Continuing Medical Education: Module 14
Subject: Nutrition to Optimize Neurocognition

Class Time: 3 hours
Audience: Practicing physicians, Nurse Practitioners, Physician Assistants, Registered Dietitians
Hours: 3 hour class
Class Size: 16 students/class, comprised of 8 groups of 2 students

Pre-requisites: Students will be required to review an online PowerPoint lecture, required reading and complete a quiz prior to class.

Readings (required):


Readings (optional):


Goals:

1. Understand the evidence showing that glucose dysregulation causes impaired brain functioning.
2. Review how modern diets contribute to increasing rates of dementia.
3. Understand the role of diet in ADHD.
4. Review foods shown to be neuroprotective and likely to promote optimal brain functioning
5. Be able to discuss the negative impact of the standard American diet on neurocognition.

Culinary Medicine Learning Objectives:

1. Know the evidence showing a relationship between glucose dysregulation and cognitive functioning
2. Recognize the role of omega 3 fatty acids in brain health and abnormal brain states.
3. Understand the positive data showing impact of whole foods such as tree nuts and berries.
4. Identify micronutrients shown to be helpful in ADHD.
5. Understand the role healthcare practitioners can have in promoting improved cognitive functioning through dietary interventions.

Culinary Nutrition Learning Objectives:

1. Be able to counsel patients on choosing healthier carbohydrate alternatives.
2. Identify good sources of Omega-3 fatty acids.
3. State the ways that the “standard American diet” is harmful to our health and brains.
4. State why berries are good for the brain.
5. State why walnuts are beneficial for neurocognition.

Course Structure:

Pre-Class:

20 minute video lecture covering medical and culinary objectives. Review class goals and objectives, rules, guidelines, policies and procedures. One required journal article and one optional article for review. MANDATORY ten question assessment quiz (reviewed by instructor prior to class)

In-Class:

1. Review
10 minutes
Review of lesson content and gaps-in-knowledge as determined by pre-class quiz.

2. Case Study
20 - 30 minutes
Students will be assigned exercise questions individually or as a group, and will, utilizing resources, research answers to be discussed over mealtime.

3. 15 minutes
Tour/Demo

• Tour of Kitchen
• Review proper station set-up with expectation of students setting up their own stations.
• Review proper dishwashing and kitchen sanitizing techniques. Have sanitizer buckets set up throughout kitchen.
• Knife skills demonstration: proper knife holding technique, dicing an onion, juliennning an onion, chopping garlic, slicing and dicing celery

4. Production
Students will prepare spaghetti and cut vegetables to practice knife skills.

Students will have the opportunity to apply the skills and lessons set forth in class by preparing and tasting multiple recipes in an open group setting. Instructors will offer assistance and feedback throughout the production and take advantage of teaching moments whenever possible. Recipes are variations in traditional versions vs. those of different calorie density, cooking techniques and nutrient content. Student teams will compare recipes during tasting.

Exercise
Students will prepare a variety of recipes showcasing meals for patients with food allergies and autoimmune diseases. There will be four recipes utilized, with one group (five students maximum) per recipe.

Group 1- Strawberry banana smoothie, Banana bread pudding, Fruit sauce,
Group 2- Spinach berry and parmesan salad, Avocado egg salad sandwich
Group 3- Cold corn salad, Grilled flank steak and salsa verde
Group 4- Coconut pecan date roll, Fresh tomato salsa, Black Bean Quesadilla, Creole Roasted Chickpeas

During Preparation:

- Encourage students to taste food throughout the cooking process to understand changes in texture and taste of foods.
- Assist students in proper knife and cooking technique.
- Have students clean as they go.
- Encourage concept “full hands in and out” of the kitchen.
- Find culinary nutrition teaching moments whenever possible.

Post-meal:

- Each group of students will be tasked with plating one single serving of their dish in proper serving portions, based on the serving size noted on the nutrition label. Allow students to pick whatever dish or bowl they choose, then placed on a table with a serving utensil and kept covered until meal time.
- The single serving of the dish should be displayed on the table in front of the correlating dish.
- Instructor should bring attention to the plated dishes and use this opportunity to discuss latest research on mindfulness. Review with students the following questions regarding healthy menu strategies and the social and philosophical impact of improving eating habits: How does the size of the bowl impact the perception of amount of food? How do the added vegetables impact the visual of the dish? How does the reduced use of meat impact the cost of the dish?
- Instructor should prompt each group to:
- describe their dish, with a focus on how they differ from the others.
- outline calorie, fiber and protein content of their dish.

• Focus on how adding vegetables and reducing meat makes dishes more visually appealing, lowers costs and vastly improves nutrition and how to relate this to patient education.
• Participants should be encouraged to serve themselves tasting portions of each dish, keeping in mind calorie content and serving size.

5. **Tasting and discussion**  
   **30 minutes**  
   While dining, class will review case study questions. This should be student-led with instructors providing feedback to build on subjects.

6. **Cleanup**  
   **20 minutes**  
   Trash  
   Dishes  
   Floor sweep & mop  
   Clean surfaces  
   Proper labeling and storage