Food Literacy Questionnaire on Salt for Filipino College Students

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Health Education Area

21st European Conference on Literacy in Copenhagen August 4-7, 2019
A taste of Denmark
<table>
<thead>
<tr>
<th></th>
<th>Energi (5kJ/1kcal)</th>
<th>Fedt (0g)</th>
<th>Mættede fedtsyre (0g)</th>
<th>Sukkerarter (0g)</th>
<th>Salt (0.07g)</th>
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<tbody>
<tr>
<td>0%</td>
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100ml: 1.4kJ (0.3kcal)
1. Background of the research

- World Salt consumption
- Dietary habits of college students
- Grier’s Food literacy
World Salt Consumption

- Salt intake is too high in 181 of 187 countries around the world.

- With an average of 3.95 g of sodium consumed per person per day.

(Bernstein, 2014)
Salt consumption is mainly from:

- Processed foods, naturally occurring sodium in unprocessed foods and sodium added during cooking or eating
- Sauces
- Salt during cooking and added salt at the table

(Elliot & Brown, 2007)

(Brown, Tzoulaki, Candeias, & Elliot, P. 2009)
Dietary habits of college students

- “It has been known that college students have difficulties in following healthy dietary habits” (Lupi, et.al., 2015).

- Students were consuming increasing amounts of high-fat-foods, foods high in sodium, and drinking excessive amounts of alcohol (Deliens, et.al., 2014, CASH 2016).
Dietary habits of college students

- Preference to taste, lack of self-discipline, moral conviction, stress, body image and self-concept, time and convenience, past eating habits, and knowledge contribute to the unhealthy dietary habits of college students (Deliens, et al., 2014; Loomes & Croft, 2013; Lupi, et al., 2015; Majors, 2015; Pangan, et al., 2012; Rufino, 2013).
Students perceive that knowledge is just a step to change one’s eating pattern however it will not automatically lead to healthier food choices (Deliens, et al., 2014; Loomes & Croft, 2013; Lupi, et al., 2015; Majors, 2015; Pangan, et al., 2012; Rufino, 2013).
Further studies (Ansari et.al, 2015; Chung, 2017, Daly et al., 2016; Krause et al., 2018; Luta et al., 2018; Majors, 2015; Platania et al., 2016) attested that unhealthy dietary habits of college students, and chronic illnesses of adolescents are associated with health and food literacy.
Grier’s Food Literacy
Filipinos with hypertension are growing in number and are getting younger (Jaymalin, 2013).

There is a dearth of materials on the topic that would intensify salt awareness among young people (Carandang-Castillo et al., 2014).

2. Purpose of the research
2. Purpose of the research

- To develop a culture-sensitive questionnaire on food literacy on salt for Filipino college students
2. Research Questions

- What are the knowledge on salt and salt consumption habits of college students?
- What are the factors that influence their knowledge of salt and salt consumption habits?
2. Research Design

• Descriptive-Developmental

• Application of Food Literacy model

• Survey-questionnaire
3. Respondents

- Randomized sampling
- 664 college students
- 13 colleges from a state university in Quezon City
- 17-24 years old
• Grier’s Food literacy framework
• Food literacy for life

3. Research Instrument
Knowledge, Skills, Habits on Salt and Reasons for Salt intake

**Awareness and Knowledge on:**
- Foods high/rich in sodium
- Recommended amount of salt the body needs per day
- Benefits and Effects of salt on the body

**Eating Habits:**
- Consumption
- Salt regulation
- Salt reduction

**Ecologic Factors**
- Reasons for Consumption
- Factors influencing the dietary habits
4. Phases of research

Phase one
- Desktop review
- Modification of existing questionnaire
- Pretesting of questionnaire
- Validation and Finalization of questionnaire

Phase two
- Develop culture-sensitive questionnaire on salt
- Conduct pilot testing
Added items on the questionnaire that focused on Filipino dishes and condiments related to food consumption.
Results

- Added items on the questionnaire that focused on Filipino dishes and condiments related to food consumption.
Questions on perceptions, reasons for consuming salty foods, awareness and knowledge of the recommended daily sodium intake, sodium’s benefits and effects on health, and habits (frequency of salt intake, salt regulation, and reduction were also included.
Finalized the questionnaire into three sections with a total of 24 questions on knowledge, salt consumption and ecologic factors on salt intake.
Results

- Yielded a construct validity of .846 indicative of suitability for factor analysis.

- Yielded a Chronbach Alpha of .771 indicative of high reliability.
Food literacy questionnaire on salt

5. Results
College Students and Salty Foods

664 college students were made to answer a survey to determine their salt consumption by knowing what food they usually consume.

38.3% 17.0% 14.5%

The survey examined the food choices of college students. 38.3% of the students preferred and consumed junk foods, 17% from viands, and 14.5% from noodles. Most of these foods come from fast foods, canned goods, condiments, and foods sold in canteens.

96.0%

96% of the students are unaware of the recommended salt intake of 0.005g daily as advised by the World Health Organization.

51.0%

51% are unaware of the benefits of salt in the body. 50% is aware of the harmful effects of salty foods, while 30% says otherwise.
Unfortunately this study revealed that 96% of the students are unaware of the recommended salt intake needed by the body per day while only 3% are aware of the recommended salt intake per day.
Results

- 33% do not know and were unaware of the harmful effects of excessive salt intake compared to the recommended salt intake per day of five mg for adults by World Health Organization and American Heart Association ([https://sodiumbreakup.heart.org](https://sodiumbreakup.heart.org))
Only seven percent (7%) were very concerned about the presence of salt or aspect of salt in their food as compared to 18% were very concerned about saturated fats.
17% replied that sodium content has no bearing or effect on deciding what food to order
SALT TRUTHS & MYTHS

SALT/SODIUM IS A MICRONUTRIENT.

SALT IS ALSO KNOWN AS SODIUM CHLORIDE. 40% SODIUM AND 60% CHLORIDE.

IT ADDS FLAVOR TO FOOD AND IS ALSO USED AS PRESERVATIVE AND BINDER.

OUR BODY NEEDS SODIUM TO CONDUCT NERVE IMPULSES, CONTRACT AND RELAX MUSCLES, AND MAINTAIN THE PROPER BALANCE OF WATER AND MINERALS.

THE RECOMMENDED AMOUNT OF SALT NEEDED BY THE BODY IS 2,300 MILLIGRAMS OR ONE (1) TEASPOON.

TOO MUCH SODIUM CAN LEAD TO HIGH BLOOD PRESSURE, HEART DISEASE, AND STROKE.

EXCESS SALT CAN ALSO LEAD TO HEART ATTACK, OSTEOPOROSIS, AND ASTHMA.

COFFEE, KETCHUP, BREAD, BISCUITS, CONTAIN HIDDEN SALT LEVELS.

WE GET MOST OF OUR SALT INTAKE THROUGH SALT ADDED WHEN COOKING AND/OR DINING.

FOODS THAT ARE HIGH IN SODIUM TASTE SALTY.

SALT IS NATURALLY FOUND IN MOST FOODS WE EAT.

JUST ONE (1) GRAM OF SALT A DAY IS ENOUGH TO ASSIST WITH NORMAL MUSCLE FUNCTION.

THE HUMAN BODY NEEDS A VERY LARGE AMOUNT OF SODIUM.

SWEET FOODS ARE LOW IN SALT.

EATING A LOT OF SALT IS OKAY IF WE DO NOT HAVE HEALTH PROBLEMS.
Eating Habits

- Junk foods ranked first with 38.3% as the preferred and consumed food by all students.

- The students’ diets consist of processed foods and have lots of hidden salt in them that necessarily taste salty (CASH, 2016).
FAMOUS FOODS!

how much salt is in it?

- Fastfood chicken: 600 mg
- Large fries: 700 mg
- Hamburger: 224 mg
- Pizza: 190 mg
- Fried chicken: 177 mg
- Pork sisig: 728 mg
- Pork sinigang: 23 mg
- Barbecue: 650 mg
- Tinola: 718 mg
- Fishball: 10 mg
- Siomai: 50 mg
- Kwek-kwek: 33 mg
- Popcorn: 107 mg
- Chips: 149 mg
- Peanuts: 170 mg
- Bread: 182 mg
Students’ consumption of foods high in salt content are based on the preference, affordability, accessibility, quality and comfort the foods provide them.

- 67.85714% of them eat salty food at least once in five days while 44.444% have them once a month, and 7.142857% have them once a day.
□ Students lean toward the salty side that is because 55% of them add more salt (patis, toyo, liquid seasoning) in some meals only; 43% add salt (patis, toyo, liquid seasoning) in cooking some meals; and 72% preferred salted food than unsalted food.
Results

- 27% of the students often ignore the labels for sodium content when buying foods, 22% ignore the sodium content of the foods they buy every time, and 33% choose obviously salty sauces or foods over the non-salty or less foods when dining out twice in every two weeks.
Results

- Students are unmindful in regulating and reducing their salt intake. 61% of them considered lowering salt intake in their diets as somewhat important while 67% do not control at all.
Results

- 68% of the students do not check label or read the sodium content.
More than half the respondents add salt for flavor during cooking, and to their food while eating.
72% of the respondents preferred salted food because of its affordability, accessibility, and taste.
6. Conclusions

- Consume food high in sodium
- Knowledge on salt is inadequate
- Eating habits lean toward the salty side
6. Conclusions

- Majority of the students’ high salt food consumption is influenced by preference, affordability, accessibility, and comfort.
6. Conclusions

- 68% eat salty food at least once in five days
- Majority are unmindful of the food’s salt content
- Less interested in regulating their salt intake
Food literacy plays a role in the college student’s dietary habits (Abd El-Mouty, 2016; Abdull Hakim, et al., 2012; Jiet & Soma, 2017; Nastakin et al., 2015; Vaitkeviciute et al., 2014) as a result of several factors based on Grier’s Food Literacy Model. In effect, the interaction of these factors lead to cardiovascular diseases, kidney problems, stroke, hypertension, etc. (Dickinson et al., 2012; Farquhar et al., 2015; Kuwahara, 2010; Ting et al. 2015).

6. Conclusions
6. Recommendations

- **Surveillance:** Measure and monitor salt use.
- **Harness Industry:** Promote reformulation of foods and meals to contain less salt.
- **Adopt Standards for Labelling and Marketing:** Implement standards for effective and accurate labelling and marketing of food.
- **Knowledge:** Educate and communicate to empower individuals to eat less salt.
- **Environment:** Support settings to promote healthy eating.
6. Recommendations

- Include beverages and other foods with hidden salt in the questionnaire.

- Pilot test to other college students in different tertiary institutions.
Data generated by the questionnaire may be used to develop and design health literacy materials, activities, and food and health literacy skills and may be used as a platform that would intensify salt awareness and healthy eating among students.

Be used for curricular revisions in Nutrition Education.

Modify the questionnaire to be used to study children’s food literacy on salt.

6. Recommendations
LITERACY SKILLS: FUNCTIONAL, INTERACTIVE, AND CRITICAL SKILLS TO DEVELOP

FOOD LITERACY IN ACTION
Guideline on Sodium Intake (WHO, 2012)

WHO Recommended an intake of
5 g of salt or 2000 mg sodium

< 2,000 mg Sodium /day

1 level teaspoon of salt
Read the food labels.
Shop for alternatives
1 A pinch of salt
0 Chips
0 Cup noodle
0 Cola/Soda
1 Serving of salty food once a week
0 MSG

Practice self-regulation.
INVOLVEMENT OF STAKEHOLDERS EXISTING POLICIES, ACTIVITIES, ADVOCACY, and RESEARCHES on LITERACY
Kumain nang Wasto at Maging Aktibo... Push Natin ‘to!

#2019NMPush
www.nnc.gov.ph

DOST - FNRI
**GO ENERGY GIVING**

Choose whole grains like brown rice, corn, wheat bread and oatmeal.

Go for root crops like gabi, kamote, kamoteng kahoy and ubi.

**GROW BODY BUILDING**

Eat fish, shellfish, lean meat, poultry, eggs and dried beans or nuts.

Consume milk, milk products and other calcium-rich foods like dilis and small shrimps.

**GLOW BODY REGULATING**

Enjoy a wide variety of vegetables like malunggay, kalabasa, sitaw, ampalaya and others.

Include fresh fruits like banana, mango, dalanghita, papaya and others.

**WATER & BEVERAGES**

Drink at least 8 glasses of water every day.

Lessen intake of sugar-rich drinks.
EXERCISE
PERSONAL & ENVIRONMENTAL HYGIENE

 Substitute physical activity for television watching or playing computer games.

EATING PLAN FOR HEALTHY LIVING
Eat a variety of foods everyday to ensure that all nutrients are provided in proper amount and balance.
Use iodized salt and eat other fortified foods to increase the intake of micronutrients.

Food and Nutrition Research Institute
Department of Science and Technology
General Santos Avenue, Sucat, Taguig City
Tel/Fax: 02-283-54, 837-31-64
http://www.fnri.dost.gov.ph

Source: Nutritional Guidelines for Filipinos (NSP) 2000

FATS & OILS
6-8 tps

SUGAR/SWEETS
5-6 tps

FISH, SHELLFISH, MEAT & POULTRY
2 1/3 - 2 servings

DRIED BEANS & NUTS, EGGS
2 1/3 - 2 servings

MILK & MILK PRODUCTS
1 glass

VEGETABLE
1/3 - 1/2 servings

FRUITS
1 medium serving

RICE, RICE PRODUCTS
CORN, ROOT CROPS
BREAD, NOODLES
4 - 6 servings

WATER/BEVERAGES
6 - 8 glasses
PINGGANG PINOY®
A food guide using a food plate model to show the recommended proportion by food group in every meal.

GO
ENERGY GIVING
Go for rice, root crops, pasta, poultry, eggs, and other carbohydrate-rich foods, which provide energy to support body functions and physical activity.

GROW
BODY BUILDING
Eat fish, seafood, lean meat, poultry, eggs, and dairy products and nuts needed for the growth and repair of body tissues. Include fish in the diet like tuna, sardines, and mackerel a week to provide essential fatty acids that help protect against heart disease.

GLOW
BODY REGULATING
Enjoy a wide variety of fruits and vegetables, which are packed with vitamins, minerals and fiber needed for the regulation of body processes.

WATER
Drink lots of water every day for adequate hydration. Limit intake of sugar-sweetened beverages to reduce the risk of obesity and tooth decay.

*This is intended for healthy Filipino children, 3-12 years old. Children with specific health conditions should be brought to a registered nutritionist-dietitian or any health care provider for consultation regarding their energy and nutrient needs.
Sa “ASIN” Tax Bill, bubuwisan ang mga canned at processed foods, noodles at mga salted products!
DepEd Order No. 8. s. 2007
CHOOSE WELLNESS,
Choose Happiness!

19th Health Advocacy, Promotion and Instruction (H.A.P.I) Days

April 10-13, 2019

April 10
- "Magsaya! maglaro para sa Malusog na Puso"
  (2:30-4PM, Elsie courtyard)
- Free Warts Removal
  (9AM-5PM, RM 110)

April 11
- E-Workshop (DIY)
  (10-11:30AM, RM 106)
- Self-Defense Demonstration
  (11:30-1PM, RM 108)
- Free Massage
  (9AM-5PM, RM 110)

April 12
- Free Massage
  (9AM-5PM, RM 110)
- Musikalusugan
  (5-6:30PM, RM 108)

April 13
- Centennial Lecture and Health Research Presentation
  (7-11AM, Bentez Theater)
#FOTD
FOOD OF THE DAY

CHAMPORADO

In every serving of champorado (261.7g), it contains:
- 61.6 g of carbohydrates
- 1.2 g of protein
- 13 g of fat
- 179 mg of sodium
- 260 calories

Making of Champorado:
1. In a medium size saucepan, melt 2 tbsp of vegetable oil. Add 1 cup of coconut milk and 1/2 cup of water.
2. Add 1/2 cup of organic coconut sugar and 1/2 tsp of salt. Heat and stir until it boils.
3. Add 2 1/2 cups of glutinous rice. Simmer for 10 minutes or until it is cooked.
4. Add 2 tbsp of ground coffee and 1 tbsp of carob powder. Mix well.
5. Serve with grated coconut and chocolate chips.
UP COLLEGE OF EDUCATION
HEALTH EDUCATION AREA
PRESENTS

HEALTH, HEALTH, HOORAY!!!

Centennial Lecture and Research Presentations

APRIL 13, 2019
8:00 - 11:30AM
Benitez Theater,
UP College of Education

UP Health Education @ 90:
Celebrating Milestones, and
Sustaining Gains for a Healthy Nation

DR. MA. FE G. SANCHEZ
Former UP Health Education Faculty

RESEARCH PRESENTATIONS

"Factors Influencing Non-use of Drugs among Filipino Male Adolescents"
Carmelo Jose A. Buhain

"Perceived and Actual e-Health Literacy of High School Students"
Mark Kenneth S. Camiling

"Effects of Multimodal Health Intervention on Safety and Disaster Preparedness of the Elderly"
Juan Paolo M. Guillermo

OPEN TO ALL EDUCATORS, PARENTS, STUDENTS AND HEALTH ADVOCATES!
REGISTRATION STARTS AT 7:30AM
This is a FREE event. Pre-register here: https://form.jotform.me/90882021862457
“Applying Health and Food Literacy Models to College Student’s Nutrition Knowledge and Salt Consumption”
NEXT STEPS:
Development of:
1. IEC materials
2. Learning exemplars
3. Handbook and Learning Module
READ the label of food products.

ENJOY YOUR MEAL

SET A CLEAR GOAL in choosing a low sodium diet.

Only one teaspoon of salt is needed by the body.

CHOOSE WISELY

Always eat foods with sodium in moderation.

Fries sodium content: 700 mg
1 PINCH OF SALT
1 SERVING OF SALTY FOOD ONCE A WEEK

GO 1010

0 SODA, CHIPS, NOODLES
0 MSG
EXCESS SALT can lead to heart attack, osteoporosis, and asthma.
Just 1 gram of salt a day is enough to assist with normal muscle function.
FOLLOW 1010
Practice self-regulation!

1 pinch of salt

0 Soda, chips, noodles

1 serving of salty food once a week

0 MSG
SALT

TRUTHS & MYTHS

Salt/sodium is a micronutrient.

Salt is also known as sodium chloride. 40% sodium and 60% chloride.

It adds flavor to food and is also used as a preservative and binder.

Our body needs sodium to conduct nerve impulses, contract and relax muscles, and maintain the proper balance of water and minerals.

The recommended amount of salt needed by the body is 2,300 milligrams or one (1) teaspoon.

Too much sodium can lead to high blood pressure, heart disease, and stroke.

Excess salt can also lead to heart attack, osteoporosis, and asthma.

Coffee, ketchup, bread, biscuits, contain hidden salt levels.

We get most of our salt intake through salt added when cooking and/or dining.

Foods that are high in sodium taste salty.

Salt is naturally found in most foods we eat.

Just one (1) gram of salt a day is enough to assist with normal muscle function.

The human body needs a very large amount of sodium.

Sweet foods are low in salt.

Eating a lot of salt is okay if we do not have health problems.
FAMOUS FOODS!
how much salt is in it?

- Fastfood Chicken: 600 mg
- Large Fries: 500 mg
- Hamburger: 224 mg
- Pizza: 160 mg
- Fried Chicken: 177 mg
- Pork Sisig: 978 mg
- Pork Sisig: 33 mg
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- Tinola: 978 mg
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- 51.0% unaware of the benefits of salt in the body. 50% is aware of the harmful effects of salty foods, while 30% says otherwise.
FOOD LITERACY IN ACTION
5 STEPS to GOOD HEALTH

INTEGRATE

ADVOCATE

COMMUNICATE

INFLUENCE

PROMOTE

INTEGRATE
Thank you for listening!

Eat well,
Live well!


Most countries have high salt intake, linked to diseases like BP and stroke (2018, Oct. 14) hindustantimes. Retrieved from https://www.hindustantimes.com

nutritioneducationstore.com


