THE RELEVANCE OF NUTRITION TO HEALTHY AGING

A relevância da nutrição para o envelhecer saudável

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Abstract: Food is one of the central factors for the individual’s health and quality of life, since a balanced diet pattern provides better health conditions and contributes directly to the prevention and control of diseases that affect the elderly. The objective of this work was to know through the literature how nutrition influences healthy aging. This is an integrative review of literature carried out in the Virtual Health Library in the Latin American and Caribbean Literature in Health Sciences and Scientific Eletronic Library Online databases. For the data collection, the following descriptors were used: Aging, Nutrition and Health of the elderly, and adopted as inclusion criteria, studies published between 2000 and 2017 in the Portuguese language and available for reading in full. The studies evidenced that the growth of the elderly population and the changes in the epidemiological profile characterized by the high index of chronic and degenerative diseases denote the need for a more critical look at this reality. The elderly eating habits are influenced by individual, cultural and social factors, which directly imply access, choice and consumption of food. Thus, nutritional education is an important strategy for adequate nutrition in all life cycles contributing to the modification of eating habits, attenuation of diseases that occur in the elderly and improvements in quality of life.

Keywords: Aging; Nutrition; Health of the elderly.

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Resumo: A alimentação é um dos fatores centrais para a saúde e qualidade de vida do indivíduo, pois um padrão alimentar equilibrado proporciona melhor condição de saúde e contribui diretamente na prevenção e controle de doenças que acometem os idosos. O objetivo desse trabalho foi conhecer por meio da literatura como a nutrição influencia no envelhecimento saudável. Trata-se de uma revisão integrativa de literatura realizada na Biblioteca Virtual em Saúde nas bases de dados Literatura Latino-Americana e do Caribe em Ciências da Saúde e Scientific Eletronic Library Online. Para a coleta de dados utilizou-se os descritores: Envelhecimento, Nutrição e Saúde do idoso e adotou-se como critérios de inclusão, estudos publicados entre 2000 a 2017 no idioma português e disponíveis para leitura na íntegra. Os estudos evidenciaram que o crescimento da população idosa e as mudanças no perfil epidemiológico caracterizado pelo elevado índice de doenças crônicas e degenerativas denotam a necessidade de um olhar mais crítico para essa realidade. As práticas alimentares dos idosos são influenciadas por fatores individuais, culturais e sociais, que implicam diretamente no acesso, na escolha e no consumo dos alimentos. Dessa forma, a educação nutricional é importante estratégia para nutrição adequada em todos os ciclos de vida contribuindo para a modificação de hábitos alimentares, atenuação de enfermidades que ocorrem no idoso e melhorias na qualidade de vida.

Palavras-chave: Envelhecimento; Nutrição; Saúde do idoso.
INTRODUCTION

The accelerated pace of growth of the elderly population is observed worldwide, including Brazil and other Latin American countries. The life expectancy of the Brazilians that in 1900 did not reach 35 years of age, in 1950 reached 43 years, in 2000 reached 68 years and currently, the life expectancy of the Brazilian is to reach 80 years in 2025.\textsuperscript{1}

Aging is a unique and heterogeneous stage of life, because the way each person lives this process is going to set his or her well-being and self-esteem. The understanding of aging is different for each individual, especially in societies, such as the Brazilian, so marked by economic and social inequalities.\textsuperscript{1}

The World Health Organization (WHO) defines as healthy aging and active the process of optimizing opportunities for health, participation and security in order to improve the quality of life as people get older. In Brazil, the enactment of the Statute of the Elderly in 2003 and the National Policy for the Elderly, approved in 2006, reiterate these concepts.\textsuperscript{2} The aging impacts on various factors that influence the quality of life and nutrition of the elderly. Food is one of the central factors for the individual’s health and quality of life, since a balanced diet pattern provides better health conditions and contributes directly to the prevention and control of diseases that affect the elderly.\textsuperscript{3}

The nutritional education as a strategy for health promotion, is an important tool for the modification of harmful eating habits and give autonomy by educating them to do, with full consciousness, the choice of healthy foods and consequently changes in eating habits.\textsuperscript{1}

It is justified the interest of this study, in view of the importance of the theme for the area of health and the impacts on the health of the Brazilian population resulting from demographic and epidemiological transition. Furthermore, it is emphasized the need to deepen the knowledge and develop and disseminate studies that discuss the object of study considering the contribution to the general well-being of individuals. Before this, the following guiding question of the study arises: how does nutrition influence the healthy aging?

Population aging has brought increasing concern because of the close connection between nutrition and health, in addition to numerous challenges for public policies and for everyday life of professionals and health services.

Thus, the present study will bring reflections, knowledge and contributions to nursing and other health professionals, about the nutrition adopted by the elderly, and how the adoption of inappropriate eating habits influences on aging. For the professionals the discussion about the object of study becomes important in order to acquire subsides for their interventions, thus being able to contribute to effective actions and promoters of health considered determinants for healthy aging considering not only greater longevity, but the healthy aging.

The objective of this work was to know through the literature how nutrition influences healthy aging.

THEORETICAL FRAMEWORK

The main characteristic of aging is the decline, usually the physical condition that leads
to social and psychological changes. It is a natural process that can occur in a healthy way and with minor losses, if some changes in life style are introduced in order to contribute to healthy aging.1

Nutrition is the individual’s need to obtain food in order to nourish the body and keep life. The aging process changes the nutritional status on account of the organic changes inherent to age.3

The great changes that occur through aging, the psychological, morphological and functional stand out, whose correct and balanced eating cooperate positively to this age progression. Changes occur in the functioning of the digestive apparatus; in sensory perception; the chewing ability; the salivary composition and flow and in the oral mucosa; the structure and function of the stomach, intestines, pancreas, liver and biliary tract; reduction of thirst and side effects of the drugs that interfere in the nutrition of the elderly. The decrease in sensitivity of the senses is a risk factor to nutrition, because the elderly might increase the intake of harmful substances to health, such as the excess salt, sugars, fats, and even chemical substances.4

Psychosocial factors also interfere with the quality of life, such as the loss of a spouse, depression, social isolation, poverty, social integration, displacement capacity, cognitive capacity, anxiety and other associated with the disease affecting the diet, during old age.4

The population aging is reflected on the demographic transition, with narrowing of the base of the population pyramid and enlargement of the apex. Demographic changes are accompanied by changes in the epidemiological profile, in which it is observed a reduction in the incidence of infectious and contagious diseases and the increase of chronic degenerative diseases, which are typical of older age range. In fact, the aging of the population, is the fruit of achievements in the fields of science, technology and society, it has become a great challenge for public policies and social sectors, generating a great impact on health costs.5

Another important factor that has been observed in recent decades, are the changes in eating habits, with a reduction in the ingestion of food and the absorption of vitamins, iron and other substances. For the Ministry of Health, the progression of the nutritional transition, is characterized by a reduction of nutritional deficits, i.e., reduction of malnutrition and increase of overweight and obesity, not only in adults but also in children and adolescents.6

The change of the epidemiological profile of the population and the prevalence of nutritional diseases have been associated with excessive food and/or inadequate diet and lifestyle; resulting in a high incidence of Non-communicable diseases (NCDs), such as osteoporosis, cardiovascular diseases, atherosclerosis, cancer, obesity, diabetes mellitus and hypertension. These diseases are, nowadays, an issue of public health and food safety.1

The individuals starts to be brought up in childhood to become a healthy person. Therefore, teach him or her how to eat properly from an early age is important, because the good habits will serve for the prevention of chronic degenerative diseases in adults and the elderly, considered endemic diseases of this century.7

Nutrition is directly associated to longevity and aging. In this sense, aging is a natural process that characterizes a life stage of an individual and occurs by means of physical, psychological and social factors which affect in a particular way, each person with prolonged survival.

The supply of nutrients is of utmost relevance to the human body, being considered essential for the physiological transitions related to the advancement of age range. It is understood that the nutritional status is satisfactory is associated
that healthy eating contributes to the promotion of health and also for prevention of diseases. The benefits of this early orientation will be viewed in the elderly person, because they will have their health less committed with better preservation of functional capacity, greater physical and mental independence and autonomy.

Concerning attention to adults and the elderly, the consultation to the nutritionist facilitates the planning and the adoption of a healthy diet, contributing to a nutritional security and for the quality of life of individuals. In the same way, the implementation of practices that promote health in the context of services of Primary Health Care (PHC) is important for the communities, as it contributes to changes in lifestyle.

The term “Quality of life” has received a variety of definitions over the years and can be based on three fundamental principles: functional ability, socioeconomic level and satisfaction, and may also be related to physical capacity, emotional state, social interaction, intellectual activity, economic situation and auto protection of health.

Health associated to quality of life has characteristics that must respect the goals of each individual. It can be said that the concept of health is dynamic, where pre-established models or standards aim to meet the social precepts, but if they do not meet the objectives and individual expectations, they will not have meaning.

The healthy aging should not only be part of concerns in the health sector, but should also be included as a priority in the social agenda of the country, so that nutritional interventions are performed throughout life, and so people can get to the aging with health, adding quality to additional years of life. The prolongation of life is an aspiration of any society.

For the Ministry of health, the promotion of eating health must be one of the components of health care since the beginning of life, once
eating habits can help to achieve this goal, within their socioeconomic context.

**METHODOLOGY**

It is an integrative review of the literature. This method makes it possible to gather and synthesize the knowledge produced on a particular theme and has been used in articles, dissertations and theses in the area of health, particularly in nursing in recent decade.4

For the preparation of the integrative review, the methodological procedures were followed recommended in the literature, namely: 1) formulation of the question and the objectives of the review; 2) establishment of criteria for selection of articles; 3) categorization of studies; 4) Assessment of studies included in the integrative review; 5) Interpretation of results; 6) Synthesis of knowledge.

The search for studies for this research was done through consultation with scientific articles, searching for topics related to research, the database of the Virtual Health Library was used. The survey of the material to be analyzed through search in data bases with Scientific Electronic Library Online (SCIELO) and Latin American and Caribbean Health Sciences (LILACS).

According to the inclusion criteria, the articles should be available in full, focused on the goal of study, published in the Portuguese language, with the abstracts available in the databases selected and published between 2000 and 2017. As for the exclusion criteria: articles published in the period preceding the year of 2000 and those that despite presenting the selected descriptors do not address directly the theme proposed in the study.

The articles were selected initially in the form of abstracts and were later analyzed in full. In the survey of studies, the cross-section was performed, in conjunction with the Descriptors in Health Sciences (DECS) using the Boolean operator and to the following scheme: (Envelhecimento and Nutrição and Saúde de idoso).

Data collection took place between March to May 2017. In the search performed with cross-section (Envelhecimento and Nutrição and Saúde de idoso) 35 articles were found in both databases, being 19 in LILACS, 16 in Ceilometer elimination of 8 duplicated articles, 27 articles were selected to analyze the abstract, being 4 not relevant to the theme, the 21 articles that were left were read in their entirety and it was possible to select 14 articles with potential to compose the final sample.

**Figure 1 - Flowchart of papers selection corpus of the research of integrative review of literature.**

“Envelhecimento and Nutrição and Saúde de idoso”
RESULTS AND DISCUSSIONS

For the preparation of this research 35 studies were found in the database of the Virtual Health Library, which after careful analysis and elimination according to the inclusion and exclusion criteria and research 14 publications were selected that addressed the topic proposed and were selected to compose this study. Next, a general panorama will be presented of the publications, according to characterization explained in the table 1.

Table 1 - Title, year/journal, objective and design of selected studies. Montes Claros (MG), Brazil, 2017.

<table>
<thead>
<tr>
<th>Title</th>
<th>Year/journal</th>
<th>Goal</th>
<th>Design</th>
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<tbody>
<tr>
<td>Factors which affect the eating consumption and the elderly nutrition</td>
<td>2000, Revista. Nutrição.</td>
<td>Highlight the factors that affect the food consumption of the elderly, as well as characterizing the conditions of geriatric v in Brazil, on the eve of the turn of the century.</td>
<td>Comprehensive Review</td>
</tr>
<tr>
<td>Nutritional state and the health conditions of the elderly Brazilian Population: literature review</td>
<td>2011, Revista Médica Minas Gerais.</td>
<td>Review the literature on studies related to nutritional status and health conditions in the Brazilian elderly population.</td>
<td>Review article</td>
</tr>
<tr>
<td>Understand the elderly on the factors that influence the healthy aging.</td>
<td>2010, Estudos Interdisciplinares sobre o Envelhecimento</td>
<td>Investigate the understanding of the elderly about which factors influence on healthy aging.</td>
<td>The study herein is characterized as quantitative and qualitative</td>
</tr>
<tr>
<td>AGING AND QUALITY OF LIFE - A NUTRITIONAL AND EATING APPROACH</td>
<td>2012, REVIEW</td>
<td>Present a more comprehensive health, focusing on the feeding behavior and nutritional status as factors that influence the improvement of the quality of life of elderly people</td>
<td>Literature review</td>
</tr>
<tr>
<td>Functional capacity and factors associated to the elderly in Southern Brazil: a population-basis study</td>
<td>2008, Caderno Saúde Publica</td>
<td>Perform a population survey on the functional capacity of the elderly and know the factors associated to the municipality of Joaçaba, a small-sized city, located in the Mid-West region of Santa Catarina State, Brazil.</td>
<td>Cross-Sectional study</td>
</tr>
<tr>
<td>Construction of instrument for the socio-functional assessment in the elderly.</td>
<td>2008, Texto Contexto Enfermagem</td>
<td>Build an assessment instrument for the elderly</td>
<td>Literature review</td>
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The relevance of nutrition to healthy aging


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This page contains a table with the following information:

<table>
<thead>
<tr>
<th>The aging process and its relationship with Nutrition and Physical Capacity.</th>
<th>2007, <em>Ipes Editorial</em></th>
<th>Understand better the population aging process, aiming at a healthy aging, well-successful and with quality of life.</th>
<th>Literature review</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutritional Education: A developing area</td>
<td>2005, <em>Alimentos e Nutrição</em></td>
<td>Present, chronologically, the knowledge production about nutritional education in the period from 1990 to 2005, highlighting possible contributions to the area</td>
<td>Literature review</td>
</tr>
<tr>
<td>Prevalence, risks and solutions in obesity and overweight: Here, There, and Everywhere</td>
<td>2003, Brazilian Files of Endocrinology and Metabolism Science.</td>
<td>Research obesity</td>
<td>Literature review</td>
</tr>
<tr>
<td>Quality of life of the elderly in the community: application of Flanagan’s scale</td>
<td>2002, <em>Revista Latino-Americana de Enfermagem</em></td>
<td>Assess the elderly’s satisfaction regarding their quality of life</td>
<td>Literature review</td>
</tr>
<tr>
<td>Educational nutritional intervention as an effective tool to eating habits change and body weight among physical activity practitioner.</td>
<td>2013, <em>Ciência &amp; Saúde Coletiva</em></td>
<td>Evaluate the efficacy of two educational nutritional methods of intervention among women who practice regular physical activity aiming at modification and the adoption of healthy eating habits</td>
<td>The study was pre-test/pro-test type</td>
</tr>
<tr>
<td>Search for a proper assistance to the elderly health: literature review and application of an instrument of early detection and the predictability of worsening.</td>
<td>2003, <em>Caderno Saúde Pública</em></td>
<td>Show that healthy aging must not only be part of the health sector concerns, but also to be included as a priority in the social agenda of the country</td>
<td>Review article</td>
</tr>
<tr>
<td>Assessment of the nutritional state of hospitalized elderly</td>
<td>2008, <em>Revista Nutrição</em></td>
<td>Identify the nutritional state, according to the body mass index, and provide information about anthropometric measures of hospitalized elderly in the municipality of Florianópolis.</td>
<td>Cross-Sectional study</td>
</tr>
<tr>
<td>Nutritional assessment of the elderly from an institution by different instruments.</td>
<td>2009, <em>Revista Nutrição</em></td>
<td>Evaluate the nutritional risk of hospitalized elderly by different assessment nutritional instruments.</td>
<td>Cross-Sectional study</td>
</tr>
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*Source: Research data, 2017.*
In the face of various approaches and the range of cited and correlated authors with the proposal of education, pointing to the conception of healthy aging through nutrition, it was possible to understand that the human being gradually needs to articulate adequate nutrition in stages of their lives, to achieve a healthy aging. In this sense, aware that aging is a natural and notorious process of the human being and that changes of the organism will gradually become perceptible it is important to carry out practices in health promotion and prevention.

A scientific richness to study, discussing the various contexts that occur in the life of elderly person, highlighting, the functioning of the organism, and how good nutrition positively affects in this such complex set of components, but essential for human survival. The parallel between the aging process and the factors that interfere in the life of the elderly population, since the ingestion of harmful substances and psychosocial factors can influence a poor nutrition in nutrients, which will contribute even more to endemic diseases and illnesses during old age.

It is important that the individual already at the elderly stage, have a supply based on the principles of a healthy nutrition, from the intake of foods that contribute to the mitigation of some existing problems at this stage of life, as well as, in improving health in his or her context.

The elderly need to consume carbohydrates at a rate of 50-60% of the calorie intake, especially in the form of fruits, vegetables, legumes and pastas. The emphasis needs to be placed on the increase of intake of complex carbohydrates including fibers, in the diet. As for the intake of lipids it is recommended up to 30% of the total intake of calories daily, and should be low in saturated fatty acids, since the same cause an increase of cholesterol, an important factor in the determinism of arteriosclerosis.

The demographic changes in the Brazilian society with a growing number of the elderly population is a reality that must be observed with a more critical look, seeking measures individually and collectively to the sicknesses struck in the elderly, being considered a public health problem. In addition, they indicate the importance of the necessity of healthy nutrition for everyone’s knowledge, in order to mitigate the health problems that occur in this age group, with a focus on food security.

The analysis of the studies suggests that nutrition is the only way to correlate the longevity to aging, being ‘the result a healthy and prolonged survival. One study demonstrated that the individual needs to consume adequate nutrients so that the physiological transitions occur naturally. In this way, a balanced nutrition, promotes a healthy life style, as well as a satisfactory aging, having as a result the prevention and mitigation of illnesses and diseases.

The National Policy of the Elderly Health (PSNI), approved in December 1999, assumes that the main problem that can affect the elderly, as a result of the evolution of their infirmities and of their life style, is the loss of their functional capacity, i.e., the loss of physical and mental abilities necessary for the achievement of their basic activities.

Another study proposed a debate on aging, while a natural process of human life, if articulated with a nutritional education and healthy habits, because they bring important benefits, which in addition to ensuring the prolongation of life, also favors more willingness, greater physical and mental independence, as well as the autonomy fruit for a healthy quality of life.

Nutritional counseling for the elderly is a measure that needs to be part of the social agenda of federal entities (Municipality, State and Union), because gradually the demographic profile has been changing, due to population aging, and in the medium-term projection is for more elderly people and fewer children, this factor is also present in
developed countries. Thus, safety food from the insertion of healthy nutrition in all the age ranges is the protection that favors a healthy aging and life style, contributing and preventing the onset of chronic diseases, as well as the health promotion.3

The physical, physiological, psychological and functional conditions of the elderly from a nutrition based on foods that meet the nutritional needs can, according to studies, translate into just years of life, from the increase in life expectancy, and a healthy and harmonious life. Thus, the healthy aging is related to health improvement together with eating habits and a satisfactory nutritional education.10

Reaching the elderly age in a healthy way, based on the availability of a range of healthy foods rich in nutrient is the desire of the whole population, therefore, it shall be discussed in the present beyond the health sector, covering also the public social policy, in order to contribute so that individuals achieve aging in a health way.11

Nutrition is a great ally of quality of life, and many concepts can define this quality, especially in functional capacity, socioeconomic status and satisfaction, but may involve the physical, emotional, social, intellectual, and self-protection of health areas. For the Ministry of Health, nutritional counseling is one of the contexts present in nutritional guidance, helping to prevent diseases and which reflects on greater physical and mental independence and autonomy, i.e., quality of life of the population as a whole.12

Therefore, health is associated to quality of life, and it must be required to consider the peculiarities and individual expectations, if this does not occur, they will not have relevance and meaning, because they will follow only patterns of a general and collective context.13

In this sense, this discussion concludes by highlighting the human being who, when reaching the elderly stage, expects a life without limitations and dependences. In this way, the diet rich in nutrients and balanced will reflect on healthy aging.14

The research through the integrative review showed that food is the remedy that heals many health problems. However, it should be consumed in meals in which the nutrients meet the need of the elderly person. The pleasure in eating, with balanced and healthy meals, under the premise of proper nutritional framework are determining factors for the reduction of drug use and constant visits to the doctor for control of degenerative diseases.

**FINAL CONSIDERATIONS**

Aging is natural factor of human life, but the healthy aging is fruit of relationships between healthy habits and healthy quality of life, being the way of eating involved in this context.

The guidelines directed to a balanced diet, focus of a nourishment of quality and composed of important nutrients, bring to the life of the elderly person many benefits, since the nutritional needs at this stage of life are supplied by foods that contribute to the expansion of organic functions.

The analysis of the studies lead to understand that balanced and nutritional intake interfere positively in healthy aging, as well as the improvement of the quality of life, and for this to occur in the third age, eating should be varied, balanced and in moderation, to cover all the needs of protein, carbohydrates, lipids, vitamins and minerals, according to the nutritional recommendations for the age range.
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The relevance of nutrition to healthy aging


