PROMOTING HEALTH ENVIRONMENTS IN EARLY CARE AND EDUCATION: RECOMMENDATIONS FOR HAPPY HEALTHY HOMES

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ACKNOWLEDGMENTS

• Inspiring Mentors
• Excellent Colleagues
• Fantastic Graduate Students
• No Disclosures
OVERVIEW OF TODAY’S TALK

• Background of Happy Healthy Homes
• Developing SMART goals
• Children’s Environmental Health Highlights
• Nutrition Highlights
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Illness-Wellness Continuum

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Neutral Point
(No discernable illness or wellness)
WHAT ARE THE CHILDREN’S ENVIRONMENTAL HEALTH ISSUES IN CHILD CARE?

Children are routinely exposed to a number of possible toxicants including:

- Pesticides
- Lead
- Cleaning, sanitizing and disinfecting products
- Fire retardants
- Asbestos
- Phalates
- Mold
- Volatile Organic Compounds
- Formaldehyde
- Radon
- PCBs
CHILDREN MORE LIKELY TO BE EXPOSED AND BE AFFECTED BY EXPOSURES

- Children are closer to and more often on the ground where contaminated residues settle in dirt and dust.
- Children’s skin is more absorbent.
- Children explore environments with their hands and mouths. Put hands and objects in mouths.
- Children spend a lot of time indoors (where pollution is 2 to 5 times higher).
- Children’s brains and bodies are immature and rapidly developing.
- Children are less able to metabolize and get rid of toxins.
Per unit of body weight infants and young children take in more food, liquid and air than adults.

An average new born drinks 2.7 oz of milk or formula per pound of body weight per day. This is equivalent to an average male adult drinking 35 12-ounce cans of a beverage daily.
WHAT’S THE PROBLEM WITH EXPOSURES?

These chemicals and toxins have many implications for children’s health and development including:

• Behavioral issues (e.g., ADHD)
• Developmental disabilities (e.g., autism)
• Respiratory health issues (e.g., asthma)
• Neurotoxic effects (e.g., decreases in brain function, cognitive and motor function)
• Endocrine disruption (leading to changes in metabolism, early onset of puberty and reproductive health issues)
• Allergies and illnesses
• Childhood cancers
• Children exposed to indoor toxicants miss more day of school due to illness
CHILDREN ARE MORE VULNERABLE TO EXPOSURE

- Children take in more air, food, and liquids per body unit than adults
- Children’s skin is more absorbent
- Children’s brains and bodies are immature and rapidly developing.
- Children are less able to metabolize and get rid of toxins.
- Children are closer to and more often on the ground where contaminated residues settle in dirt and dust.
- Children explore environments with their hands and mouths. Put hands and objects in mouths.
- Children spend a lot of time indoors (where pollution is 2 to 5 times higher)
8.4% of American preschoolers are obese

14.3% of Oklahoma preschoolers are obese

(Ogden et al. 2014; Weedn et al. 2014)
Happy Healthy Homes
OUHSC College of Allied Health & College of Public Health
OSU College of Human Sciences
Oklahoma Department of Human Services
State Department of Education
INTERVENTION OVERVIEW

• 2 interventions
  • Nutrition and Environmental health (Eco)
• Family Child Care Home providers randomly assigned
• About 3 months start to finish
OVERVIEW OF TODAY’S TALK

- Background of Happy Healthy Homes
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- Nutrition Highlights
<table>
<thead>
<tr>
<th>S</th>
<th>Specific</th>
</tr>
</thead>
<tbody>
<tr>
<td>M</td>
<td>Measurable</td>
</tr>
<tr>
<td>A</td>
<td>Attainable</td>
</tr>
<tr>
<td>R</td>
<td>Relevant</td>
</tr>
<tr>
<td>T</td>
<td>Timely</td>
</tr>
</tbody>
</table>
• Think about reading readiness
• What is something you could do to improve reading readiness in your child care or home?

I will read more
I will read daily
I will add crafts with our reading
I will add crafts 3 times/week with our reading. To make sure I have supplies I will plan lessons 1 week in advance starting this weekend
CHILDREN’S ENVIRONMENTAL HEALTH
WHAT’S THE PROBLEM WITH CLEANERS?

- Manufacturers do NOT have to prove that their chemicals are safe.

- No truth in advertising...words labels are not regulated.

- Words such as “all natural”, “green”, “nontoxic”, “eco”, “safe”, “environmentally friendly” have no legal meaning.

- Research has found that products labeled “green” often have as many toxic chemicals as conventional cleaning products.
WHAT CAN WE DO?

These 3rd party certifications indicate products that have been found to be safer for human health and the environment.
- Make sure the product has an EPA Registration Number (indicates legal product)

- Make sure all ingredients are listed on the label or a website

- Choose non-aerosol products
- Look for signal words that indicate lower severity:
  - Look for “Caution” or “Warning”
  - Avoid using products labeled “Danger”

- Choose fragrance-free and dye-free
- Choose products without strong chemical odors
Look up the products you use and buy

GoodGuide app is free
Look up the products you use and buy

Environmental Working Group’s website is free

https://www.ewg.org/guides/cleaners
What other exposures are present in child care?
<table>
<thead>
<tr>
<th>Pesticides</th>
<th>Toxic Cleaning Products</th>
<th>Asthma Triggers</th>
<th>Lead</th>
<th>Plastics</th>
<th>Nap Mats</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use IPM</td>
<td>Use vinegar as a disinfectant</td>
<td>Smoke-free home</td>
<td>Have children wash their hands often</td>
<td>Use glass bottles with silicone sleeve</td>
<td>Use mats without polyurethane foam</td>
</tr>
<tr>
<td>Eliminate pest access to food, water, shelter</td>
<td>Set spray bottle to direct spray &gt; mist</td>
<td>Dust with microfiber daily</td>
<td>Use door mats</td>
<td>Avoid plastics with recycling codes #3, #6</td>
<td>Use nap mats without flame retardants</td>
</tr>
<tr>
<td>Use baits and traps &gt; sprays</td>
<td>Use products certified by Safer Choice</td>
<td>Use HEPA filter vacuum daily</td>
<td>Shoe-free environment</td>
<td>Avoid recycling code #7 (unless BPA/BPS free)</td>
<td>Polyester fiberfill (usually ok)</td>
</tr>
<tr>
<td>Store pesticides out of children's reach</td>
<td>Use products certified by EcoLogO</td>
<td>Open windows and turn on fans</td>
<td>ACMI-certified non-toxic art supplies</td>
<td>Buy phthalate-free and PVC-free toys</td>
<td>Cotton (usually ok)</td>
</tr>
<tr>
<td>Wash and scrub F&amp;V</td>
<td>Use products certified by Green Seal</td>
<td>Avoid air fresheners</td>
<td>Use cold water for cooking and drinking</td>
<td>Never microwave plastic</td>
<td>Wool (usually ok)</td>
</tr>
</tbody>
</table>
CHILDREN’S NUTRITION
BEST PRACTICES

• Include fruits and vegetables as snacks
• No juice
• Include vegetable subgroups throughout the week
• Serve meals family style
• 2 servings of whole grains per day

<table>
<thead>
<tr>
<th>Vegetable Subgroups and their Nutrients</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Red/Orange</strong></td>
</tr>
<tr>
<td>Vitamin A</td>
</tr>
<tr>
<td>Potassium</td>
</tr>
<tr>
<td>Fiber</td>
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ADDING IN MORE COLOR

• What you need:
  • Month menu
  • Colored pencils/crayons/markers

• What you do:
  • Color/highlight foods according to what they are
  • Look across the week and month to see what colors are missing or prevalent
**WHAT COLORS DO YOU SEE?**

<table>
<thead>
<tr>
<th>B- WG French Toast Sticks, peaches, &amp; Milk</th>
<th>B- WG Oatmeal, apples, and milk</th>
<th>B- WG Biscuits, Gravy, Sausage, frozen fruit &amp; Milk</th>
<th>B- Bacon, Egg, WG toast, and milk</th>
<th>B- Cereal, mixed fruit, and milk</th>
</tr>
</thead>
<tbody>
<tr>
<td>L- Tator Tot Casserole, Mixed Veggies, Peaches, Wheat Roll &amp; Milk</td>
<td>L- Taco Burgers, (Meat. Lettuce, Shredded Cheese, frozen corn, Strawberries &amp; Milk</td>
<td>L- (WG Noodles) Mac and cheese, Beef Hol dogs, frozen peas, fruit, and milk</td>
<td>L-Steak fingers, mashed potatoes, carrots, fruit, and milk</td>
<td>L- Sliders, Tator Tots, broccoli, Pickle &amp; Milk</td>
</tr>
<tr>
<td>S- Cheese Its and milk</td>
<td>S- Animal crackers &amp; Milk</td>
<td>S- Yogurt and grape nuts &amp; Milk</td>
<td>S- String cheese, Club Crackers, and water</td>
<td>S- WG-Graham Crackers &amp; Milk</td>
</tr>
</tbody>
</table>
**WHAT COLORS DO YOU SEE?**

<table>
<thead>
<tr>
<th>Left</th>
<th>Middle</th>
<th>Right</th>
</tr>
</thead>
<tbody>
<tr>
<td>B. WG French Toast Sticks, peaches, &amp; Milk</td>
<td>B. WG Oatmeal, apples, and milk</td>
<td>B. WG Biscuits, gravy, sausage, frozen fruit &amp; milk</td>
</tr>
<tr>
<td>L. Tallor Tot Casserole, Mixed Veggies, Peaches, Wheat Roll &amp; Milk</td>
<td>L. Taco Burgers (Meat, Lettuce, Shredded Cheese, frozen corn, Strawberries) &amp; Milk</td>
<td>L. (WG Noodles) Mac and cheese, Beef Hot dog, frozen peas, fruit, and milk</td>
</tr>
<tr>
<td>S. Cheese Its and milk</td>
<td>S. Animal Crackers &amp; Milk</td>
<td>S. String cheese, Club Crackers, and water</td>
</tr>
<tr>
<td>B. Bacon, Egg, WG toast, and milk</td>
<td>L. Steak fingers, mashed potatoes, carrots, fruit, and milk</td>
<td>B. Cereal, mixed fruit, and milk</td>
</tr>
</tbody>
</table>
| L. Sliders, Tallor Tots, broccoli, Pickle & Milk | S. WG Graham Crackers & Milk |}
TEXTURE

• Try to include many different textures
  • Soft, fluffy, crunchy, crisp, creamy, or smooth
• Some textures may be easier for children to eat
• Children that avoid cooked veggies are often more enthusiastic about fresh vegetables
MEALTIME TALK

- Staff and parents role is to provide healthy foods, children’s role is to decide what to eat
- Prepare kids for the meal with routine
- Keep it child friendly
- Variety of colors and textures
  - TALK TALK TALK
- Encourage independence
- Enthusiastic role model
FAMILY STYLE MEALS

www.blogspot.com

www.hungergfreevt.org
PICKY EATING

• Make food appealing
• Involve children in preparation
• Play outside before meals
• Let kids name recipes
• Introduce new foods with a favorite food
• Try, try, try
• Be positive and patient

• What do you hear from kids most often?
• What is something kids won’t eat or try?
ROASTED CAULIFLOWER POPCORN

RECIPE NAME

8

NUMBER OF SERVINGS

1/2 cup

PORTION SIZE

INGREDIENTS

- 1 head (~2 lbs) cauliflower, cored, cut into bite-size pieces (about 6 cups)
- 1 tbsp olive oil, or coconut oil
- Salt and pepper to taste
- 2-3 tbsp parmesan reggiano, shredded or grated

INSTRUCTIONS

1) Preheat oven to 400 degrees.
2) Toss cauliflower and oil into large bowl.
3) Season with salt and pepper.
4) Arrange in single layer on parchment paper-lined baking sheet.
5) Roast for about 30 minutes, until tender. Turn once halfway through.
6) Remove from oven, and sprinkle with cheese.

RECIPE NAME

Porcupine Sliders

YIELD 8-10

SERVING SIZE 2 oz patties

INGREDIENTS

- 1/2 cup medium grain brown rice
- 1 tbsp vegetable oil
- 2 tbsp yellow onion, minced
- 1 clove garlic, minced
- 1 stalk celery, washed and minced
- 16 oz lean ground turkey
- 2 tbsp dried cranberries, chopped
- 3/4 cup spinach, washed and drained, stems removed, chopped
- 2 large eggs
- 1/2 tsp salt
- 1/2 tsp black pepper
- 1 tsp Worcestershire sauce (Alternatively: soy sauce, or no sauce)
- 1 pinch crushed red pepper

INSTRUCTIONS

1) Follow the package instructions for cooking the brown rice. After cooked, transfer to a plate and cool completely in the refrigerator.
2) Preheat oven to 350 degrees.
3) In a skillet sauté onions, celery, and garlic in oil until soft, about 5 minutes. Transfer to the refrigerator and cool completely.
4) In a large mixing bowl, combine all ingredients including rice and cooked onion mixture.
5) Portion into 2.5 oz patties, the diameter of buns, onto a parchment lined baking pan.
6) Bake for 12-18 minutes. Start checking the turkey with a thermometer at 12 minutes, and continue until the internal temperature reaches 165 degrees.
7) Do not overcook to prevent turkey from drying out.
8) Serve on mini whole grain rolls with optional lettuce, tomato, red onion, and other desired condiments.
Questions???
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https://alliedhealth.ouhsc.edu/Labs/Behavioral-Nutrition-Physical-Activity-Lab