Arkansas schools have a greater proportion of Hispanic children that are overweight when compared to African Americans and Caucasians – Caucasians having the least proportion of overweight children. However, no race seems to be beating the obesity battle. Table 1 shows the percentage of Arkansas students by ethnic group in the BMI classifications.

Table 1: Arkansas Students by BMI Classifications

	Caucasian	African American	Hispanic
Overweight	20%	24%	26%
At Risk for Overweight	17%	17%	20%
Normal Weight	61%	57%	52%
Underweight	2%	2%	1%

For detailed information on BMI's of Arkansas' school children see www.achi.net/current_initiatives/bmi/default.asp

- Preschool Arkansans have been no exception to the growing overweight trend.

Figure 3 illustrates the prevalence of overweight and risk of overweight among children 2 to 5 years by race and ethnicity. Unfortunately, both the State and the Nation have too many preschool children in these categories.

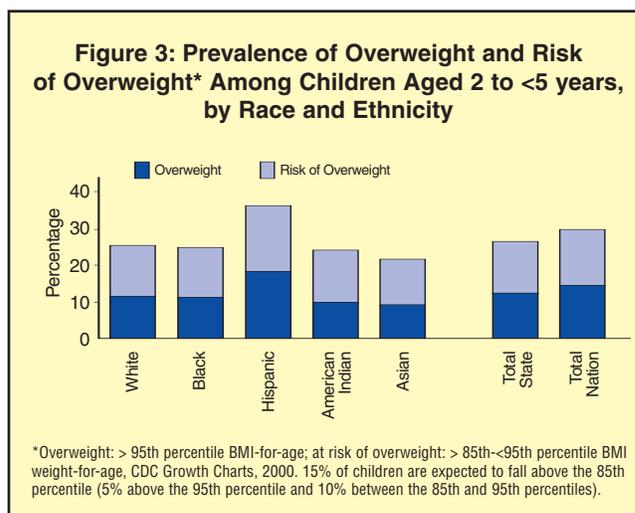
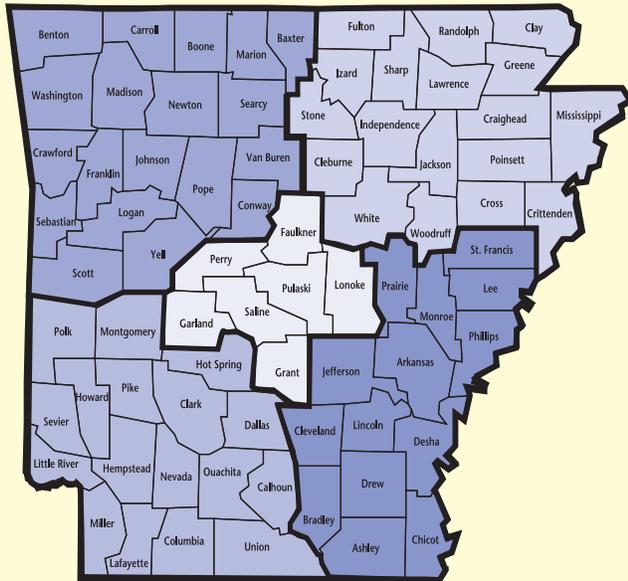


Figure 4 (next page) shows the percentage of overweight preschoolers in each county in Arkansas. It ranges from 5.1% in Franklin county to 24.8% in Bradley county.

Figure 4: 2003 Pediatric Nutrition Surveillance, Arkansas Comparison of Overweight by County Children Aged < 5 years (2,3)



County	% Overweight (Rank)(4)	County	% Overweight (Rank)(4)
Arkansas	13.2 (63)	Lee	10.9 (41)
Ashley	8.9 (13)	Lincoln	11.0 (42)
Baxter	10.5 (30)	Little River	10.6 (33)
Benton	10.6 (33)	Logan	13.3 (65)
Boone	10.8 (38)	Lonoke	9.3 (17)
Bradley	24.8 (75)	Madison	9.7 (24)
Calhoun	17.0 (73)	Marion	8.3 (10)
Carroll	6.5 (2)	Miller	9.2 (16)
Chicot	10.7 (36)	Mississippi	12.4 (56)
Clark	10.1 (25)	Monroe	14.9 (69)
Clay	10.8 (38)	Montgomery	10.6 (33)
Cleburne	9.4 (22)	Nevada	10.8 (38)
Cleveland	9.3 (17)	Newton	6.8 (4)
Columbia	16.6 (72)	Ouachita	12.8 (59)
Conway	13.2 (63)	Perry	11.6 (47)
Craighead	6.9 (5)	Phillips	11.8 (49)
Crawford	9.4 (22)	Pike	9.3 (17)
Crittenden	13.0 (60)	Poinsett	12.1 (53)
Cross	12.0 (52)	Polk	11.0 (42)
Dallas	18.3 (74)	Pope	9.3 (17)
Desha	7.7 (7)	Prairie	10.2 (27)
Drew	15.5 (70)	Pulaski	10.4 (29)
Faulkner	12.2 (55)	Randolph	13.0 (60)
Franklin	5.1 (1)	Saline	11.3 (44)
Fulton	11.3 (44)	Scott	10.2 (27)
Garland	12.5 (57)	Searcy	11.6 (47)
Grant	12.7 (58)	Sebastian	9.0 (15)
Greene	10.5 (30)	Sevier	13.0 (60)
Hempstead	11.9 (51)	Sharp	12.1 (53)
Hot Springs	10.1(25)	St. Francis	13.5 (66)
Howard	7.6 (6)	Stone	8.4 (11)
Independence	9.3 (17)	Union	10.5 (30)
Izard	10.7 (36)	Van Buren	7.7 (7)
Jackson	8.6 (12)	Washington	11.8 (49)
Jefferson	8.9 (13)	White	7.9 (9)
Johnson	14.2 (68)	Woodruff	11.4 (46)
Lafayette	16.5 (71)	Yell	13.7 (67)
Lawrence	6.6 (3)	Entire State	10.8

- (1) Reporting period is January 1 – December 31
- (2,3) Based on 2000 CDC growth chart percentiles for weight-for-length for children under 2 years of age and BMI-for-age for children 2 years of age and older. Overweight is expressed as >95th percentile.
- (4) Rank compares this county's rate to other counties. Rank 1 = best rate.

Activity 2

Access the following website to find the prevalence of overweight in the schools in your area. Create a list of some potential factors in the school and community environment which may be associated with this prevalence (positive or negative). You may want to dialogue with colleagues.

www.achi.net/current_initiatives/obesity.asp

Activity 3

What is the percent of preschoolers overweight in your county? List some common characteristics of the overweight preschoolers and their families that you have observed in clinic.

Example: Watch a lot of television.

COMMON CONSEQUENCES OF OBESITY



Sarah is a 7 year old girl with a BMI of 25 (weight, 90 pounds; height, 50"). Sarah is obese. She has had trouble keeping up in her 2nd grade class with learning and her behavior has been anything but pleasant. Upon a recent visit to the doctor, a referral was made to a sleep disorder clinic where it was discovered that Sarah has sleep apnea that is affecting her behavior as well as her learning. Her parents are beginning to fear for Sarah's physical and emotional health. They are ready to help Sarah.

Diseases once seldom seen in children are now on the rise due to the childhood obesity epidemic. Problems associated with obesity in children are similar to those seen in adults. Over the past 2 decades, obesity-related annual hospital costs of 6-17 year olds tripled from \$35 million to \$127 million. The primary diagnoses were diabetes, obesity, sleep apnea, and gallbladder disease.

Children are now living life with cardiovascular risk factors such as high blood pressure, hyperlipidemia, and/or elevated insulin levels that put them at risk for earlier cardiovascular disease.

A few of the more common complications of childhood obesity are listed below:

Insulin Resistance & Type 2 Diabetes

- Insulin resistance is a precursor for Type 2 diabetes (formerly called adult-onset diabetes).
- Incidence of Type 2 diabetes has increased from virtually none (1-2%) to approximately 30% of all new cases of diabetes in children.
- There is usually a family history of Type 2 diabetes. It is predominant among African American, Hispanic, Asian, and American Indian descent.

Hyperlipidemia

- Hyperlipidemia refers to high levels of types of fat in the blood – cholesterol and triglycerides.
- It is related to insulin resistance.
- It increases the risk for heart disease.

Hypertension

- Hypertension causes the heart to work harder and may damage the heart, brain, and kidneys.
- Approximately 20-30% of obese children between the ages of 5 and 11 have hypertension.



Sleep Disorders

- Sleep apnea is a disorder in which breathing is briefly suspended repeatedly during sleep.
- Studies have reported abnormal sleep rates in as many as 94% obese children.
- Sleep apnea occurs in at least 7% of obese children.

- Sleep apnea is linked to significant decreases in learning and memory function.

Psychosocial Effects & Stigma

- Frances Berg (2004) states: “Overweight can be a severe social handicap. Children who are teased, labeled, and stigmatized may have long-term damage to self-esteem and body concept. Some experts suggest their greatest problems are probably not health risks, but emotional and psychological damage.”
- Adolescents that engage in high risk behaviors, such as smoking, drinking alcohol, and early sexual activity also may be at greater risk of poor dietary and exercise habits.
- White girls who view their body negatively are at a greater risk for developing eating disorders such as bulimia and anorexia.
- Overweight children and adolescents report that others assume they are inactive or lazy, stronger and tougher than others, do not have feelings, and are unclean.

Other Consequences Include

- Early Puberty
- Asthma
- Gallstones
- Orthopedic problems

CAUSES OF OBESITY

Possible Answers to the Question ... Why Are We Bigger?

There are many factors that contribute to overweight. Some things cannot be changed such as genetics, but the environment in which children are raised can (ideally) be changed. Yes, you may have the fat genes, but the environment interacts with the genes to either increase or decrease your chances of obesity.

Sarah's parents are both overweight. Sarah's mom has always struggled with her own weight. She gained a lot of weight when she was pregnant with Sarah and has never been able to lose it all. She has tried many diets that in the end left her hungry and overeating. Sarah's dad has gradually gained weight since his early 20's and is now considered overweight. Sarah's parents do not exercise regularly and seldom do outside activities with Sarah. They enjoy watching movies and playing card and board games with her instead.

Sarah's parents began to get concerned about Sarah's weight when she would come home crying that some of her classmates had called her "fat and lazy". They had been allowing Sarah to eat anything she wanted anytime she wanted, so they decided to try to limit the amount of food she ate, only to find her sneaking chips out of the pantry during the middle of the night.

Genetics

The genes we receive cannot be changed, and for some of us, these genes lead to weight gain.

- Studies looking at children who were adopted at birth have shown that their weight statuses are more like those of their birth parents rather than that of their adoptive parents.
- A child with 2 overweight parents has an 80% chance of becoming overweight.
- "... genetic predisposition has been around for a long time. It's just being awakened in this toxic environment. Your genetics puts you on the cliff, but environment pushes you off." (Robert Kramer, MD as quoted in "Davis" 2005)

Environmental

- Those who have the family genes for obesity are gaining more weight and at a younger age than ever before. This only highlights the importance of the role of the environment in urging the fat gene to be expressed.
- A person's early exposure to either a healthy or unhealthy environment of eating and activity greatly impacts habits a child will develop and take into adulthood.
- In addition to eating and activity patterns, environmental factors related to weight status include the prenatal environment, socio-demographic factors, and family.



Prenatal Environment

For a rapidly growing baby in his mother's womb, what does or does not happen daily may have lasting impact.

- Both low birth weight and high birth weight babies are at potential risk for overweight and the development of chronic diseases in adulthood.
- Targeting women for proper nutrition before and during pregnancy, improved care of pregnancy related (gestational) diabetes, and attention to all causes of low and high birth weight babies could prevent overweight.

Sociodemographic Factors

Basically, a lower socioeconomic status is an important predictor for overweight in U.S. children; however, it does not hold true in all ethnic groups.

- There is a relationship between a lower socioeconomic status and *adult* obesity. This involves income, education, and/or occupation.
- The same holds true for pre-adolescent white girls, but not in pre-adolescent black girls. This is probably due to the cultural and racial differences in the concept of beauty and style, body image perception, and weight control behaviors. Black girls who are overweight have a better self-esteem, and do not perceive their physical appearance and social acceptance as negatively as do overweight white girls.

Family Influences

Parents serve not only as a gene source, but also provide the environment where a child is raised. This environment either positively or negatively effects weight status.

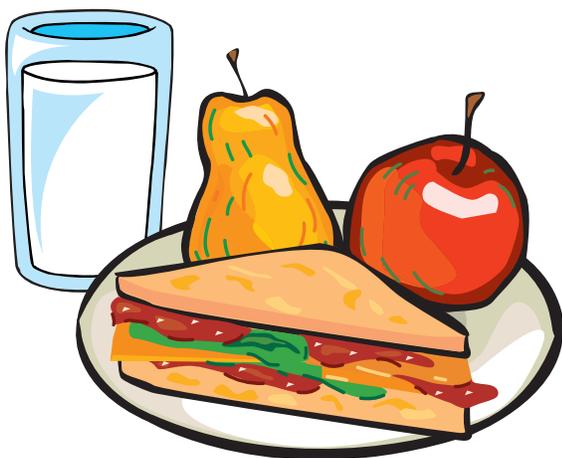
MISPERCEPTIONS

A focus group study of low-income mothers found that they had some misperceptions about feeding and weight status of their children. These include:

- "A fat baby is a healthy baby."
- Big babies don't get enough to eat unless fed from the table even before an appropriate age.
- Not seeing overweight as a problem in their children until the children have been teased or become inactive; as opposed to the healthcare provider stating that the BMI indicates overweight.

THE PARENT'S ROLE

Children who do not learn to eat well as children – to eat a variety of good foods when they are hungry and stop when they are full – can become at risk for adulthood obesity. Families play a critical role in helping children be able to eat just what they need – not too much, not too little. During infancy and childhood, the types of food available and the way in which it is offered are critical in forming a child's eating behaviors.



- Parents are responsible for what healthy foods are presented and the manner in which they are presented. Children then are responsible to select from the food choices and eat as much or as little as desired. This is known as the Division of Responsibility in eating.
- If a child has not been allowed to self-regulate his/her own caloric needs (eat when hungry and stop when full), then even a very small but prolonged intake of too many calories (energy) could result in significant weight gain. Children who have become either over or under-eaters may have not been allowed to regulate their own eating due to either overly

controlling parents, parents who have set inadequate limits, or parental neglect.

Physical Activity Patterns

Regular participation in physical activity is critical to health and body weight. If a child is not using the energy (calories) from their food, then the extra calories are stored as fat. Inactivity is very common among American youth. Within each child's environment are factors that play a part in how much activity the child will participate.

PARENTS

Parents influence the kind and amount of physical activity in which their children participate. Parents enable children by making sure they have the resources for physical activity (time, place, equipment, etc.) and by engaging in physical activity themselves (modeling) and with their children.

MEDIA

Another factor in determining the physical activity level of a child is how much time is spent in the inactivity of:

- Watching television
- Playing video games
- Having recreational computer time

Increased hours of television viewing reduces the opportunity for children to be active and is a strong predictor of overweight in children. Children also are influenced by advertising of high fat/high sugar snack foods. The American Academy of Pediatrics recommends limiting television and media time to no more than two hours per day.

SCHOOLS

Schools play an important part in physical activity. The amount and quality of the physical education offered can greatly increase or decrease a child's level of activity.

COMMUNITY

The way a community is characterized plays an important role in physical activity. A physically active community will offer:

- Safety – if it is not safe to go outside, either because of the traffic or crime, then there is less physical activity.
- Affordable sports programs and recreational areas.
- Sidewalks and trails.



AGE

Also of concern is the age-related decline in physical activity.

- An age-related decline in physical activity in girls as young as 6-9 years of age has been noted.
- Adolescence appears to be a developmental time during which physical activity declines.

Diet and Nutrition

Sarah was a 10 pound baby. Her mother attempted to breastfeed her but was told (wrongly, of course) that she would never produce enough milk to feed that big of a baby. Grandparents would say what a healthy baby Sarah was because she was so “plump”. When Sarah would try to stop her bottle feeding because she was full, Mom would keep working until the whole bottle of formula was gone. Sarah currently drinks whole milk, enjoys fruit drinks, skips breakfast, eats the school lunch, and eats out at least 3 nights a week at fast food restaurants.

The “Diet Factor” starts early. In fact, a pregnant woman's nutritional status and her choice on whether or not to breastfeed play a role in whether or not her child will be at increased risk for obesity. Once the baby is born, the parents are responsible for offering developmentally appropriate, good and varied food for optimal growth and development. The first thing a Mom can do to help lower baby's risk of obesity is to breastfeed – the longer, the better. It is thought that components in human milk, as well as the feeding and parenting patterns associated with nursing, decrease the risk of obesity.

After the age of 2 years, the Dietary Guidelines for Americans and the MyPyramid food guidance system may be used to guide parents in providing good and varied foods. Go to www.mypyramid.gov for an in-depth view of healthy eating specific to age, gender, and activity level.

WHAT, WHERE AND HOW MUCH ARE OUR CHILDREN EATING?

- Over the past 15 years, the amount of calories children are consuming have increased by 300 calories a day.
- The diets of children are healthier today than in the past, but they still continue to fall short of the diet of variety and moderation illustrated by the Food Guide Pyramid.
- It is estimated that only 30% of children currently meet the goals for daily intake of grains, meats, fruits and vegetables and that discretionary fat and added sugars represented over 40% of the energy intake of 2 to 17 year-old children.

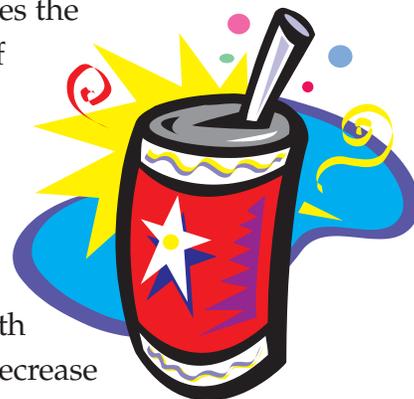
Table 2 details the major sources of added sugars in the U.S. adolescent's diet.

Table 2: Major Sources of Added Sweetener Intakes in U.S. Adolescents		
% of Total Added Sweetener Intake		
Food	Female	Male
Breakfast Cereals	8	9
Sweetened Grains	11	14
Sugars/Sweets	17	15
Milk Products	7	6
Fruit Drinks	11	11
Soft Drinks	37	41

Source: 1994-1996 CSFII (N. McQuillan-Copperman)

FLUIDS

- In recent decades the consumption of soft drinks has increased dramatically among U.S. children and adolescents, with an associated decrease in milk consumption.
- The American Academy of Pediatrics recommends that fruit juice consumption be limited to 4-5 oz/day for children 1-6 years of age and 8-12 oz/day for children 7-18 years of age. These recommendations were based on consideration of nutrient contribution and gastrointestinal problems.



EATING OUT

- Food eaten away from home is increasing in the U.S.
- Frequent consumption of foods at fast food and other restaurants has been associated with a diet high in fat and low in nutrient density.
- Children who eat dinner with their families at home have a better quality diet than those who do not – more fruits and vegetables, fewer fried foods and soda, less fat, and more micronutrients.

SCHOOL

- While a substantial percentage of away-from-home food comes from fast food restaurants, school meals represent another major source for school-aged children.

- There are many nutritional benefits of school meals. Meals offered in the National School Lunch Program and the School Breakfast Program have been required to adhere to the Dietary Guidelines for Americans. However, this target has not been fully achieved with saturated fat still being too high.
- Many schools offer à la carte foods and beverages, have snack bars, vending machines, and concession stands that can wreak havoc on a child's eating.
- Each school district in Arkansas is required to have a school Nutrition and Activity Committee. Parents and health professionals can get involved.

BREAKFAST

- Overweight children have been shown to eat smaller breakfasts than their non-overweight peers.
- It has been suggested that eating breakfast reduces fat intake and limits snacking over the remainder of the day.

FOOD INSECURITY

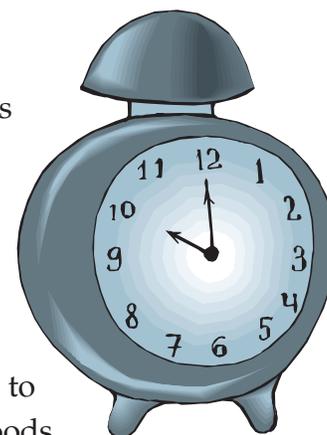
- Paradoxically, moderate to mild food insecurity (i.e. not having the appropriate kind and amount of food) may play a role in the cause of overweight.
- Lack of food appears to result in preoccupation with food which leads to binges once food is again available.
- A cycle of food shortages (e.g., when money for food runs out before payday or food stamps run out before the end of the month) may increase reliance on cheap high fat or empty calorie foods, resulting in weight gain over time.

BARRIERS TO HEALTHY EATING

Numerous barriers to following a healthy eating pattern have been identified.

Among adults, factors cited included:

- Lack of time
- Expense
- Lack of willpower to give up favorite foods
- Difficulty changing ingrained habits
- Lack of support from family and friends
- Lack of availability of healthy choices
- Lack of agreement on the part of experts regarding which foods are healthy
- Cultural perceptions toward foods



Generally lack of knowledge was not reported as a barrier. Preventing disease, maintaining health and reducing weight have been the main benefits reported by adults for eating healthy.

Activity 4

What are some other common misperceptions of nutrition and overweight that you and your colleagues have observed in the WIC clients you see? See page 14.

Activity 5

What are some other barriers to a healthy diet that you and your colleagues have personally encountered as well as your clients? Which is your strongest barrier?

DESIRED OUTCOMES

The healthcare providers in the Local Health units are in a great position for promoting healthy weight in children.

Healthcare workers who will make the most impact will...

- Embrace and model a healthy lifestyle.
- Maintain the correct and current health and nutrition information knowledge base.
- Be able to assess and prioritize the client's health issues which need to be addressed.
- Effectively communicate with and motivate the client.
- Refer for treatment when necessary.
- Accept and like herself and the client.
- Become active in her community to promote healthful eating and safe physical activity for every body size and shape.

Healthcare providers need to understand that "success" with weight management in a growing child is not weight loss but helping the family have...

- A greater understanding and acceptance of individual differences in body sizes and shapes.
- Improvement in the Division of Responsibility in eating between parent and child.
- A more physically active life-style.

- A more healthful eating pattern.
- An improved ability to deal with teasing and to talk about feelings.
- Normalization of medical indicators such as blood pressure or cholesterol.
- Weight stabilization or decreased rate of weight gain.
- Improved self-esteem.

If Sarah's Mom would have had a WIC CPA to help her with her food choices when she was pregnant, maybe Sarah wouldn't have been such a big baby.

If Sarah's Mom would have had a WIC CPA to guide her in her breastfeeding, maybe Sarah would not have been force fed.

If Sarah's Mom would have had a WIC CPA to guide her in establishing her role as the provider of good food and allowing Sarah to choose whether or how much she ate, maybe Sarah would be able to recognize when she was hungry and stop when she got full.

If Sarah's Mom would have had a caring CPA, maybe, just maybe, Sarah would not be crying over being called "fat and lazy", having problems learning because of sleep apnea, or feeling like she is a source of frustration for her parents.

Maybe just maybe.

Are you ready to be that awesome, impactful WIC CPA?

POST-ASSESSMENT

Complete the following items after reviewing the module.

1. T___ F___ Research has shown that most young children are unable to regulate their food and energy intake regardless of the type of food and the way it is provided by the family.
2. T___ F___ Although obesity in children has been a continuing problem over the past few years, in the most recent studies there seems to be a leveling off of the numbers.
3. T___ F___ The Centers for Disease Control BMI-for-age charts should be used for ages 0-18.
4. T___ F___ Daily calorie consumption has decreased in children over the past 15 years.
5. T___ F___ The Body Mass Index is a screening tool that is used to help identify a child's weight status.
6. T___ F___ In Arkansas, white school children have the highest prevalence of overweight.
7. T___ F___ Certain medical conditions in children tend to rise as childhood obesity increases.
8. T___ F___ Current research indicates that breastfeeding has no effect on reducing the risk of childhood obesity.
9. T___ F___ Studies have shown that obesity in birth parents has little to do with obesity in their children.
10. T___ F___ Evidence indicates that early environments greatly impact the development of eating and activity patterns of children.



Post-Assessment Answers

- 1.** T___ F___ Research has shown that most young children are unable to regulate their food and energy intake regardless of the type of food and the way it is provided by the family.

False. If children are provided appropriate foods in the context of a healthy feeding environment (parents and children stay within their area of responsibility), then a child is more likely to be able to regulate his food and energy intake.

- 2.** T___ F___ Although obesity in children has been a continuing problem over the past few years, in the most recent studies there seems to be a leveling off of the numbers.

False. There is no slow-down occurring

- 3.** T___ F___ The Centers for Disease Control BMI-for-age charts should be used for ages 0-18.

False. They should be used for ages 2-20.

- 4.** T___ F___ Daily calorie consumption has decreased in children over the past 15 years.

False. Total calorie intake of U.S. children has increased.

- 5.** T___ F___ The Body Mass Index is a screening tool that is used to help identify a child's weight status.

True.

- 6.** T___ F___ In Arkansas, white school children have the highest prevalence of overweight.

False. Hispanic school children have the highest prevalence.

- 7.** T___ F___ Certain medical conditions in children tend to rise as childhood obesity increases.

True. Diseases commonly seen in adults are on the rise as they are obesity related.

- 8.** T___ F___ Current research indicates that breast-feeding has no effect on reducing the risk of childhood obesity.

False. Breastfeeding helps to decrease the risk of overweight.

- 9.** T___ F___ Studies have shown that obesity in birth parents has little to do with obesity in their children.

False. Genetics play a role in the risk of obesity.

- 10.** T___ F___ Evidence indicates that early environments greatly impact the development of eating and activity patterns of children.

True. Early environment impacts the development of eating and activity patterns of children that can track into adulthood.

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