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The Lack of Nutrition Education among Student Athletes

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Introduction

Today, it is becoming more common to see bad health choices among student athletes. These young adults may lack knowledge about nutrition causing them to choose unhealthy eating habits which may lead to future health complications (Johannes Brug et al., 2008). In order to address this problem, more emerging adults need to be aware of the issues at hand. To address the lack of awareness in student athletes, I will provide feedback to meal choices, a nutritional deficit survey, present an educational power point, and track progress.

Needs Statement

Young adulthood is an important transition period during which long term health behavior patterns are established. Failure to form positive health behavior habits during this period makes young adults vulnerable to poor health outcomes and many chronic disorders later in life (Cha et al., 2014). The transition to college life can be difficult and this often makes students eating habits worsen (Sameer et al., 2009). There is not enough education given at home and schools throughout development and this is where the issues begin. Emerging adults are lacking knowledge of basic nutrient needs, making poor dietary choices, and are unaware of potential health risks.

Lacking knowledge of basic nutrition can lead to bad habits for young adults. Young adults are one of the major consumers of fast foods and soft drinks (Cha et al., 2014). According to the American College Health Association (2006), a 2004 study revealed that only 7.3% of students ate five or more servings of fruits and vegetables daily (Sameer et al., 2009). Young adults have the tendencies to consume the same foods almost every day which can lead to excesses or deficiencies of certain nutrients. A

handful of adults are uneducated and unaware of the nutrients they need throughout the day. The most proficient way to think about a healthy lifestyle is to have a balanced diet.

One study found that health behaviors can be influenced by psychological attributes such as self-efficacy. Self-efficacy is how a person takes on certain situations or decisions. This case would deal more with food intake (Cha et al., 2014). Higher self-efficacy in young adults can help decision making easier when it comes to food intake. They are more capable of making the better choice even when the choice is difficult. For instance, people with a high self-efficacy are more likely to engage in healthy diets and weight loss programs compared to people that have low self-efficacy (Cha et al., 2014).

Healthy literacy has an impact in making knowledgeable decisions and behavioral changes. Having the proper health literacy provides basic information on making the correct nutritional choices. Without health literacy young adults can make poor health choices like not knowing how to properly read a food label. The US dietary guidelines offer a food label that shows people better health options. However, most young adults ignore what is on the label (Miller & Cassady 2015). Young adults need to make small changes when it comes to their diet. It will play a huge role on their health in the long run (Palo Alto Medical Foundation).

According to the National Collegiate Athletic Association there are five important food components of a performance plate. These five food components were put together to help student athletes reach their full potential in their performance. These essential components are purposely built for energy, recovery, and muscle building. Snacking is also important because it guarantees adequate fuel for sport, improves muscle recovery, helps manage weight and boosts mental performance (NCAA). To help increase

awareness I plan to provide feedback on meal choices, give a nutritional deficit survey, present an educational powerpoint, and track progress.

Developmentally Appropriate Practice

Social cognitive theory. An important theory of behavior change is Bandura's social cognitive theory. Social cognitive theory recognizes behavior, cognition, and environment as interacting determinants with bidirectional influences on one another (Coccia & Darling, 2017). Cognitive factors relate to nutritional knowledge, behavioral factors relate to the ability to choose healthy foods and environmental factors are the influential surroundings throughout life. Albert Bandura's social cognitive theory describes how an individual is shaped and influenced by their environment. Behavior is molded by one's ability to regulate their own behavior. "This theory includes a number of factors, including the environment, behavioral capacity, self-control, observational learning, reinforcements, and self-efficacy." According to Knol et al., (2016) research says that parent's behaviors have a huge impact on their children and this can then lead to negative influences on a young adults weight and health habits throughout their life. The social cognitive theory asserts that learning occurs within social context, and that observation of behaviors and associated outcomes influences one's behavior (McMullen, 2016).

Overall, your surroundings are important throughout your development. The social cognitive theory states that the environment can influence behavior which can then lead into a healthy or unhealthy lifestyle (Knol et al., 2016). Young adults are lacking knowledge about nutrition which is causing them to choose unhealthy eating habits (Johannes Brug et al., 2008). Athletes do not always know if their meals consist of the

correct combination of foods. Therefore, I am creating an intervention for student athletes to identify, recognize and understand their nutritional choices.

Consideration of Diversity

My project will include female college athletes. There will be 8 female participants of the Cal State University Monterey Bay softball team. CSUMB accepts all different ethnicities, cultures, races, beliefs and financial background. According to College Factual, CSUMB is above average in overall diversity. The undergraduate student body at CSUMB is predominantly females; males will be excluded for this intervention. The undergraduate population of males is 2,497 and females 4,151.

Overall, CSUMB has a percentage of females at 62.4% and males at 37.6%. This project can be useful for all audiences such as children, adolescents, young adults, and elderly because it involves nutrition. However, it is mostly geared towards young adults. It is not as likely that children and adolescence can relate or understand their diet at a young age. Student athletes are at a point in their life where they are capable of making changes if they desired to do so. Emerging adults are not under the supervision of parents; therefore, all information is coming straight from the individual's lifestyle. Nutrition applies to all ages and diversities because it is important in every stage of your life.

Learning Outcomes

At the end of the project, participants will:

1. Identify one healthier substitution for a meal item.
2. Recognize nutritional deficits in their diets.
3. Understand a healthier snack is for game day.

Method

Part 1

First, I will ask participants to send a picture of their lunch and favorite game day snack. They will send their picture through an email or google document so I can provide feedback to meal choices. My feedback will consists of substitutions, such as a healthier meal option. All feedback will be according to National Collegiate Athletic Association. Once this is completed I will send back a survey (Appendix C) to examine their nutritional deficits in their diet. This part of the project should take no longer than a couple days to a week at the most.

Part 2

After sending photos of their meals and taking the nutrition survey, there will be an educational presentation. The educational presentation (Appendix E) provided information on what a healthy performance plate would look like for a student athlete. It also included tips such as, how to read a food label, healthy snacking vs. treats, and tips to improve their overall wellbeing. This information will come from scholarly sources of research. The goal is to help participants understand what they should consume on a daily basis to be healthy student athlete. When presentation is finished, I will then ask them to send their final pictures of their meals and game day snacks.

Results

Learning outcome 1 was that student athletes were able to identify one healthier substitution for a meal item. I shared the results of my analysis of the first pictures with the participants and asked them to identify one healthier substitution for their final picture. After presenting my educational powerpoint, participants were able to identify healthier substitutions for their final pictures. In Appendix A, I provided the list of the participants results, and an example of a first and final picture. Six out of the eight participants were able to identify one healthier substitution for an overall better performance plate. Although not all participants were able to identify one healthier substitution for a meal, I believe overall this outcome was met.

Learning outcome 2 was that student athletes will be able to recognize nutritional deficits in their diets. This learning outcome was to help participants recognize what they might be missing or eating too much of. In appendix B, The evidence in the table shows that five out of the eight participants were able to recognize their deficits as noted in their the nutritional survey. Although a majority of participants were able to recognize their deficits, there were still some who did not. This learning outcome was partially met.

Learning outcome 3 was that student athletes of the CSUMB softball will be able to understand a healthier snack option for game day. After the powerpoint was presented, the participants gained new knowledge on healthy snacking for a fueled performance on game day. In Appendix D, I provided the participants results, and examples of a first and final picture. Nearly all of the participants understood a healthier snack; thus, the learning outcome was a success.

Discussion

This project was moderately successful. Despite all learning outcomes not being met yet there was a definite influence made. Participants were able to identify one healthier substitution in a meal, recognize nutritional deficits in their diet, and understand a healthier snack for game day. Results demonstrate alignment with Bandura's social cognitive theory. The social cognitive theory has 3 important factors; cognitive, behavioral, and environmental. Cognitive factors relate to nutritional knowledge, and this was shown when the participants final pictures were sent. The final pictures they sent exposed the type of food choices they selected. Behavior factors relates to the ability to choose healthy foods, and this was also shown when the finals pictures were sent. Lastly environmental factors were present all throughout this intervention. The participants were influenced by teammates, friends, roommates, and the head softball coach.

Emerging adults are lacking knowledge of basic nutrient needs and are making poor dietary choices. With the intervention, I created I was able to influence the participants with an educational powerpoint, a survey to examine their nutritional deficits, and pictures of their food choices. My research shows that the participants gained knowledge of basic nutrient needs and made healthier dietary choices.

This project is important because student athletes need to be aware of the foods they are consuming on a daily basis. Student athletes should be able to reach their full potential in their performance if they have the right components on their plate. These important food components are built for energy, recovery, and muscle building. The evidence I gathered showed that there was an increase of mindfulness. By using a visual assessment of their lunch, I was able to provide real feedback as opposed to using their

recollection of what they ate. Throughout this project, I was able to discover how participants felt about their food choices and how it was important to their lifestyle. Although my project was successful, I do not know if participants will keep up with the healthy eating habits. According to Bandura's theory there may not be long lasting effects if modeling is discontinued (McMullen 2016). This intervention was useful to address the need because I provided the knowledge of nutrition to those who lacked awareness in their dietary needs.

Appendix A

Results for learning outcome 1: Participants will be able to identify one healthier substitution for their meal item.

Performance Plate	Picture 1	Picture 2
Whole Grains	4/8	7/8
Lean Proteins	8/8	8/8
Fruits/Vegetables	3/8	7/8
Fats	2/8	5/8
Fluids	8/8	8/8
Total Average	63%	85%



1. Whole grain or healthy carb: **N/A**
2. Lean Protein: **Beans**
3. Fruits/ Veg: **N/A**
4. Fats: **N/A**
5. Fluid: **Water**



1. Whole grain or healthy carb: **Bread**
2. Lean Protein: **Ham**
3. Fruits/ Veg: **Lettuce**
4. Fats: **N/A**
5. Fluid: **Water**

Appendix B

Results for learning outcome 2: Recognize deficits in diet which was partially met.

Recognize Deficits In Diet
“I don’t know”
“Need more vegetables & fruit”
“Greens”
“I don’t know”
“More vegetables and healthy carbs”
“Not sure”
“Fruit and veggies”
“I eat too much fast food”
5 out of 8 recognized deficits in diet

Appendix C

Survey: Recognize Nutritional Deficits in Diet.

The image shows two screenshots of a Google Docs survey titled "Nutrition Survey". The left screenshot shows the beginning of the survey with three questions. The right screenshot shows two more questions.

Left Screenshot:

docs.google.com

Nutrition Survey

How often do you eat out at restaurants or fast-food restaurants?

- All the time
- Often
- Sometimes
- Rarely
- Not at all

How often do you eat processed snacks? (e.g., chips, candy, cookies)

- All the time
- Often

Right Screenshot:

docs.google.com

How often do you eat fresh or frozen green vegetables, such as kale, lettuce, or spinach?

- All the time
- Often
- Sometimes
- Rarely
- Not at all

How often do you eat fresh or frozen fruits and vegetables from at least 3 different color groups (e.g., red berries, purple eggplant, orange sweet potatoes, and green broccoli) all in one day?

- All the time
- Often
- Sometimes

docs.google.com

How often do you eat low-fat dairy products such as yogurt or cheese, soy, or almond-milk products?

All the time

Often

Sometimes

Rarely

Not at all

How often do you eat lean protein? (e.g., chicken, turkey, pork, or tofu)

All the time

Often

Sometimes

Rarely

Not at all

docs.google.com

How often do you eat healthy carbs (e.g oatmeal, brown rice, potatoes, whole-grain pasta)

All the time

Often

Sometimes

Rarely

Not at all

How often do you drink water?

All the time

Often

Sometimes

Rarely

Not at all

Based on the questions above what kinds of nutritional deficits do you have in your diet?

Your answer _____

SUBMIT

Appendix D

Results for learning outcome 3:

	Picture 1
	Gold fish & Fruit snacks
	Chocolate Raisins & Fruit snacks
	PB & J
	Fruit snacks
	Chewy bar (choc. covered)
	Fruit snacks
	Cucumber & Strawberries
	Banana & Almonds
	3 out of 8

	Picture 2
	Oats & Honey Granola Bar
	Grapes
	PB & J
	Fruit
	Almonds
	Fruit snacks
	Strawberries & Oranges
	Banana & PB & J
	7 out of 8

Appendix E

4/23/18

The Importance of Nutrition Education



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Human Development
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A proper diet is important for a fueling performance. However, building a healthy plate at each meal is sometimes a challenge for student athletes. Athletes do not always know if their meals consist of the correct combination of foods. (NCAA)



4/23/18

Student Athlete Performance Plate



IMPORTANT COMPONENTS OF A PERFORMANCE PLATE

To succeed in building an energy-packed, nutritious meal, try to include all five of the following components:

1. **Whole grains or energy-enhancing foods:** 100 percent whole-wheat bread, bagels, tortillas, pita bread and crackers; brown rice; whole-grain pasta; beans; potatoes; oatmeal; whole-grain breakfast cereals; yogurt.
2. **Lean proteins or recovery/muscle-building foods:** Grilled/baked/broiled/roasted chicken, fish, pork loin, turkey, sirloin and lean ground beef; eggs; low-fat cheese; tofu.
3. **Fruits and vegetables or antioxidant-rich foods:** Apples; oranges; bananas; blueberries; grapes; melon; strawberries; broccoli; green beans; spinach; romaine lettuce; carrots; cauliflower; mushrooms; cucumbers; tomatoes.
4. **Fat or immunity/flavor-boosting foods:** Salmon; tuna; nuts; seeds; olives; olive oil; canola oil; avocado; nut butters; oil-based salad dressings.
5. **Fluid or hydration-promoting beverages:** Water; low-fat milk (cow, almond, soy, etc.); 100 percent fruit juice.

REAL FOOD

Whole - in their natural state

Fresh, made from the earth

Single or simple ingredient lists you can pronounce

*Exception: quinoa (pronounced "keen-wa")

Nutrient dense

Contain thousands of vitamins, minerals, antioxidants, and trace minerals

PROCESSED FOOD

Refined - altered out of natural state

Made from refined ingredients and artificial substances

Long list of ingredients that require a PhD in biology or chemistry to pronounce

Empty calories

Often contain preservatives, colorants, flavor, and texturants

Understanding Food Nutrition Labels!

Sample label for macaroni and cheese

Nutrition Facts
 Serving Size 1 cup (228g)
 Servings Per Container 2

Amount Per Serving
Calories 250 **Calories from Fat** 110

	% Daily Value*
Total Fat 12g	18%
Saturated Fat 3g	15%
Trans Fat 1.5g	
Cholesterol 30mg	10%
Sodium 470 mg	20%
Total Carbohydrate 31g	10%
Dietary Fiber 0g	0%
Sugars 5g	
Protein 5g	
Vitamin A	4%
Vitamin C	2%
Calcium	20%
Iron	4%

* Percent Daily Values are based on a 2,000 calorie diet. Your Daily Values may be higher or lower depending on your calorie needs:

	Calories: 2,000	2,500
Total Fat	Less than 65g	80g
Sat Fat	Less than 20g	25g
Cholesterol	Less than 300mg	300mg
Sodium	Less than 2,400mg	2,400mg
Total Carbohydrate	300g	375g
Dietary Fiber	25g	30g

Start here →

Limit these nutrients →

Get enough of these nutrients →

Quick guide to % DV:
 • 5% or less is low
 • 20% or more is high

What does your snacking look like?

HEALTHY SNACKS VERSUS TREATS



It's important to distinguish a healthy snack from a treat. Healthy snacks are nutrient-rich and provide whole grains, fiber, lean proteins and/or healthy fats. Treats such as sweets, fried foods and chips lack nutrients and provide "empty" calories. Treats usually satisfy a craving, but they rarely satisfy hunger. Choosing treats instead of healthy snacks can slow fueling and muscle recovery. Remember: You are what you eat. Eating healthy, high-quality snacks is a key component to achieving your athletic potential.



4/23/18

Healthy snacking is an important part of an athlete's diet. Snacking ensures adequate fuel for sport, improves muscle recovery, helps manage weight and boosts mental performance.

Can gummy bears do that?

EMPTY CALORIES		VS	WHOLE FOODS	
				
Protein - 0			Protein - 16g	
Dietary fats - 0			Dietary fats - 41g	
Carbs (sugar) - 99g			Carbs (low GI) - 31g	
Vitamin B1 - 0	Iron - 0		Vitamin B1 - 36%	Iron - 37%
Vitamin B2 - 0	Magnesium - 0		Vitamin B2 - 9%	Magnesium - 91%
Vitamin B3 - 0	Phosphorus - 0		Vitamin B3 - 8%	Phosphorus - 59%
Vitamin B5 - 0	Potassium - 0		Vitamin B5 - 23%	Potassium - 24%
Vitamin B6 - 0	Sodium - 6%		Vitamin B6 - 17%	Sodium - 2%
Vitamin B9 - 0	Zinc - 0		Vitamin B9 - 6%	Zinc - 73%
Vitamin E - 0	Copper - 0		Vitamin E - 13%	Copper - 183%
Vitamin K - 0	Manganese - 0		Vitamin K - 57%	Manganese - 34%
	Selenium - 0			Selenium - 33%
<small>per 100g serving</small>				

Planning your meals: A sample day of eating!

PLANNING YOUR FOOD: A SAMPLE DAY

5:30 a.m.
Pre-morning practice snack: fruit and/or granola bar

7:30 a.m.
Breakfast: omelet, toast, Greek yogurt and fruit

10 a.m.
Midmorning snack: low-fat string cheese and/or jerky

12:30 p.m.
Lunch: turkey wrap, vegetables and hummus, baked chips and low-fat milk

3:30 p.m.
Midafternoon/pre-practice snack: fig bar and/or fruit

6:30 p.m.
Dinner: grilled chicken, rice, green beans, salad, dinner roll and low-fat milk

9 p.m.
Evening snack: peanut butter, banana and honey sandwich on wheat bread and low-fat chocolate milk



Written by SCAN/CPSDA Registered Dietitians (RDs). For advice on customizing a nutrition plan, consult an RD who specializes in sports, particularly a board certified specialist in sports dietetics (CSSD). Find a qualified RD at www.scandpg.org or www.sportsRD.org

4/23/18

Tips For Improvement

- Make water your #1 drink
- ADD more FRUIT & GREENS
- AVOID processed foods/ snacks
- Eating breakfast and is lunch vital for keeping energy up throughout the day
- Limit sugar-heavy beverages and fried products
- Be motivated & stay positive! 😊



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