



Psychological, social and cultural impact on personal diet:

“Nutritional status of the elderly as a model”

التأثير النفسي والاجتماعي والثقافي على النظام الغذائي الشخصي: "الحالة الغذائية لكبار السن نموذجاً"

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Abstract:

Many experts have been interested in the topic of mental health and its factors, and today we are facing a modern variable, which is the nutritional status, which is a new and important topic, especially with regard to the psychological determinants and psychological factors that interfere in choosing the meals that are eaten, especially the elderly who suffer from loss of appetite and taking medications and other symptoms that may affect their eating behaviors. Therefore, we will present the most important psychological, social and biological determinants that interfere in choosing nutritional behavior and the quality of life of the elderly.

Keywords: Psychosocial and biological determinants; dietary behavioral choice; quality of life; older adults.

ملخص المقال:

لقد اهتم العديد من الخبراء بموضوع الصحة النفسية وعواملها، واليوم نحن أمام متغير حديث وهو الحالة الغذائية وهو موضوع جديد ومهم خاصة فيما يتعلق بالمحددات النفسية والعوامل النفسية التي تتدخل في اختيار الوجبات التي يتم تناولها وخاصة كبار السن الذين يعانون من فقدان الشهية وتناول الأدوية وغيرها من الأعراض التي قد تؤثر على سلوكياتهم الغذائية، لذلك سوف نقدم أهم المحددات النفسية والاجتماعية والبيولوجية التي تتدخل في اختيار السلوك الغذائي ونوعية حياة كبار السن.

الكلمات المفتاحية: المحددات النفسية والاجتماعية والبيولوجية، الاختيار السلوكي الغذائي، جودة الحياة، كبار السن.

Introduction

We will focus on the psychological, social and cultural impact on personal diet and discuss food choices and the social context of the elderly and the most important physiological changes and nutritional status of the elderly, including the determinants of food choice for the elderly, including psychological and sensory determinants that may affect their nutritional status, as the nutritional health trajectories of the elderly are complex and multifactorial, and health determinants may interact individually or in conjunction with physiological changes and normal lifestyle associated with aging to affect nutritional status, and the rates of occurrence of health changes may depend on whether these factors occur individually or in coordination with others.

Discussing polypharmacy and its effects in the elderly who use multiple medications is at high risk for drug-food interactions that may affect nutritional status or food intake. Side effects of medications that may affect the nutritional status of the elderly include cognitive changes, dry mouth, poor taste, loss of appetite, depression, dehydration, osteoporosis, paralysis, tremors and other symptoms that may affect eating behaviors. Also, overmedication in older adults who are taking multiple medications is at risk for drug-food interactions that may affect nutritional status or food intake. Side effects of medications that may affect nutritional status in older adults include cognitive changes, dry mouth, poor taste, loss of appetite, depression, dehydration, osteoporosis, paralysis, tremors, and other symptoms that may affect eating behaviors. As overmedication in older adults who are taking multiple medications is at risk for drug-food interactions that may affect nutritional status or food intake. Side effects of medications that may affect nutritional status in older adults include cognitive changes, dry mouth, poor taste, loss of appetite, depression, dehydration, osteoporosis, paralysis, tremors, and other symptoms that may affect eating behaviors. In particular, the integration of biological, psychological, social, and cultural influences on food choice.

1. Psychological, social and cultural influence on personal diet

Personal food systems are the mental processes by which an individual translates the influences on his or her food choices into how and what to eat in particular situations (Furst and all, 1996, p247). Personal food systems represent the ways in which choices, trade-offs, and boundaries are constructed in the process of making food choices. Personal food systems include the processes of constructing food choice values, categorizing foods and situations according to these values, negotiating these personally defined values in food choice settings, balancing competing values, and developing strategies for choosing and eating food in different situations (Connors and all, 2001, p189).

Food choice values represent a set of important considerations in the construction of food choices (Falk and all, 1996, p256). These values include personally developed interpretations and meanings related to food and eating as well as emotional impact and attachment intensity (Smart and Bisogni, 2001, p57). Food choice values are also dynamic and change over time as life course events and experiences shape food choice influences that may lead to new or modified food choice values. Research has found that five types of values (taste, convenience, cost, health, and relationship management) consistently appear to be salient among many individuals, with additional values also salient for some individuals and groups (Connors et al., 2001).

1-1-These values can be further elaborated as follows:

1-1-1- Taste: is the value of food selection that represents the considerations that individuals develop regarding their sensory perceptions of eating and drinking. Individuals use the word "taste" to describe many different characteristics of foods and beverages that affect their enjoyment and distaste of food, including appearance, smell, flavor, texture, and other characteristics. Taste is the primary consideration for most individuals in almost all food and drink settings. It is important to realize that individual taste preferences may change over time and that the differences between

individuals' tastes when they eat vary according to the level of enthusiasm for eating. Therefore, taste is often used as a criterion for whether or not to eat that food. What cannot be overlooked is that taste is of great importance in all its physiological, cultural, social, developmental, and life aspects. It has been and continues to be the subject of extensive study by other researchers (e.g. Rozin and Vollmecke, 1986; Meiselman and MacFie, 1996; Murcott, 1998).

1-1-2- Convenience: is a value that refers to the considerations of time and effort that individuals use in making food choices. Convenience relates to the actual time, physical capacity, and mental or physical engagement that an individual needs to acquire, prepare, consume, and clean up after eating or drinking. Convenience is also a subjective judgment about the opportunity cost of using time and effort in relation to the benefits of a particular food or drink (Gofton, 1995, p152).

1-1-3- Cost: It is a value that represents the monetary considerations that individuals create in relation to food choices. Most food in contemporary post-industrial societies is purchased rather than produced by themselves. The prices of food purchased for eating at home or away from home are judged by food choices. The price of food related to a person's monetary resources is also included in this value. This topic is an important and ongoing focus of food economics (Senauer and all, 1996, P.57).

1-1-4- Health: This is a value that broadly represents food choice considerations based on a relationship to physical well-being. This value includes considerations about immediate responses to food and drink such as gastrointestinal discomfort, allergic reactions, energy levels, or athletic performance, as well as considerations about long-term consequences such as growth, weight control, disease management, or prevention of chronic disease (Falk et al., 1996; Forrest et al., 1996; Smart and Bezugni, 2001).

The public often classifies foods as "good" or "bad" based on meanings related to health and physical well-being, and definitions of health in relation to eating vary widely across populations, including overall balance and nutrient balance, low fat and weight control, natural foods, and disease management and prevention (Falk and all., 2001).

1-1-5- Relationship management: Relationship management is a value that represents how a person views the interests and well-being of other people involved in the person's social world. When individuals provide food to others, share food with others, or receive food from others, they typically take into account the needs, preferences, and feelings of those people regarding what, how, when, and where food is eaten. Personal needs and preferences are often compromised to build, maintain, or repair relationships. Food is central to family harmony and the person who assumes the role of "home food leader" is often very attentive to the preferences, dislikes and patterns of others (DeVault, 1990). For example, newly married couples must negotiate ways to make shared food choices and parent-child relationships contribute to family food decisions (Bove et al, 2003, p25).

2. Integration of biological, psychological, social and cultural influence on the food choice process

Almost all situations and events affect our choice of food, regardless of time, place or any other stimuli. Food is so important that it participates and interacts with all our daily activities (work, entertainment, concentration, walking, activity, and sex, etc.) and because of the richness and complexity of food choice, many specializations have overlapped and researched the field of food, including biology, psychology, sociology, anthropology, economics, history, medicine...and other specializations interested in the subject of food.

The obvious fact is that the greatest determinant of what an individual eats is availability, as one eats what is available, and this fact should not discourage scientific research because the determinants of what is available to any individual have biological, psychological, social, cultural and historical aspects, and there is a position that scientists, especially marketers, testers and psychologists, frequently focus on, where the individual is faced with a range of food choices under

different and changing circumstances, and that psychological factors may be dominant, and expectations about taste, comfort and health are priorities that have received deep research. The “moment” of choosing a food is only a step in a series of organized behaviors of seeking food, understanding the process of arousal by biological and cultural motivations for feeding (often described as hunger in the first case and “meal time” in the latter case) where the individual finds himself in the decision stage (the decision to accept or not accept) and begins to think about what he will eat, then perhaps prepare the food, followed by tasting it, eating it and finally swallowing it, which indicates that the choice stage is particularly important for the individual. The stage of choosing to eat a specific food in front of many different and varied foods forces the individual to face many foods to reach the stage of making a decision regarding the selection process (“to eat or not to eat”) which is an important decision and is often made according to what the individual has formed towards that meal and its relationship to a good feeling that means life and happiness to him and the opposite for bad food (taste, image, shape..). The risks are not limited to eating bad food in terms of the cooking method only, but rather are represented in consuming insufficient and unbalanced meals as cultural forces reinforce the duality of general eating and it is widely believed that “you are what you eat”; that is, individuals take on the characteristics of the foods they eat (Nemeroff and Rozin, 1989, P. 50-69).

2-1-Biological effects of food choice

Biological approaches to food choice take two forms, one focuses on physiological mechanisms and focuses on explaining what is happening in the body at the moment and what is happening in the brain when food choice occurs. Research and studies are conducted with a focus on regulating energy consumption, but there is also important information about food choice, as we find the pioneer in this field, Curt Richter, and perhaps the best research in the case of sodium appetite, which relied on the physiological approach by identifying two aspects:

"Metabolism and neurotransmission": One aspect relates to the processing of nutrients and metabolic events that become stimuli for action by communicating nutritional states to the nervous system, while the second aspect focuses on the brain and how and where information related to metabolic status is integrated with information related to the environment and other motivations, etc. to lead to food choice.

When we talk about the adaptive/evolutionary approach, it is the most important approach in this field that places the individual in his environmental position and in the context of his evolutionary history and tries to understand food choice, feeding strategies, and the like. The intervention of a nutritionist is also a necessary framework to help the individual make adaptive decisions about the safety and nutritional quality of potential foods that cannot be known based on sensory characteristics alone but rather on knowledge of the nutrients necessary for the body (Eds R. Shepherd and M. Raats, 2006, P. 25).

2-2- Psychological and social influences on food choice

The food experience that any human being has is largely determined by cultural traditions, which determine the foods to which an individual is exposed. They constrain the operation of individual psychological factors, including genetic predispositions, parental influence, and many other opportunities for learning. The developmental trajectory of humans in terms of food experience and preferences is striking. The initial “food” for the fetus is through blood, followed after birth by a special milk diet and then the gradual introduction of foods. Weaning is a key event in this sequence. The origin of food intake among individuals varies greatly in their food preferences. For example, we find that many individuals like broccoli and beans, while others do not like to eat them. This makes us wonder: What is the source of this difference? To answer this question, we assume four factors that may be most likely: genetics, early experience with parents, peer influences, and general external influences such as the media. It is possible that parent-child associations are related to food

preferences. He also adds that the peer factor may also be another natural factor and that peer influence may be the origin of differences in preferences (Rozin and all, 2003, P. 41).

2-3-Cultural influences (anthropology) on food choice

Culture plays a role in food preferences as much as any other factor, and it is almost certain that culture may have a dominant influence on a person's food choice.

Consider the following: We have an anonymous adult whose food preferences we wish to predict, and we have only one question to ask before making guesses: "What is your culture toward this food?" Individuals grow up in a world that is strongly shaped by culture and that indirectly monitors the available foods, their shapes, colors, and costs, as well as general attitudes toward food. Moreover, among the social science disciplines related to understanding food, we find anthropology, which is the discipline that pays the most attention to the role of food in everyday life and the meaning of food through observing social practices and interactions and focusing on what is called ethnography and its effects on the daily lives of individuals. It follows that food will play a central role.

We can describe a complex set of cultural traditions that directly affect food. Some of these traditions revolve around the particular foods one eats and the types of things that appear on the table from day to day, and are described in cookbooks and focus on the "principle of flavour". In addition to some important practices in choosing food preferences, there are those that concern the form of the meal, the order of serving, and the like. Then there are table manners, the social organization of the meal and food, rituals, and the meaning of food in social life.

Studies have varied and differed according to the culture of their people. For example, Meigs (1984) indicates that there are beliefs among the people of Hoa of Papua New Guinea, where it is believed that food contains important vital elements, including these special jewels of sex, in order to protect young males when they enter puberty. Boys are kept in a separate house and are not allowed to eat any food that has been touched in any way by a woman, and they avoid consuming any foods that are considered to contain a female essence (female nutrients), which include, among other things, fruits with soft and reddish interiors. Focusing on the developed world, there are significant cultural differences that affect not only the foods eaten but also the role of food in life. For example, in a study (Stearns, 1997; Rozin et al., 1999).

3- Physiological changes and nutritional status of the elderly

Nutritional status and health in older adults are closely related, as physiological changes in body composition occur during aging and are mainly due to decreased body mass. Furthermore, the presence of chronic diseases, multiple medications, cognitive impairment and social isolation can act synergistically with decreased digestive, olfactory and salivary functions as well as hormonal profiles, which may affect nutritional status. Protein-energy malnutrition is also associated with functional impairment due to poor muscle function or low bone mass, comorbidity (associated with immune dysfunction, anemia, decreased cognitive function and poor wound healing), delayed recovery from acute events and increased mortality. Older individuals can be considered nutritionally vulnerable and are more susceptible to stress. These social, psychological, functional and clinical difficulties may lead to malnutrition (overnutrition and undernutrition) (Lorenzo, Ogalle, Balzo, 2016, P. 121-122).

Physiological changes in gastrointestinal function can have a significant impact on appetite and food intake in older adults. When these factors are combined with the negative social and psychological aspects of aging, many in this group are at risk of malnutrition and low energy, leading to increased risk of chronic disease, difficulty in hospitalization, and loss of independence, which in turn leads to increased dependence on community and health care facilities. Appetite and energy expenditure are controlled by a central feeding drive and a peripheral satiety system that integrates feedback mechanisms, linking energy expenditure to the storage system. These mechanisms include inputs from mechanoreceptors and chemoreceptors that respond to the presence of food in the

gastrointestinal tract. Gastrointestinal satiety signals depend in particular on gastric distension (reduced fundal distention is common in older adults and may be explained at least in part by reduced food intake) and the interaction of nutrients with gastrointestinal receptors that stimulate the release of satiety hormones (cholecystokinin, glucagon-like peptide 1, gastric inhibitory peptide, and amylin, which slows the rate of gastric emptying of digested food into the small intestine), and inhibit the release of ghrelin, which stimulates feeding and is known as the hunger hormone. These hormones play a role in both hunger (meal time) and satiety (meal termination) (Parker, 2004, p125).

Among the physiological mechanisms governing diet choice, it has been shown that appetitive nutritional factors (nutrient concentration in the diet) influence food intake. Nutrient sensing mechanisms that play an important role in adjusting food intake according to the nutrient content of the diet are affected during aging, leading to inappropriate food choice and food selection. In self-selection experiments in aging, a major shift in the preference for active nutrients from carbohydrates to fats has occurred, while other studies have highlighted the regulation of protein intake as a function of the amino acid composition of the diet through the action of the amino acid sensor (GCN2).

Poor health or functional status may cause, on the one hand, the ability to purchase, prepare food and eat independently is necessary to obtain an adequate diet on the other hand (Rahi, Morais, Shatenstein, 2014, p105). Age-related increases in the production or effects of satiating cytokines secreted in response to acute illness and major stress may contribute to appetite loss during aging. In particular, IL-6 (interleukin 6) and tumor necrosis factor alpha (TNF- α) act to reduce food intake and body weight via a number of central and peripheral pathways. Aging itself appears to be associated with stress-like changes in the circulating hormonal pattern, i.e., increased cortisol and catecholamines and decreased sex hormones and growth hormone (increased production of IL-6, TNF- α , and IL-1). These hormonal changes due to the stresses of aging itself, or the amplified stressful effects of acute or chronic illness, may be considered a major contributor to the decreased appetite that occurs in many older adults (Chapman, 2004).

4- Psychological and sensory determinants that may influence the nutritional status of older adults

The nutritional health trajectories of older adults are complex and multifactorial. Health determinants may interact individually or in combination with the normal physiological and lifestyle changes associated with aging to affect the nutritional status of older adults. The rates at which health changes occur may depend on whether these factors occur individually or in concert.

Individual and lifestyle factors that influence the nutritional status of older adults change with changes in body composition and physiology. Ageing involves changes in all tissues and all vital organs; these changes have a profound impact on the nutritional status of older adults and affect:

- Body metabolism
- Nutrient intake
- Absorption, storage, utilization and excretion of nutrients
- Nutrient requirements
- The ability to select, prepare and eat a variety of foods.

Aging is associated with loss of bone health and calcium in the body. Major bone loss typically begins at around 50 years in women and 65 years in men (WHO, 2003). Bone minerals and the collagen matrix are removed from bones more rapidly than they are replaced. In the first five years after menopause, women lose about half of the total skeletal calcium they lose during their lifetime (WHO, 2002). Older people are also at increased risk of osteoporosis and subsequent fractures as they age. Calcium absorption is known to decline with age in both sexes (NHMRC, 2006). Adequate calcium and vitamin D levels are essential to reduce postmenopausal bone loss and prevent fractures (Nutrition ServiceS, P. 13).

Digestive and absorption functions also decline with age, the intestinal wall loses its strength and elasticity, hormonal secretions change, leading to slower intestinal motility, and atrophic gastritis - atrophy of the gastric mucosa resulting in decreased secretion of gastric acid, intrinsic factor and pepsin from the stomach - can reduce the bioavailability of vitamin B12, folic acid, calcium and iron (Phillips 2003; Horwath and van Staveren 2007).

4-1- Sensory changes:

4-1-1-Taste and smell: Alterations in chemosensory perception are relatively common in older age (British Nutrition Foundation, 2009). Around a quarter of older people have a reduced ability to detect one or more of the four basic tastes (sweet, sour, salty and bitter). These changes are important given the importance of smell and taste in contributing to the enjoyment of eating. Food selection, food preparation methods, dietary diversity and nutrient intake are all affected. These sensory changes can also make it difficult to distinguish between safe and spoiled food. Some medications and medical conditions can also impair or alter the sense of taste and smell, which ultimately affects food intake.

Nutritional skills and knowledge influence food and nutrient intake and therefore nutritional status. Lack of practical cooking skills – or confidence in their use – can be a barrier to expanding food choices and improving dietary behaviours. Similarly, functional ability and cognitive/mental capacity to shop, prepare and cook food influence choice and consumption. Traditionally, food preparation and cooking have been done by women and many older men may not have mastered cooking skills. A UK study found that single older men consumed less fruit and vegetables and were more likely than married older men to eat food that was easy to cook and prepare (Donkin et al, 1998).

4-1-2-- Polypharmacy: Older adults who use multiple medications are at high risk for drug-food interactions that may affect nutrient status or food intake. Side effects of medications that may affect the nutritional status of older adults include cognitive changes, dry mouth, poor taste, loss of appetite, depression, dehydration, osteoporosis, paralysis, tremors, and other symptoms that may affect eating behaviors.

4-2-- Changes in food intake: Decreased food intake is common in older adults even in healthy individuals (MacIntosh et al, 2000). Physiological changes in appetite regulation with age include:

- Early satiety (from slower gastric emptying and reduced gastric capacity)
- Possible changes in gut peptide hormones that stimulate or inhibit food intake
- Increased production of cytokines (including serotonin) secreted by inflammatory cells in response to stress and which have been shown to reduce food intake and body weight
- Changes in the central nervous system (i.e. neurotransmitters) (MacIntosh et al, 2000; Hickson, 2006).

4-3-- Changes in mental health and cognitive status:

Various psychological factors influence the nutritional status of older adults. Depression is increasingly recognized as a major health problem for older adults. As a result of their depression, older individuals may become unable to perform basic physical tasks including cooking and eating, and their appetite may change (Gonzalez-Gross et al, 2001). Depression in older adults may also be associated with risk factors for chronic diseases including obesity (Chapman and Perry, 2008). Loss or deterioration of social networks can also occur. Depression and social isolation can reduce the motivation to eat (Donini et al, 2003).

5- Food choices and social context of older adults

Almost all countries are experiencing increases in the proportion of older people in their populations and public health policies need to focus on maximizing quality of life and ways to achieve healthy living, as progressive biological changes are part of the aging process that may lead to increased risk of chronic diseases, cognitive and functional impairment, and increased likelihood of death (Bowling & Ebrahim, 2001). Rowe and Kahn (1998) described the three main elements of successful aging, which are: reducing the risk of disease and disability associated with disease;

Maintaining physical and mental functioning; and actively participating in life. The term “active” refers not only to physical or economic activity but also to ongoing community participation. Social, physical and psychological well-being are all part of successful aging.

In a qualitative study of food-related behaviors among elderly women with and without diseases, they found that they adopted strategies that focused on independence in practicing different behaviors including public health support services (rehabilitation, medication, transportation for people with disabilities), improving self-management skills (better planning, learning new ways of doing things) and adaptation (simplifying cooking, ready-made meals) to maintain independence (Gustafsson and all, 2003, P. 237).

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