**CHILD HUNGER SUMMIT 2017**

**Hunger and Health**

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* Value of Nutrition and learning in children
  + Most parents don’t realize the impact of food on brain and learning
  + If we don’t have nutrition, we don’t have life
  + Nutrition is one of great health influences
  + It’s not as simple as eating certain foods, but certain foods at certain times
  + Small changes in diet can have large changes in the body
  + A well-balanced diet causes proper brain development
  + Plastic Brain cells during childhood - need connections- - neuropathways not yet fully connected
    - Neurons make connections
    - Nutrition makes connections possible
    - Vitamins and minerals are critical for connections
    - Brain connections are dense at 2 and 3, but not at newborn stage
      * Breastmilk is key, or properly balanced formula
  + Carbohydrates
    - Fuel for the body
    - Glucose
    - When children wake up, they need nutrients (glucose)
    - Brain needs special minerals
      * Glucose is primary fuel for alertness and being active
    - Brain is 2% of body weight, but needs 20% of nutrition supply (90 grams/day)
      * When child doesn’t eat, glucose levels are not sufficient for brain activity
  + B-complex, trace minerals are important for developing brains
    - Infants and young children have special nutritional needs
      * Lack of needed nutrients causes retardation in growth and cognition
  + Protein
    - Good sources are milk and dairy products, meat, fish, beans, legumes
    - Tryptophan (amino acid) makes serotonin (neurotransmitter) that helps children fall asleep
    - Tyrosine (amino acid) makes norepinephrine – helps children fall asleep
  + Lipids
    - Essential for proper brain and metabolic function for health and life
    - Brain is mainly fatty membranes
      * 60% of solid brain matter is fat
      * Most brain fats are polyunsaturated- molecules are flexible and able to form neurons
      * We get more omega-6 than omega-3 in our diets
        + Focus on fish, avocado, nuts, and other plant fats
    - Fats are essential for central nervous system
      * Good oils – unsaturated (plant sources)
    - Diets without omega-3 may cause learning, motivation, and motor problems and my affect systems that neurotransmitters dopamine and serotonin in the frontal cortex, which also influence neurons to use glucose properly
      * Children that are deficient in omega-3 will have behavioral or focusing issues – usually diagnosed with ADD, ADHD, etc
      * Some don’t need medication - just unsaturated fatty acids
  + Minerals and Vitamins
    - Iron (provides adequate oxygen to brain and other tissues)
    - Zinc
    - Copper
    - Iodine
    - Selenium
    - Vitamin A
    - Choline
    - Folate
    - Breast milk and infant formula contain adequate amounts of these!
  + Planning Foods for young children
    - Grains: 3-4 ounces of whole grains per day
      * 1-2 slices of whole grain bread
      * ½ cup cooked rice or pasta
    - Vegetables: Start solids with vegetables first! Not sweet fruits and sugars. The child will prefer sweet foods over vegetables.
      * ½ cup raw or cooked vegetables
      * Variety is key
      * Mashed sweet potatoes
      * Steamed broccoli
      * Sliced carrots
    - Milk:
      * 2-3 cups a day
      * Whole or soy/almond milk
    - Protein
      * 2-3 ounces per day
      * ½ cup beans
      * 1 tbsp peanut butter
    - Oils/Fats
      * 3 teaspoons per day
      * Read food labels to avoid foods containing *Trans* and saturated fats:
        + *Trans* fats displace good fats
        + *Trans* and Saturated fats create stiff membranes in the brain, which should be more flexible, but high sat fat foods cause brain not to be used properly. Essential cell connections are displaced.
        + These fats act like sludge, disrupting oxygen and blood flow
        + These fat-containing foods are low in magnesium
        + They cause plaque formation
        + Retina problems are a risk – these fats fill retinas
        + Eye-brain coordination is disrupted
        + These fats causes children to struggle with learning difficult concepts - they more errors.
    - Water – the forgotten nutrient
      * Most people don’t drink enough
      * 1-2 cups/day for children
      * Body needs a water environment for nearly every metabolic process that occurs in the various system
      * To remain properly hydrated, water intake should equal water output
      * Thirst is the driving force for water intake
      * Brain is 80% water
* Food Deserts:
  + Usually in impoverished areas
  + More in southern and eastern US
  + At least 500 people or 33% live more than a mile from supermarket/grocery store
    - Fast foods or corner store surplus in these areas
  + Obesity rates correlate with food desert areas
* Food Swamp
  + A geographic area where a superabundance of high-energy foods inundate healthy food options
* Worst 9 Urban Food deserts
  + New Orleans, LA
  + Chicago, IL
  + Atlanta, GA
  + Memphis, TN
  + Minneapolis, MN
  + San Francisco, CA
  + Detroit, MI
  + New York, NY
  + Camden, NJ
* 1.8 million Alabama residents live in areas with no grocery stores – 2015 data
* 156 Alabama census tracts are considered food deserts
* 41 in Jefferson county
* Policies that address these issues:
  + Alabama Legislature – Healthy Food Financing Act 2015
  + Partnership for a Healthier America
  + Healthy Food Financing Initiative launched by Obama Administration
* Food Banks
  + Offer hunger relief programs
  + 5 food banks in Alabama
  + Feeding America nationwide network of foodbanks distribute 4 billion pound of food
* Produce for Better Health PBH (prior 5 a day)
  + Oakwood was awarded in 2014-15
  + Dietetic Interns were trained to conduct supermarket shopping tours in Huntsville Alabama
* Survey in supermarkets
  + How to shop for fruits and vegetables in 5 different ways
    - Fresh
    - Frozen
    - Dried
    - Canned
    - Liquid
  + Grocery store dietetics is a growing field of employment for nutrition professionals
    - Training in this area is invaluable
* Food insecure families, or assistance recipients should keep small amount of money for milk and eggs, get remaining diet from pantry.
  1. Food pantries can offer a balanced box with whole grains, protein, dried fruit or juices, and canned vegetables, etc. for a nutritious diet.