Bioethics and Nutrition in the Older Adult

Bioética y Nutrición en el Adulto Mayor

Jessica Andrea Aguilera-Hernández a, Lydia Lopéz-Pontigo b, María del Refugio Acuña-Gurrola c, Arianna Omaña-Covarrubiasb

Abstract:

At the professional practice of nutrition, as in the rest of the health disciplines, it is necessary to follow high standards to establish the best doctor-patient relationship and the greatest benefit in the user's health. Especially, the factors that are indexed in the nutrition of the elderly must be specified; since, during the stage of old age, individuals present physiological and psychosocial changes that affect their nutritional status, which lead to both overweight and malnutrition, implying malnutrition problems. Thus, recommendations are established for both the ethical aspects and the components that must be considered for the adequate feeding of the elderly, including the ethical considerations involved in the interventions.

***Keywords:***

*Bioethics, Nutrition, Older Adult*

Resumen:

En la práctica profesional de la nutrición, como en el resto de las disciplinas de la salud, se requiere seguir de altos estándares a fin de entablar la mejor relación médico-paciente y el mayor beneficio en la salud del usuario. De manera especial, se deben puntualizar los factores que indicen en la nutrición del adulto mayor; ya que, durante la etapa de la vejez, en los individuos se presentan cambios fisiológicos y psicosociales que inciden en su estado nutricional, que derivan tanto en el sobrepeso como en la desnutrición, implicando problemas de desnutrición. Así, se establecen recomendaciones tanto de los aspectos éticos como de los componentes que es necesario considerar para la alimentación adecuada de los mayores, incluyendo las consideraciones éticas implicadas en las intervenciones.

***Palabras Clave****:*

*Bioética, Nutrición, Adulto Mayor*

Introduction

On one hand, one of the main benefits of the practice referring to health based on Bioethics is to encourage behaviors in the

members of the healthcare team which favors a more effective and favorable relationship between doctor-patient for their professional practice (Rodríguez, Ortega & Ramírez, 2018).

On the other hand, referring to clinical nutrition must be observed the bioethics principles as a means to assume and be aware of the necessity of not taking apart arbitrarily the practice of nutrition to any person that is not prepared or have a specialization in this field. In this way, it is necessary the continuous education and updating that train the nutritionist to overcome prejudices and preconceptions in his professional practice, as well as to emphasize responsibility as a professional of the health.

Thus, it is relevant to take into account bioethics in nutrition, especially with older adults because the process of aging will lead to several changes that impact directly the nutritional state of this population group, and as a consequence suffering a high risk of nutritional deficiencies.

DefiniTIONS

Before addressing the issue of Bioethics and Nutrition in Older adults, it is required to indicate the definition of the relative constructs to these two variables.

According to the National Commission of Bioethics (NCB, 2014,p.1):

It is the branch of applied ethics that reflects, deliberates, and makes regulatory approaches and of public politics to regulate and to solve conflicts concerning social life, in particular in the sciences of life, together with the practice and medical research that affect life in the planet not only in the present but also in future generations.

While it is understood as Nutrition “the process in which the body ingests, digests, absorbs, transports, uses and excretes food substances, what enables growth, maintenance and repairs the organism. Except for the food intake, the rest of the process is involuntary” (Corio & Arbónes, 2009, p. 444).

RelATION BETWEEN BIOETHICS AND NUTRITION

Bioethics is not only seen as a construct and discipline but also its principles and components are immediately linked with the generation and the application of the science. In other words, it is considered a framework component to contribute to the well-being and integrity of the human being and his/her environment.

In addition to the relationships established among the users and the members of the health personnel, it takes the context into consideration of a growing necessity to integrate the aforementioned to the increasing need to incorporate the “humanization like protection of the dignity and the vulnerability of the population”, as vital element (The National Commission of Bioethics [NCB], 2021, online).

At the same time, bioethics is an essential element, based on the analysis, and solution of the conflicts, dilemmas, and/or problems that might be part of the process, which implies the attention of the health, including the interaction both of the health personnel and the patients, families, and society in genera (Weingerz, Templos, Rangel, & Orellana, 2021).

Moreover, the reflections of bioethics regarding the environment of the practice of Nutriology has as purpose to make clear the exercise of actions that lead to a potential risk to both of human beings, population, and community, which can not have a scientific basis and are not designed by a professional.

Hence, a professional practice associated with the sciences of health has acquired a greater complexity due to necessity, need of having scientific knowledge that must support the reflection about the ethics in praxis understanding the same as diverse social circumstances that are faced by the human being in the search of his/her welfare(Romero-Zepeda, *et al.*, 2008).

NUTRItIoN in the older adult

As a consequence of the aging process, the intake of carbohydrates becomes a requirement since they bring energy to the person. Even though there is a decrease in their intake of them as a cause of a sedentary lifestyle of the elderly (Capo, 2002).

Corresponding to the Mexican Social Security Institute (MSSI, 2010), the calorie needs of an older adult with normal weight or healthy weight are found to be 30kcal/kg of weight/day. Nevertheless, this requirement must be increased in case of malnutrition and be reduced if there is obesity or overweight.

Furthermore, during old age, people are more susceptible to suffer from diseases, particularly chronic ones that are not transmitted and metabolic, also more complications and physiological declines in general (Castillo, Guerra, Carbonell & López, 2018; IMSS, 2018). With the resulting increase of medication intake in which nutrition is an important component(IMSS, 2018)due to the implication of greater susceptibility to the presence of nutritional deficiencies, for instance, vitamins, folic acid, iron, and magnesium.

Nutritional alterations in the older adult

As it was stated by World Health Organization and Pan American Health Organization(WHO &PAHO), in the model of integrated attention to the elderly ICOPE(2020) refers to nutrition and intake as one of the physiological factors associated with the energy and metabolic balance that bring together the vitality of the person.

In this way, it is vital to point out that in the aging stage, some frequent changes or declines might interfere negatively with the nutritional status of the older adult, so that it is essential to consider them. Among the following:

* Atrophy in taste buds, causing a reduction in the sense of taste and the smell (Bolet & Socarrás, 2009; Mexican Federation of Diabetes [MFD], 2015).
* Difficulties to chew originated from the partial or greater loss of dental pieces and dry mouth(Bolet & Socarrás, 2009; Secretary of Health, 2010).
* The upper esophageal sphincter loses tonicity, so there is delayed relaxation after swallowing. In addition to an increase in pressure in the pharyngeal contraction, developing into a greater demand of required liquid to stimulate the reflex of epiglottis close (Bolet & Socarrás, 2009; Secretary of Health, 2010).
* The needed time is incremented to the emptying liquids, but not for the solid ones(Bolet & Socarrás, 2009).
* A higher concentration of water is demanded to decrease the risk of uremia, on account of the reduction of the ability of concentration of urine (Davidson & Getz, 2004).
* A decline in the absorption of the proteins (WHO & PAHO,2020).
* A higher probability of the presence of phenomena in which social, psycho-emotional, and cognitive factors are involved that could impede an adequate eating behavior (Castillo, Guerra, Carbonell & López, 2018). Moreover, psycho-social factors are included among habits and economical resources are found. (Castillo, Guerra, Carbonell & López, 2018).

MALNUTRITION, OVERWEIGHT, AND OBESITY IN THE OLDER ADULT

To start with, malnutrition is a health problem in Mexico that needs to be worked out since it affects a great percentage of the population, especially the elderly; however, the health personnel could not have paid enough emphasis on it, as well as the implication of the nutritious danger and the quality of life of the people (Fuentes & Camacho 2020).

Hereby, the inadequate eating, and as a result, malnutrition is not only focused on the gain or loss of weight but also on the loss of muscle mass, resulting in strength (Falque, Maestre, Zambrano & Morán, 2005; WHO& PAHO, 2020). Based on Cruz, *et al*. (2006, p. 228), the consequences of nutritional deficiencies are found the following:

* Loss of weight and fat mass, flabbiness, and skin folds.
* Edema, hepatomegaly, diarrea.
* Loss of muscular strength.
* Asthenia, depression, and major depression.
* Specific symptoms of each deficit.

Malnutrition considers the loss of total fat mass associated with a certain loss of lean mass contributing to one of the most important nutritional problems in aging. According to Falque, Maestre, Zambrano & Morán (2005, online), malnutrition is compared with:

* Changes to the immune system.
* Delayed wound healing or the appearance of ulcers due to hypertension.
* Falls.
* Cognitive impairment.
* Ostopenia
* Alteration in drug metabolism.
* Sarcopenia.
* Decrease of the maximum respiratory capacity.

Conversely, the counterpart of malnutrition is overweight and obesity. As stated by the National Institute for Older Persons(Government of Mexico, 2020), it originates due to the

increased body fatness of the person, who can be seen or not with the weight gain, this is also related with the quantity of muscle and bone mass.

Additionally, and as it was mentioned by the Mexican Social Security Institute (MSSI, 2018), the presence of overweight and obesity are connected with the risks of the development of chronic diseases not transmitted, for example, Diabetes mellitus type II, high blood pressure, hypercholesterolemia, high levels of fats in the blood, such as cholesterol and triglycerides, heart attacks, and with these and other factors like the premature death of the person.

MAIN ETHICAL PROBLEMS

On the basis of the World Health Organization(WHO,2021), the period from 2021 and 2030 has been denominated as “Decade of Healthy Aging” which carries foster actions in political, health, and social areas aimed at improving the quality of life of the elderly.

Comprehending healthy aging as “ the process of encouraging and keeping functional capacity that enables the welfare of the aging” (WHO, 2015, p.30); and which the functional capacity refers to the conditions that permit to the person” being and doing” what it is important to him/her.

Nonetheless, the implementation of these actions entails some ethical considerations that must be analyzed. Based on Benavides (200, p.65), within are identified the following:

1. Ageism or cultural etaism.

a) Poor use of social and health resources (exclusion).

b) Loss of social identity of the elderly.

c) The awareness of being a nuisance.

2. Humanization in the social and health care of these people.

3. Social ageism.

4. The ethical requirement of caring for the elderly. Integration and family coexistence.

5. Loss of autonomy and total dependence.

6. Information and communication.

7. Informed consent.

8. Withdrawal of vital treatments and therapeutic futility.

9. Experimentation and clinical trials.

10. Accompanying the elderly: role of volunteers.

11. Experiences of pain, suffering, and death.

12. Dying with dignity and Euthanasia.

13. Distribution of social and health resources.

ADEQUATE food TO THE OLDER ADULT

To get adequate food, a graphic guide that can be a useful tool is “the plate of the good to eat”, which shows graphically all the elements and portions that food should be eaten. Concerning MSSI (2018), includes the three main groups of food such as vegetables and fruits as a source of fiber, vitamins and minerals, cereals which provide carbohydrates, and food of animal origin as a source of proteins.

Likewise, based on the established in Official Mexican Standard NOM-043-SSA2-2012 (Secretary of Health, 2013, p. 6 y 7), so that a diet would be considered as correct, it must fulfill the following characteristics:

**Completed:** that contains all the nutrients that are recommended to be included in each meal of food of the three groups such as vegetables and fruits, cereals and tubers, as well as food of animal origin.

**Balanced:** that the nutrients keep the appropriate portions among them.

**Harmless:** that its consumption does not imply risks to health since it is exempt from pathogenic microorganisms, toxins, contaminants. Moreover, it is consumed prudently, and that it does not provide excessive quantities of any type of nutrient.

**Enough:** that it meets the needs of all the nutrients, in a way that the older adult has good nutrition and a healthy weight.

**Varied:** that from food to other, it includes different food of each group.

**Appropriate:** that it is following the tastes and culture of those who consume it. Similarly, it adjusts to the economic resources, without this means a sacrifice in other characteristics.

From a specific way, considering an emphasis on the appropriate food for the older adult, that one that allows him/her to keep a healthy weight and reduces the incidence of pathologies, or its complications. Both in the guide of cares for the health of the adults older than 60 years old and more, and the Mexican Social Security Institute (2018), enumerates the following suggestions whose purpose is to be a guide to achieving an appropriate eating behavior to this population group:

* Having three complete food in regular schedules every day, which must contain on average, an element of each food group. Furthermore, they must be complemented with two healthy snacks, one in mid-morning and the other one in mid-afternoon. It is relevant to mention that this element is also recommended by the Mexican Federation of Diabetes (MFD, 2015).
* Consuming natural food(not industrialized ).
* Consuming seasonal fruits and vegetables in a varied way in the main meals and snack foods.
* Consuming whole grain cereals, whole-grain derivatives, without added sugars or fats, complementing protein intake with legumes.
* Moderate consumption of meat foods, prioritizing the intake of lean meat such as fish and poultry (without skin).
* In case of consuming cheeses, low-fat cheeses such as panela, cottage cheese, and cottage cheese should be chosen.
* If you are lactose intolerant and consume cow's milk, it should be skimmed or lactose-free.
* Minimizing the sal consumption, substituting it in the preparation of the food with the use of herbs and aromatic species to season.
* Drinking from six to eight glasses of natural water every day on average.
* Keeping hygiene measures in both the preparation and the consumption of food.
* In terms of the texture, it is preferable soft food, for instance, slurries, purée, boiled fruits, and vegetables, shredded or minced meat.

With reference to the diet consumed by the older adult, it must contain appropriate food that contributes to his/her function, well-being, and longevity aging, so it must contain varied elements, with enough volumes that allow keeping a normal weight or an adequate weight. Besides consuming enough drinking water, as well as increasing the intake of fruits and vegetables, and reducing the consumption of food which have a high energy density, as like fats. Furthermore to do physical activity concerning the older adult’s condition.

physical activity

As part of the process of aging, it is frequent the presence of a decline in the physical functionality derived from the decreasing of the muscle and bone mass, equally the synovial fluid causing a wearing on the cartilage (WHO,2015). Additionally to the changes in the central nervous system that come from a possible progressive loss in the capacities related to the mobility, running, balance, and motor coordination of the person (Chalapud-Narváez, & Escobar-Almario, 2017).

Even though there are some physiological intrinsic changes shown in aging, so it is unavoidable the loss of mobility, means, that the locomotor capacity of the person can be kept and improved through a program of exercises adapted to the characteristics and individual needs (WHO & PAMA, 2020), and whose purpose is to get better the older adult’s muscle strength, balance, and functionality, preserving his/her autonomy to perform the basic activities of everyday life (Chalapud-Narváez, & Escobar-Almario, 2017).

Likewise, through the practice of a physical activity is possible to raise the appetite of the person, and with that the intake of food. As a result, proper nutrition with the consumption of proteins, vitamins, and minerals within other essential components for the health of the older adult (Chalapud-Narváez, & Escobar-Almario, 2017).

**CONCLUSION**

In conclusion with the advancing age, some changes might interfere with the adequate nutrition of an older adult, then it is of great importance the intervention of the health professionals, that they are trained to the generation and application of programs of intervention focused on maintaining or restoring the nutritional status of the person.

Besides, these interventions are based on the scientific advances, that must be considered the ethical elements which contribute to them, maintaining a professional practice of the nutritionist with the higher standards established by the bioethics.

Therefore, it has great significance to continue expanding the knowledge for bioethics whose purpose is to guarantee the actions taken by the health personnel, having a positive impact and with that, fulfill the objectives that in the nutrition field have been raised, as well as giving answer to the specific necessities of the older adults. On account of enriching the relationship between nutritionist and patient, and also drawing the attention of quality, so that the patient has optimal health.

References

Benavides, A. (2009). Bioethics and the elderly. *Horizonte Médico, 9*(2), 61-66. http://repebis.upch.edu.pe/articulos/hm/v9n2/a7.pdf.

Bolet, M, & Socarrás, M. (2009). Food and nutrition of people over 60 years of age. *Revista Habanera de Ciencias Médicas, 8*(1). http://scielo.sld.cu/scielo.php?script=sci\_arttext&pid=S1729-519X2009000100020&lng=es&tlng=es.

Capo, M. (2002). Importance of nutrition in the elderly person. *Novartis Consumer Health*. http://www.sld.cu/galerias/pdf/sitios/rehabilitacion/importancia\_de\_la\_nutricion\_en\_la\_tercera\_edad.pdf.

Castillo, J. Guerra, M. Carbonell, A. & López, M. (2018). Factors affecting the nutritional status of the older adult. *Revista Latinoamericana de Hipertensión, 3*(5). <https://bonga.unisimon.edu.co/bitstream/handle/20.500.12442/2519/Factores%20que%20afectan%20el%20estado%20nutricional%20del%20adulto%20mayor.pdf?sequence=1&isAllowed=y>.

Corio, R. & Arbonés, L. (2009). *Nutrition and Health. SEMERGEN, 35*(9), 443-9.https://www.elsevier.es/es-revista-medicina-familia-semergen-40-articulo-nutricion-salud-S1138359309728436.

Cruz, M., Guerrero, M., Prado, F., Hernández, M. & Muñoz, M. (2006). *Malnutrition. In: Spanish Society of Geriatrics and Gerontology*. Geriatrics treatise for residents. (pp. 227-242). International Marketing & Communication, S.A. (IM&C).

Chalapud-Narváez, L. & Escobar-Almario, A. (2017). Physical activity to improve strength and balance in older adults. *Rev Univ. Health, 19*(1), 94-01. http://www.scielo.org.co/scielo.php?script=sci\_arttext&pid=S0124-71072017000100094.

Davidson, J & Getz, M. (2004). Nutritional risk and body composition in free-living elderly participating in congregate meal-site programs. *J Nutr Elder, 24*(1), 53-68. https://www.tandfonline.com/doi/abs/10.1300/J052v24n01\_04.

Falque L., Maestre, G. E., Zambrano, R. & Morán, Y. (2005). Nutritional deficiencies in adults and older adults. *Anales Venezolanos de Nutrición, 18*(1), 82-89. http://ve.scielo.org/scielo.php?script=sci\_arttext&pid=S0798-07522005000100016.

Fuentes, L. & Camacho, A. (2020). Prevalence of malnutrition status in older adults at Family Medical Unit No. 53 in Leon, Guanajuato, Mexico. *El Residente, 15*(1)1-11. https://www.medigraphic.com/pdfs/residente/rr-2020/rr201b.pdf.

Government of Mexico. (2020). *Obesity in Older Adults.* National Institute of Older Adults https://www.gob.mx/inapam/es/articulos/obesidad-en-personas-mayores?idiom=es.

Mexican Diabetes Federation. (2015). *Nutrition in the older adult.* Federación Mexicana de Diabetes A. C. https://fmdiabetes.org/nutricion-en-el-adulto-mayor/.

Mexican Institute of Social Security. (2010). *Quick Reference Guide. Evaluation and Nutritional control of older adults in the first level of attention.* http://www.imss.gob.mx/sites/all/statics/guiasclinicas/095GRR.pdf.

Mexican Social Security Institute (2018). *Guide for Older Adults Nutrition.* Mexican Social Security Institute. http://www.imss.gob.mx/sites/all/statics/salud/guias\_salud/adultos\_mayores/Guia\_adultosmay\_nutricion.pdf.

National Bioethics Commission (2014). *Proposal for the inclusion of bioethics in the National Development Plan 2013-2018.* http://www.conbioetica-mexico.salud.gob.mx/descargas/pdf/desplegados/PND\_Propuesta.pdf.

National Bioethics Commission, (2021). *Decalogue of Bioethics and Primary Health Care.* https://www.gob.mx/salud%7Cconbioetica/articulos/decalogo-263604?idiom=es.

Pardío, J. (2016). The clinical nutrition. A bioethical task. *Gaceta Conbioética, V(*21), 15-17. http://www.conbioetica-mexico.salud.gob.mx/interior/gaceta\_conbioetica/Gaceta\_21/Gaceta\_Nutriologia\_\_para\_web.pdf .

Rodríguez, F. Ortega, J. & Ramírez, J. (2018). *Bioethics and its learning in the health care team, 16*(1), 5-6. http://www.scielo.org.mx/pdf/amga/v16n1/1870-7203-amga-16-01-5.pdf.

Romero-Zepeda, H., Preciado-Cortés, R., Elton-Puente, J., Salazar-Piñón, M., García-Gasca1, T. & Hall, R. (2008). Reflections from the bioethical perspective on nutrition in Mexico. *RESPYN Revista de Salud Pública y Nutrición, 9*(1). https://www.medigraphic.com/pdfs/revsalpubnut/spn-2008/spn081h.pdf.

Secretary of Health. (2013). *Official Mexican Standart NOM-043-SSA2-2012, Basic services of Health. Food promotion and health education. Criteria for providing guidance.* Diario Oficial. http://www.salud.gob.mx/unidades/cdi/nom/compi/043ssa205.pdf.

Troncoso, C. (2017). *Alimentación del adulto mayor según lugar de residencia. Horizonte Médico (Lima), 17*(3), 58-64. www.scielo.org.pe/scielo.php?pid=S1727-558X2017000300010&script=sci\_arttext.

Weingerz, S. Templos, L. Rangel, N. & Orellana, V. (2021). Motives for presenting clinical cases of patients to the Hospital Bioethics Committee in a Second Level Hospital. *Medicine and Ethics.* https://revistas.anahuac.mx/bioetica/article/view/772/751.

World Health Organization. (2015). *World Report on Ageing and Health.* https://apps.who.int/iris/bitstream/handle/10665/186466/9789240694873\_spa.pdf.

World Health Organization. (2021). *A decade of Healthy Aging 2021-2030*. World Health Organization. https://www.who.int/es/initiatives/decade-of-healthy-ageing.

World Health Organization and Pan American Health Organization (2020). *Integrated care for the elderly (ICOPE): Guidance on assessment and person-centered care schemes in primary health care. Manual.* https://iris.paho.org/handle/10665.2/51973.