

## PRIORITIES IN ELDERLY NUTRITION: LATIN AMERICA GERIATRICIANS VIEWPOINTS

M. González-Lara<sup>1</sup>, J. Fernández-Villa<sup>2</sup>,  
MU. Pérez-Zepeda<sup>3</sup>, P. Arroyo-Acevedo<sup>3</sup>,  
M. López-Teros<sup>3</sup>, G. Ríos-Cázares<sup>4</sup>,  
LM. Gutiérrez-Robledo<sup>5</sup>, E. Denova-Gutiérrez<sup>3\*</sup>

### Abstract

**Objective:** The aim of the present study is to know the viewpoints of Latin America (LA) geriatricians about elderly nutrition.

**Methods:** This is a cross-sectional study in which a group of geriatricians from LA were applied a questionnaire. This questionnaire was integrated and designed by a group of experts in nutrition and geriatrics from the Instituto Nacional de Geriátría in Spanish, and validated by external researchers. Three main questions were asked, each one with a subset of secondary questions regarding nutritional aspects of the elderly.

**Results:** Geriatricians use nutritional screening in their patients, anthropometry tools like weight, height and BMI are used in 93%. Most of them have not taken any course or seminary during their formation, in relation to some topics into the clinical practice (42.9%); drug-food interactions seem to be of great importance for geriatricians and topics related to geriatric syndrome, evaluation of nutritional

<sup>1</sup>Postgraduate Division, Medicine Faculty, Mexican National Autonomous University, Mexico City (Mexico).

<sup>2</sup>Metropolitan Autonomous University, Mexico City (Mexico)

<sup>3</sup>Geriatric Epidemiology Research Department, National Institute of Geriatrics (Mexico)

<sup>4</sup>Development and Academic Extension Department, National Institute of Geriatrics (Mexico)

<sup>5</sup>Director Office, National Institute of Geriatrics, Mexico City (Mexico)

\*Corresponding author: Dr. Edgar Denova Gutiérrez, Instituto Nacional de Geriátría, Periférico Sur 2767, Colonia San Jerónimo Lídice, Delegación Magdalena Contreras, CP 10200 México DF, México.

E- mail adress: edenova03@yahoo.com.mx

status and sarcopenia were important (67.2% and 62.5% respectively).

**Conclusion:** It is important taking into account the geriatricians' points of view for the implementation of research in nutrition from molecular level to the association of nutritional deficits to geriatric syndromes.

### Keywords

Older adults, geriatrics, nutritional assessment.

### Prioridades en Nutrición de las personas adultas mayores: puntos de vista de los geriatras en América Latina

### Resumen

**Objetivo:** El objetivo del presente estudio es conocer los puntos de vista de geriatras latinoamericanos acerca de la nutrición en el adulto mayor.

**Diseño:** Estudio transversal.

**Participantes:** Un grupo de geriatras de Latinoamérica.

**Métodos:** Este es un estudio transversal en el cual se aplicó un cuestionario a un grupo de geriatras de Latinoamérica. Este cuestionario se diseñó en español

por un grupo de expertos en nutrición y geriatría del Instituto Nacional de Geriátrica, y validado por investigadores externos. Se plantearon tres preguntas principales, cada una con un subconjunto de preguntas secundarias sobre aspectos de nutrición en el adulto mayor.

**Resultados:** Los geriatras utilizan evaluaciones nutricionales en sus pacientes, herramientas antropométricas como peso, talla e IMC las usan en un 93%; la mayoría de ellos no han tomado cursos de nutrición durante su formación, en temas asociados dentro de la práctica clínica, el 42.9% cree que es de gran importancia las interacciones fármaco-nutrimiento (42.9%), y en tópicos relacionados con síndromes geriátricos; los geriatras creen que evaluar el estado de nutrición y sarcopenia son de su mayor interés (67.2% y 62.5% respectivamente).

**Conclusión:** Es muy importante tener en cuenta los puntos de vista de los geriatras para la implementación de investigación en el área de la Nutrición, desde el nivel molecular, hasta las asociaciones de los déficits nutricionales con los síndromes geriátricos.

## Palabras clave

Adultos mayores, geriatría, evaluación nutricional.

## Introduction

In the past years, elderly population growth has increased worldwide and this trend is expected to continue in the next years <sup>(1)</sup>. In developing countries, like Mexico, this growth will be faster than in developed ones. This phenomenon will require research in topics that could impact older adults well-being <sup>(2)</sup>.

Nutrition topics related to elderly population are important, mainly because nutrition is an important determinant of health, and one of the interventions that can effectively among other effects, improve the physical status <sup>(3)</sup> clinical outcomes and helps to reduce the costs of healthcare <sup>(4)</sup>.

In this group of age, there is a high prevalence of malnutrition around 23%-60% across all settings: community, nursing homes, and medical acute care <sup>(5-7)</sup>. Malnutrition in older adults is associated with adverse outcomes such as frailty, disability, morbidity, nursing homes admission, poor quality of life, and mortality <sup>(7,8)</sup>.

The aging process contributes with some factors in the etiology of nutritional problems, such as the loss of appetite and insufficient food intake, poor dentition, increased prevalence of acute and chronic medical conditions, polypharmacy, cognitive decline and socioeconomic challenges <sup>(8)</sup>. Due to the multifactorial and complex etiology of malnutrition in the elderly, the nutritional assessment in this age group is a main part of the geriatric evaluation <sup>(9)</sup>. Healthcare professionals, in response of these needs, developed and use a variety of nutritional assessment tools across health care settings to identify older adults who are at risk for malnutrition <sup>(10)</sup>. Few studies on health interdisciplinary collaboration have been conducted in Latin America (LA), the most important characteristic about interdisciplinary health care teams for older people in LA is their subjective-basis framework <sup>(11)</sup>.

In LA the increase of the old population has not been matched by a parallel increase of professionals and services in gerontology and geriatrics along with the generation of new knowledge or the establishment of research priorities. The development of geriatrics in LA is quite heterogeneous, with countries that have already gone a

long way ahead on the matter such as Brazil, Mexico and Argentina, passing by other countries where the specialty is relatively young, as Colombia and Peru <sup>(12)</sup>.

Nowadays, despite the high prevalence of malnutrition among elderly patients and its consequences, its assessment and treatment does not receive adequate attention in clinical practice <sup>(11, 13)</sup>. Therefore, better nutrition knowledge and nutritional status assessment skills of professionals involved in care of older adults in routine clinical practice, guarantees appropriate health care. In addition, developing clinical research is necessary to increase the knowledge of those nutritional topics that the same professionals perceive with poor evidence <sup>(12)</sup>. To our knowledge, in the LA region, there is no data about perception and priorities of geriatricians in elderly nutrition, both for clinical and research objectives. Therefore, the aim of this study is to know the perceived priorities of LA geriatricians in elderly nutrition.

## **Materials and methods**

### ***Study population***

We conducted a cross-sectional study based on a questionnaire regarding the

perceptions of priorities in nutrition of a group of LA geriatricians in 2014, a total of 164 geriatricians from the Academia Latinoamericana de Medicina del Adulto Mayor (ALMA, for its acronym in Spanish) were contacted by e-mail and asked to answer a brief questionnaire; this group of geriatricians represents highly qualified and trained specialists in older adult care; since ALMA uses standardized criteria of admission (being a certified geriatrician, approve a serial set of courses, geriatrician with expertise in education and research, among others); of these, only 73 participated.

### ***Data collection***

To our knowledge there are not available questionnaires that explore perceptions of priorities in nutrition in the LA region, therefore we integrated a questionnaire, designed by a group of experts in nutrition and geriatrics from Instituto Nacional de Geriatria (INGER, by its acronym in Spanish), in Spanish, which was previously validated (as there is not a gold standard for this questionnaire, a face and content validity was done) by external researchers (the geriatricians were randomly chosen from three Spanish speaking countries from the

list. These subjects were excluded from the final interview). In the first stage, geriatricians were asked about three main questions, each one with a subset of secondary questions. For example: question one included seven sections regarding general issues about geriatric nutrition, while the second one contained different segments about specific topics such as assessment of nutritional status, nutrition and frailty, and malnutrition. Both questions with 5 answer options in Likert scale, ranging from not important to indispensable. Finally, in order to address if the expert suggested other issues considered to be important, an open question was included. Additionally, information about gender and country of origin was collected in this stage.

From a total of 170 geriatricians, 73 responded the survey including specific questions concerning nutritional assessment in the clinical practice. The survey consisted on four main sections, three of them with a subset of secondary questions. In part one, an open question regarding if nutritional assessment does take part of their clinical practice, was asked. The second part included some questions related to the use of nutritional assessment methods into the clinical practice (anthropometry, biochemical trials and

dietary assessment). Questions about previous information/actualization in topics related elderly nutrition were asked in part three. Finally, section four included 36 issues about geriatric nutrition; those questions had 5 answer options in Likert scale, ranging from not important to indispensable. Furthermore, sociodemographic information like age, gender, country of origin, years of practice and workplace were asked by means of a general questionnaire.

The survey was delivered by a web-based interview system (SurveyMonkey®), which allows designing, sending and analyzing questionnaires in a web-based platform. Interviewed subjects were assured of confidentiality of the information (no names were registered). The survey was sent to all geriatricians in each region.

### *Analyses*

The total percentage of each of the Likert scale ranging responses of all geriatricians was calculated and plotted in graphs. Most frequent answers of the open question were grouped and their frequency described.

## Results

### *Population*

Of the population sample, the main country of origin was Mexico (44.5%), followed by Colombia and Brazil (8.7%) and Costa Rica and Panama (7.2%). Those who completed the stage of the study were included, among them 58% were male (n=69).

### *Nutritional status in clinical practice*

On the question regarding of frequency of the nutritional status screen in clinical practice, the majority of the geriatricians answered that “always [use it]”, followed by almost always (table 1).

**Table 1. Nutritional screening use among geriatricians in clinical practice.**

<b>Does nutritional screening take part of your usual clinical practice</b>	Sometimes	Almost Always	Always	n
Frequency	6	13	49	68
Percentage	8.8	19.1	72.1	

It was asked the measurement tools used to screen nutritional status, if screened; it was divided in three groups, anthropometry, biochemical

values and diet evaluation, the most used was biochemical values followed by anthropometric measures (table 2).

**Table 2. Measurement tools for nutritional status screening**

	Yes	No
Use anthropometric measurements to screen nutritional status	92.4%	7.6%
Use of biochemical values to screen nutritional status	93.9%	6.1%
Evaluate of patient's diet to screen nutritional status does take part of your clinical practice	87.9%	12.1%

\*N=66

Anthropometry tools used to assess nutritional status in clinical practice were grouped in three (bioelectrical impedance, skinfold thickness, circumference measurements and height/weight/Body Mass Index) the most used was BMI, followed by skinfold thickness and circumferences (table 3).

**Table 3. Anthropometry tools used to assess nutritional status**

Anthropometry		Yes	No	Total
Bioelectrical impedance	Percentage	1.7	98.3	100
Skinfold thickness and circumference measurements	Percentage	58.3	41.7	100
Weight/height BMI	Percentage	93.3	6.7	100

N=60

### ***Education regarding nutrition of older patients***

It was asked to the geriatricians if they had any geriatric nutrition class or seminary during their formation as a geriatrician/physician. Those who had a class or seminary were 61.5% also,

during practice (after formation); only 41.5% had the opportunity or interest in taking a class. There is a part of the population that neither had a class/seminary during formation or after (table 4). The majority of the population believes they should update on nutrition related topics (95.4%).

**Table 4. Contingence table of nutrition related formation**

Question	During your practice as geriatrician, did you take any nutrition related class or seminary?			
During your formation as geriatrician/physician, did you take any geriatric nutrition class or seminary?		No	Yes	Total
	No	19	22	41
	Yes	9	17	26
	Total	28	39	

N=67



*Nutrition topics according to importance for geriatric clinical practice*

When asked the given importance of a nutrition topic related to geriatric

clinical practice, the majority of the geriatricians chose as the most indispensable “drug-food interaction”, while nutrigenomics had the lowest score (table 5).

**Table 5. Nutrition topics according to importance for geriatric clinical practice**

Topic	Indispensable	Very Important	Important	Somewhat Important	Non Important
Drug-food interaction	42.9%	39.7%	14.3%	1.6%	1.6%
Oral pathology	26.6%	48.4%	18.8%	4.7%	1.6%
Diabetes and Nutrition	26.6%	57.8%	12.5%	1.6%	1.6%
Kidney failure and Nutrition	26.6%	57.8%	14.1%	0.0%	1.6%
Cancer and Nutrition	23.8%	47.6%	25.4%	1.6%	1.6%
Hypertension and Nutrition	23.4%	54.7%	20.3%	0.0%	1.6%
Nutrigenomics	9.8%	24.6%	47.5%	13.1%	4.9%

Evaluation of nutritional status, sarcopenia, and nutritional disorders related to geriatric syndromes and sarcopenic obesity were one of the topics considered as indispensable by the majority of the po-

pulation. Almost all of the geriatricians chose a positive answer to the nutrition and geriatric syndromes. The lowest score was for Nutritional Modulation of inflammatory response (table 6).



**Table 6. Topics related to nutrition and geriatric syndromes**

<b>Topic</b>	<b>Indispensable</b>	<b>Very Important</b>	<b>Important</b>	<b>Somewhat Important</b>	<b>Non Important</b>
Evaluation of nutritional status	67.2%	23.4%	7.8%	0%	1.6%
Sarcopenia	62.5%	35.9%	0%	0%	1.6%
Nutritional disorders related to geriatric syndromes	57.8%	37.5%	3.1%	0%	1.6%
Sarcopenic obesity	53.2%	40.3%	4.8%	0%	1.6%
Frailty and nutrition	46.9%	43.8%	7.8%	0%	1.6%
Influence of nutrition on the prevention of pathological aging	39.7%	41.3%	17.5%	0%	1.6%
Protein energy malnutrition	33.3%	49.2%	15.9%	0%	1.6%
Nutritional Modulation of inflammatory response	9.5%	50.8%	30.2%	6.3%	3.2%

## Discussion

Nutrition is a very important component for health and functionality in elderly. During aging changes in body composition and bone mass and density are emphasized, all with a concomitant increase in fat. All these changes in body composition involve some changes in nutritional requirements, metabolism and physiological functions.

Ideally, nutritional problems or alterations of nutritional status are identified using various biochemical, anthropometric, immunological and functional parameters. Also, it has been shown that no measurement by itself is sensitive and specific in identifying malnutrition. However, taking into account the clinicians' points of view could improve evidence based on decision-making by these health professionals.

One of the indicators of given importance of nutrition in older adults is the usage of nutrition screening because it reflects effectively if the importance given to topics related to nutrition is indeed translated into action. The fact that “always” and “almost always” used in nutritional screening can reflect the importance given to the topic. The most used tool to screen nutritional status was anthropometry, followed by biochemical indicators and diet. Screening nutritional status is important for assessing the type of intervention in elderly; this may be difficult because of physiological changes that come with age and because qualified people is needed to assess this. The most used anthropometric tools are weight and height, followed by foldskin thickness and circumference measurements. These measurements are easier to assess and does not require extra equipment or preparation, they are also used more often than others that can provide more information about nutritional status, this can be due to several factors like time, availability of instruments, and qualified people as mentioned above, etc. There are limitations in the use of BMI because it has different significance between young and older adults, as the relationship between BMI and muscle mass changes with age, BMI is more highly correlated with subcu-

taneous fat in young adults than older ones, however, BMI is more correlated with muscle mass in older adults<sup>(14, 15)</sup>, indeed BMI may be higher for Latin and Asian populations at age of 70 and above because of anthropometric characteristics and the decline in height (osteopenia and increased curvature of spinal column). With extensive vertebral changes or differences between the average height/weight ratios among races, height and BMI measurements could not be accurate and its value as an indicator for nutritional status must be used only as a component of a global evaluation scale, anthropometric measurements like weight and height could identify “obese or overweight” older adults, but the weight does not necessary represent a better nutritional status, however, for physicians are easier to manage these tools and could be an approximate to know the nutritional status from the patients<sup>(14)</sup>.

While a portion of geriatricians have taken a class or course of nutrition in older adults, either during formation or general practice, another portion had never taken any, so we should see why this part of the curriculum is not present on those subjects, even more, the majority of the population believe they should update on nutritional related topics, this shows a need of cons

ciencia between geriatricians that is the lack of preparation/update on topics related to nutrition in older adults, and this coincides with European populations <sup>(16)</sup>.

One point that is also important is the concern about the drug-food interactions, as this was one of the main topics included into the clinical practice questions, for geriatricians is important to take into account that older people have multiple diseases, malnutrition and with this the increase of polypharmacy, therefore, give a correct drug prescription and a nutritional intervention is one of the main points to consider in the clinical practice <sup>(17)</sup>.

The interest in sarcopenia is demonstrated by the rise of publications that one can find under the search of 'sarcopenia' on Pubmed, where in the 1990's only a few reports were written, while only in 2013, 524 papers appear in the website. We can identify that geriatricians give higher importance to topics related to this and their co-morbidities, but as we have seen before there is lack of knowledge/update on those topics. We should encourage update and education on the topics related to sarcopenia/frailty and nowadays because there are topics of great importance and interest.

Due to the fact that the populations to which geriatricians provide care are already older adults, there is a lack of emphasis in those subjects of nutrition as a preventive strategy of further chronic diseases. Nevertheless, despite there is no clear association between disability and nutrition as a target for prevention, this topics could encourage interventions that could slow down the disablement process.

In conclusion geriatricians are not a homogeneous group, each one have different backgrounds and interests, but as healthcare professionals we should make aside this, in order to make healthcare of older adults a process in which the best and newest treatment should be used. There is a need of improve in the curriculum and update of the geriatricians, since the interest of perform, research, and practice on nutrition therapy or assessment depends on the information and the importance one gives to such information.

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