Review Article
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Food insecurity in older adults: much more than food - understanding it before taking action

Abstract

Older people are one of the especially vulnerable populations to food insecurity. Among the several factors that may predispose them, it can be pointed out low income, decreased mobility and constrains on daily activities, inability to care for themselves due to functional impairment as well as health problems and weak social network.

Therefore, it's crucial to recognise and to assume the multidimensionality of this concept. In order to better understand the nature and the impact of food insecurity in the elderly it's mandatory to have a comprehensive understanding of all the aspects related to this burden in this population.

Keywords: elderly, food insecurity, policy, food insufficiency, social risk

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Highlights

Food insecurity in elderly is a major concern and it's not limited to poor senior citizen.

Having a food secure home is influenced by economic, physical and social resources that elders may or may not have.

Food insecurity has an important impact in the management of diseases of older people. Older adult's food insecurity situation demands a holistic approach beyond the access to food problem.

Introduction

The elderly are the age group with the highest increasing population dynamics worldwide.[1,2] The ageing process presents new challenges on health, social services and public policy.[3] Food security is an essential dimension of health and well-being.[4] Contrary to the younger age group, a larger set of factors is related to the nutritional status and health status of elders, namely food insecurity,[2,5] which can affect health, quality of life and nutritional status.[2,6] These factors may have more significant repercussions in the elderly, since they are a group in great need of health services and social support.[7]

Food security is defined as a situation "when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life".[8] This concept encloses physical availability of food, economic and physical access to food, food utilization and stability of the other three dimensions over time.[9] This phenomenon, not being a recent problem, is associated with poverty and social inequalities, which in turn contribute greatly to health and well-being, particularly to the nutritional status of the elderly.[10,11]

Food insecurity is a large and complex problem, in part because it is closely tied to poverty. In fact, poverty and financial constrains are commonly cited as the root of the burden of food insecurity.[12] It is known that people with the most unfavorable socioeconomic conditions are the ones most affected by food insecurity, and can travel between food insecurity and food security according to their circumstances.[13,14] Food insecurity is an individual feeling and experience, which includes the fear of running out of food or money to buy food. Moreover, at a later stage of the food insecurity spectrum, the insecure individual may even go without food or without possibility to acquire them, failing meals and eventually experiencing the physical sensation of hunger.[15,16]

As far as food is concerned, as a matter of human rights, food insecurity appears as a consequence of the non - fulfillment of the right to food.[17] As the elderly population increases, an accurate assessment of the extent of food insecurity becomes more important for program and policy decisions.[4] In fact, a variety of contributing agents can originate or even perpetuate this burden.[18,19]

Food insecurity in elderly

Although in recent years food insecurity has been studied widely, the research of this burden is scarce in most countries and particularly in older adults.[20–22]

These questions remain: What does it mean for an older person to be food insecure? Which characteristics are associated with the phenotype of an insecure elder?

The lack of knowledge about food insecurity is alarming, especially in the current conjuncture, where there are strong social inequalities.[23] Besides this panorama, the available data from some surveys are alarming. For example, in the USA approximately 4.8 million Americans over 60 years old are food insecure.[24] In Mexico, another report aimed to evaluate food insecurity prevalence in people aged 60 or more and have concluded that 67% were experiencing some level of food insecurity.[25] In Portugal 23% of the elders were food insecure.[20,26]

Factors associated with food insecurity

Age

In the international literature, there are contradictory data, since Brewer and colleagues (2010) reported that food insecure elderly

belong to younger age groups.[27] Similarly, Cheng and colleagues stated that younger adults were less likely to be insecure than older adults[28] and Steiner et al. concluded that food insecurity decreases with advancing age.[29] Other authors reported that older people aged 85 or older were more likely to report food security compared to older people in the younger age groups.[30] The INFOFAMILIA study highlights the lower vulnerability of the elderly to the situation of IA.[31]

Gender

It is documented in literature that the female sex seems to represent a risk factor, since older women present more food insecurity when compared to the older men.[32,33] As a consequence of living as widows more often, they live their years of old age with limited financial resources.[24] The results is that older females may be more exposed to this problem.

Education level and environmental determinants

Some of the elderly are more likely to have food insecurity due to low income and because they are less educated.[34] Economic constrains and literacy are two powerful determinants associated with improving food security and food diversity.[35] Moreover, economic and environmental determinants have a huge impact on elders, namely on their nutritional status.[36] Older people face limited resources for purchasing food and for this reason often buy cheap food with inadequate nutritional density. Also, neighborhood characteristics play a role on this burden as food cost and availability, distance to obtain food, safety and very importantly walkability.[37,38] As reported by Chung et al., neighborhood walkability is an important correlate of food insecurity in these individuals[37] and may contribute to a detrimental dietary intake, which in turn is influenced by accessibility to food, especially among elders with lower income.[39]

Health

Food insecurity has been associated with markers of the risk of chronic clinical conditions.[40] Also, food insecure elderly tend to have an inadequate nutritional intake and lower self-reported well-being.[2,18]

The literature evidences that food insecurity in the elderly has adverse effects on their health and nutritional status.[41,42] The following can be highlighted: physical and mental problems, such as depression,[43–48] higher cardiovascular risk,[49] self-control deficit of diabetes mellitus[43,47,50] and arterial hypertension.[46] Poverty, an element at the heart of the food insecurity cycle[51] is a predictor of cardiovascular problems,[52] just as food insecurity is also presented in the literature as a strong predictor,[53] being a socioeconomic barrier that contributes to poor cardiovascular health.[49] Older people who present clinical conditions, such as hypercholesterolemia, who require adaptation of food to their clinical condition, altering the food pattern, promoting the need to include certain foods may present an increased risk of food insecurity, as this situation promotes anxiety and worry in not being able to get these foods.[54]

The relationship between food insecurity and hypercholesterolemia presents inconsistent results.[55–58] In addition, myocardial infarction is highly debilitating and also introduces the need for control of risk factors and changes in lifestyle, through drug and nutritional therapy. In this way, these chronic diseases and/or their associated physical disabilities can contribute to food insecurity in four different ways:[59] increasing medical expenses; limiting access to food and/or the ability to prepare food and nutritious meals; increasing the need for certain types of food and eating patterns, causing anxiety about their ability to obtain them, and may limit the use of previously used food management strategies, which compromises the household's elderly budget, exposing them to the difficulty in the acquisition of food, thus giving rise to the condition of food insecurity.[4,60]

Although food insecurity has been associated in persons of this age group with chronic diseases and poor health status,[54,61–64] surprisingly others authors found that elders who had diabetes presented lower odds of being food insecure.[5] Using the words of the authors: "training and closer follow-up of diabetic individuals by health services may promote positive effects on the knowledge of the disease and also on good nutrition. Another possible explanation is the fact that these diabetic insecure elders may associate the disease to a mandatory restrictive diet, both in food quality and in quantity and therefore not experience the subjective feeling that they have reduced their food intake due to lack money or others resources to get food".

In addition, insecure elders have reported less investment in their health and less adherence to medical treatments,[42] as well as a deficit in adherence to drug therapies.[44,46,47,65,66] These conditions contribute to functional decline in the elderly, affecting their independence and decreasing their quality of life.[67] Specifically, the suspension of medication use due to financial problems was proved to be an independent predictor transverse to all degrees of food insecurity. As reported in the literature, the decrease in adherence to medication due to economic difficulties is frequent in insecure elderly people.[63,68,71] Thus, food insecurity may have clinical implications for the control of chronic diseases in this vulnerable population and for investment in health care ted costs,[65,66] independently of other social and health determinants.[72]

Food insecurity in elders due to other causes such as limited mobility and transportation may also be important to consider.[39,73,74] In fact, access to food is not enough to understand the singularities of food security in older persons.[75]

Likewise, reduced mobility due to disabilities or even due to the fragile state of health interferes both with the ability to obtain food and to prepare it. Having disability contributes to food insecurity.[32,39] Some elderly people may not able to shop for food because they cannot drive or cannot walk or adopt the orthostatic position, such as wheelchairs users. These situations cause great interdependence, potentiating anxiety and sometimes can even mean periods without food. Not eating enough can also cause more anxiety about their health and food situation, as these elders recognize that they should eat better, as well as can compromise nutrients and fluids intake and thus increase muscle lean mass.[76]

re capacity, food insecurity and self- reported depressive symptoms in low-income elderly with implications on their nutritional health.[77]

Social

The social component must be part of the in-depth analysis of food insecurity in older persons.[1] Studies on social support in the elderly have provided results that reinforce the importance of family and neighbors to tempering food insecurity.[78]

Wolfe et al.[59] reported that the risk of food insecurity in the elderly can be minimized by the availability and access to their children or other family or community members as sources of social support.[73] Quandt et al.[79] reported that informal contact with family, friends and community members was necessary to maintain food security status of the elderly, often through donations of prepared meals.[79] Globally,

education, the social network and social capital are strong determinants of food insecurity.[80] Social isolation characterized by the absence or limitation in the quantity of social interactions is intertwined with a set of health problems.[81] Moreover, less social capital and weak social networks are strongly associated with food insecurity.[80]

Conclusion

Being a comprehensive construct and presenting a multidimensional nature, food security is influenced by several factors, which interact in complex ways. To understand the problem and the magnitude of senior food insecurity, first it's necessary to identify factors associated but not limited to socioeconomic ones. In fact, the burden of food insecurity is a leading public health challenge in the whole world.

The uncertainty of having, or inability to acquire, enough food because of the lack of sufficient money or other resources), and the serious negative health and other outcomes associated with being food insecure deserves more investigation and a more accurate approach on elders. In conclusion, "the realization of the human right to adequate food depends on much more than on simple food availability".[82]

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Conflicts of interest

The authors of this manuscript have no competing interests.

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