

Nomor: 85/M/KPT/2020

ARTICLE INFORMATION Received: February, 15, 2021 Revised: March, 23, 2021 Available online: April, 28, 2021

at: http://ejurnalmalahayati.ac.id/index.php/nursing/index

Healthy eating: A concept analysis

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Abstract

"Every human being is the creator of his own health or disease (Buddha)". A message of this quote is eat better, health better. Food is an important component and needed by the body to grow and develop as the body fuel. Mistakes in consuming food can be fatal. Therefore, knowledge about healthy eating is needed. Mostly, people refer the term "healthy eating" as a diet. These terms are interchangeable. The term "diet" is defined as restricting the amount of food or avoiding certain foods. Healthy eating is not merely counting the amount of foods, but rather the accuracy of choosing foods based on the need for balanced nutrition. A long with the GERMAS program regarding healthy eating guidelines, namely "Isi Piringku", then we must understand about food ingredients and their nutritional content as well as balanced nutritional components containing carbohydrates, fats and proteins. The study aimed to construct the concept of healthy eating. The study applied Rodgers' Evolutionary method for concept analysis. As the results, there are three dimensions of healthy eating involve physical, psychosocial, and biochemistry dimension. By considering these three dimensions of healthy eating, you will eat healthier.

Keywords: Healthy eating; Concept analysis; Diet; Food consumtion; Nutritional

INTRODUCTION

Nutrition is one of the basic human needs. Nutrition is a fuel of the body to growth and development. Nutrition comes from food and water which are consume by person itselves. There are still many people who consume foods with just a reason to satisfy hunger and satiety. They sometimes forget the importance of the content/quality of food consumed compared to the

amount/quantity. As explained earlier, that food is a source/nutrients for the body. So, whatever we eat will automatically be metabolized by the body and can spread throughout the cell as a fuel for growth and development. Miss in foods choose and eating pattern can give fatal effects, such as obesity, diabetes, or other metabolic diseases as well. So that awareness in foods selection and eating pattern are very crucial way in advance. Hence,

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healthy eating with consume more vegetables and fruits is a great deal to be healtht such as World Health Organization suggestion.

A concept analysis of healthy eating

Concepts which describe abstract images tend to lead to individual interpretations (Lingerfelt & Hutson, 2020). Healthy eating, sometime it sound as an abstract concept that tends to be ambiguous. To refine and clarify concepts of healthy eating, an appropriate method is Rodgers' Evolutionary method (Tofthagen & Fagerstrøm, 2010). It is involved six steps, which are identify the concept and associated terms, select an appropriate realm (setting) for data collecting, identify the attributes of the concept and the contextual basis the concept, specify the characteristics of the concept, identify an exemplar of the concept, and identify hypotheses and implications for development.

1. Identify the concept and associated terms

To conceive the meaning of "healthy eating", we need to know the definition of itself and associated term of it. Because the definitions for healthy eating varied in complexity. There are many term used as synonyme of healthy eating, that are Diet, Healthy Diet, Healthy Food, also A Balanced Diet. The terms are interchangeable. Here, we try to looking for the root word of healthy eating first, than the concept and associated term.

Healthy

"These adjectives mean being in or indicative of good physical or mental health or possessing good health."

(Wikipedia, 2021)

"Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity."

(World Health Organization, 2021)

Eating

"Eating is the ingestion of food to provide for all humans and animals nutritional needs,

particularly for energy and growth, also in order to survive. Eating is an activity of daily living." (Wikipedia, 2021)

Healthy Eating

"Healthy eating means having a balance of carbohydrates, lean proteins, and healthy fats." (American Diabetes Association, 2021)

Fundamental elements of healthy eating were to be 1) vegetables and fruits, 2) meat, 3) low levels of fat, salt and sugar, 4) quality aspects, such as fresh, unprocessed and homemade foods, and 5) concept of balance, variety and moderation.

(Ronteltap, Sijtsema, Dagevos, & de Winter, 2012)

"Healthy eating is eating with low fat, natural/unprocessed foods, balance, which can prevent disease or manage an existing disease, maintaining nutrient balance, and to control body weight."

(Falk, Sobal, Bisogni, Connors, & Devine, 2001)

Healthy diet

A healthy diet is one that helps maintain or improve health. It is important for the prevention many chronic health risks such as: obesity, heart disease, diabetes, and cancer. A healthy diet involves consuming appropriate amounts of all nutrients, and an adequate amount of water. Nutrients can be obtained from many different foods, so there are a wide variety of diets that may be considered healthy diets. A healthy diet needs to have a balance of macronutrients/energy proteins, and carbohydrates) and (fats, micronutrients to meet the needs for human inducing toxicity nutrition without excessive amounts.

(Wikipedia, 2021)

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From several definitions above, we can conclude that healthy eating means the healthy feeding process, which starts from the foods selection process to the process of eating meals. A healthy eating should meet the criteria for all components of balanced nutrition and a variety of food sources. Healthy eating, either can prevent and reduce the risk of disease nor to manage an existing disease.

2. Select an appropriate realm (setting) for data collection

To keep the data up to date, hence the data collected from literature from previous 6 years, it involved books from professional related disciplines and also professional journal publications. Database and web searches, hand review of selected journals, and reference lists of papers were used to support this study. Reference databases covering the topics of nutrition, psychosocial, nursing, and medicine (MEDLINE, CINAHL, PubMed, PsycINFO, and Cochrain). The professional related disciplines are nursing, medical, nutrition and psychology.

3. Identify the attributes of the concept and the contextual basis of the concept

To discuss about healthy eating, there are several attributes involved which are three dimensions; physical, psychosocial, and biochemistry.

a. Physical dimension

In this dimension involve food appearance also nutrient involved. Food and appearance is easily assessed and recognized. According to the Badan Pengawasan Obat dan Makanan (Food and Drug Monitoring Agency/BPOM) Republic of (2021). there are some Indonesia characteristics in healthy food, involve: raw foods are fresh with bright colors; for fish and other seafood, chewy, fish scales still intact, do not peel, fish eyes still bulging; for meat looks fresh red; for the chicken, choose white fresh, no wound/skin blue: foods are not preserved; on any packaging product, there must be labeling; for food or beverage product, color is not too flashy. In otherwise, it is difficult to know the nutrient in food because it does not seem. In an effort to measure how well our diets conform to recommended healthy eating patterns, we can use the Healthy Eating Index (HEI) introduced by United States Department of Agriculture (USDA). The index is designed to provide a measure of overall dietary quality, such as the amount of variety in diet and compliance. According to Krebs-Smith et al. (2018), the individual components of the Healthy Eating Index describe in table 1.

Table 1. Healthy Eating Index adapted from Krebs-Smith et al. (2018)

Component	Maximum points	Standard for maximum score	Standard for minimum score of zero
Adequacy			
Total Fruits	5	≥0.8 c equivalents/1,000 kcal	No fruit
Whole Fruits	5	≥0.4 c equivalents/1,000 kcal	No whole fruit
Total Vegetables	5	≥1.1 c equivalents/1,000 kcal	No vegetables
Greens and Beans	5	≥0.2 c equivalents/1,000 kcal	No dark green vegetables or beans and peas
Whole Grains	10	≥1.5 oz equivalents/1,000 kcal	No whole grains
Dairy	10	≥1.3 c equivalents/1,000 kcal	No dairy
Total Protein Foods	5	≥2.5 oz equivalents/1,000 kcal	No protein foods
Seafood and Plant Proteins	5	≥0.8 c equivalents/1,000 kcal	No seafood or plant protein
Fatty Acids	10	(PUFAs + MUFAs)/SFAs ≥2.5	(PUFAs + MUFAs)/SFAs ≤1.2
Moderation		,	,
Refined Grains	10	≤1.8 oz equivalents/1,000 kcal	≥4.3 oz equivalents/1,000 kcal
Sodium	10	≤1.1 g/1,000 kcal	≥ 2.0 g/1,000 kcal
Added Sugars	10	≤6.5% of energy	≥26% of energy
Saturated Fats	10	≤8% of energy	≥16% of energy

Aside the components of the diets, the HEI also examines dietary intake in relation to the six major groups involve fruit, vegetable, grain, milk and dairy, protein, and oils (Krebs-Smith et al., 2018).

b. Psychosocial dimension

Psychosocial conditions affect an individual food choices. Kaufman (2007) were defined four factors affected food choices involve biological factors, experiental factors, and intrapersonal factors, environmental factors: (1). Biological factors that predispose food choices are taste/pleasure; sweet, sour, salt, bitter; sensory-specific satiety; and brain source is family medical history; (3). Intrapersonal and interpersonal factors. Intrapersonal factors which included religion, beliefs. values. expectancies. attitudes. benefits, barriers, self-efficacy, self-identity, ethnic identities, stage in change process, and knowledge and skills. Social norms and cultural norms are interpersonal factors that influences of choosing food; (4). Environment involves social, physical, economic, and informational mechanisms; (2). Experiental factors include experience with food. psychological conditioning, social conditioning. and Experience with food affects an individual food choices. Physiological conditioning such as familiarity: learned safetv. conditioned preferences, conditioned satiety; and social conditioning like models, rewards, social affective context. Falk et al. (2001) adds in this part, that the experiential sources influences on the healthy eating included social relationships (particularly involving the family), physical wellbeing, past experiences, and the surrounding environment. Other important experiential environment. Two factors in social environment are social structures and networks, and cultural practices. Physical environment means food availability, food accessibility, and technology, Food choices also affected by resources and economical side. price as Information technology affecting the food choices too. It because of information could influence people's point of view through their advertising and also it is effective media information. As an

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additional, Falk et al. (2001) state the informational sources came through formal channels of communication, such as health professionals, health and nutrition classes, the media, reading materials, or through informal channels such as talking with family, friends, or other nonexperts.

In addition, Chen and Antonelli (2020) states that food choices were influenced by three main categories factors i.e. food-related features, individual difference, and society-related features. The first factor, food-related features is refer to food-physically appearance includes intrinsic features such as color and aroma, and extrinsic features such as information and packaging. The second factor is individual difference, refer to biological factor (e.g., hunger, appetite, and taste), physical factor (e.g., access, skills of cooking, and time), psychological factor (e.g., mood and stress), cognitive factor (e.g., attitudes or preference, beliefs, and knowledge), and social factor (e.g., family, and peers). The last factor is society-related features including culture, economic variables such as price and income, and policy.

c. Biochemistry dimension

There are two major types of nutrient; macronutrients (carbohydrates, proteins, and fats) and micronutrients (vitamins, minerals, and phytochemicals) (Peckenpaugh, 2010). A healthy eating plan consists of eating at least three balanced meals consisting of foods from the five recommended food groups. These food groups contain fiber, protein, carbohydrates and healthy fats, which all work to maintain proper growth and development of the muscles, tissues and organs (Dudek, 2013). These food groups were explained below (Astuti, 2011; Dudek, 2013; McGuire & Beerman, 2012):

Fiber is a polysaccaride found in plants that is not digested or absorbed in the human small

intestine. There are two types of dietary fiber: soluble and insoluble. Insoluble fiber (include cellulose and hemicellulose) increases bulk in the colon, which helps to regulate digestion. Insoluble fiber is in wheat bran, nuts, vegetables and whole-wheat flour. Soluble fiber (include gums, lignins, and pectins) dissolves in water and becomes a gellike substance. Fiber is contained in vegetables, fruit, legumes and whole grains.

Protein is found in both meat and vegetables, and is important for maintenance of the body. Protein contains important nutrients called amino acids. Protein that contains all the amino acids the body needs is called "complete protein" and proteins that lack one or more amino acids are called "incomplete proteins." Protein that comes from meat, poultry or fish are complete proteins and incomplete proteins come from fruit and vegetables, grain, beans and nuts.

Carbohydrates give energy to the body and are the main recommended food source. Carbohydrates are placed in two categories: simple carbohydrates and complex carbohydrates. Simple carbohydrate sources give guick energy, but often do not contain fiber or other important nutrients. Sugar is a simple carbohydrate, and starchy foods such as white potatoes and white rice convert to simple sugars in the body, thus becoming simple carbohydrates. Complex carbohydrates supply energy, fiber and other nutrients necessary for good health. Foods that contain complex carbohydrates are raw vegetables and fruit, legumes, brown rice, oats and guinoa.

Saturated fat, trans fat and cholesterol can raise low-density lipoprotein "bad cholesterol" levels and may decrease high-density lipoprotein "good cholesterol" levels. Replacing saturated fats, trans fat and cholesterol with monounsaturated and polyunsaturated fat can decrease high level of LDL.

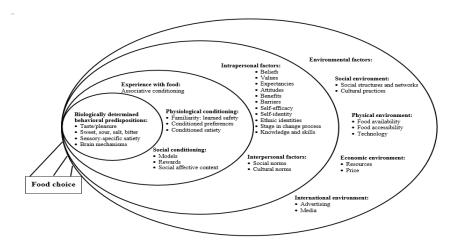


Figure 1. The Dimensions of Healthy Eating, adapted from Kaufman (2007)

4. The characteristics of the concept

Characteristics of healthy eating include: Related term "healthy diet", "healthy food", "eating habit", "eating pattern", "meal plan"

Antecendents: No specific physical and psychological characteristics were described that were antecendents of healthy eating comprehensively.

Consequences: The beneficial of healthy eating involve provide steady energy levels that can aid in weight loss, reduce the risk of heart disease, or in other word it can prevent and reduce the risk of disease. The other benefiacial of healthy eating is it can manage an existing disease such as obesity, diabetes, kidney disease, heart disease, some cancers and hypoglycemia. Furthermore, to gain the advantage of healthy eating, we need to consider the following five important characteristics of healthy eating such as 1) eating plenty of fruits and vegetables; 2) choosing whole grains; 3) choosing low-fat protein and dairy; 4) limiting salt and sugar intake; and 5) remaining within calorie needs.

5. Identify an exemplar of the concept

Healthy eating is healthy in a comprehensive process to eat. It is include healthy preparation and healthy eating process. Healthy preparation means healthy out side and healthy in side of food. Healthy out side means healthy physically of the food that can be recognized from the appearance of food itself. Healthy in side means healthy of the nutrient that can be affected by cooking process. Clean and healthy catlery, hand washing before eating, and how to eat are healthy eating process chategories. To support this study, author try so make a sample literatures review (table 2) based on journal publication.

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Table 2. The Literature Review of Healthy Eating

Author(s)	Title	Study design	Sample	Finding(s)
Falk, et.al (2001)	Managin Healthy Eating: Definitions, Classifications, and Strategies		vith 700.000 participants	There are seven predominant themes that distinguished the participant clusters included low fat, natural, balance, disease prevention, nutrient balance, disease management, and weight control.
Huffman, et.al (2011)	The Healthy Eating Index and the Alternate Healthy Eating Index as Predictors of 10-year CHD risk in Cuban Americans with and without Type 2 Diabetes	Cross-sectional study	358 respondents	Only participants with T2D with significantly higher AHEI scores had lower scores for 10-year predicted CHD risk.
Williams, et.al (2012)	Optimising Women's Diets. An Examination of Factors that Promote Healthy Eating and Reduce the Likelihood of Unhealthy Eating	Cross-sectional study	1013 participants	Women with high self efficacy for healthy eating, taste preferences for fruit and vegelable, family support for healthy eating and the absence of perceived barriers to healthy eating (time and cost) were more likely to consume components of a healthy diet and less likely to consume components of a unhealthy diet.

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Malahayati International Journal of Nursing and Health Science, Volume 04, No.1, March 2021: 18-27

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Ronteltap, et.al (2012)	Construal Levels of Healthy Eating. Exploring Consumers' Interpretation of Health in the Food Context.	Quasi-experimental	235 respondents	Healthy eating does not always mean the same for different individuals, it depends at least partly on the representation level they are reasoning from. Both in academic reasoning and public health interventions health and healthy eating are usually discussed as universal and univocal concepts.
Barre, et.al (2011)	Healthy Eating in Persons with Serious Mental Illnesses: Understanding and Barriers	In-depth-semi-structured qualitative interviews	31 participants	Healthy eating as consuming fruits and vegetables, using low fat cooking methods, and limiting sweets, sodas, fast food, and/or junk food. Internal barriers to nutritional change included negative perceptions of healthy eating habits, eating for comfort, and the prioritization of mental health. External barriers were the reduced availability and inconvenience of healthy foods, social pressures, and psychiatric medication side effects.

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6. Identify hypotheses and implications for development

- a. Research recommendation

 Some research could be conduct to support healthy eating concept and make it clearly. Research is needed to explore more about 1) eating habit, eating pattern, and/or eating manner related with nutrients fulfillment; 2) eating behavior and psychological aspects influences healthy eating; 3) trend and issue in healthy eating related with transcultural aspects; and 4) government support to healthy eating program.Implication for development
- Based on the explanation above, author recommendate to government to make a policy related to healthy eating program and to support it with informational ways to promote the healthy eating program.

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