

# Unipersonal families and literacy

## Economic partner characterization and nursing care needs

### Summary

The maintenance of good health levels is strongly related to personal, cognitive and social skills that compose the concept of health literacy (HL) (Soellner, Lenartz & Rudinger, 2017). Since low HL levels are associated with vulnerable groups (Pedro, Amaral & Escoval, 2016), we intend to analyze the social, economic and social characteristics of a group of unipersonal families with an elder person as well as to identify needs in nursing care.

An exploratory and descriptive study was conducted in unipersonal families with members over 65 years of age, users of primary care. The sample consisted of clients that had the characteristics of the population who used a health unit in the northern part of Portugal requesting a nursing consultation, between March and April 2017. The data collection was performed based on the structural dimension of the MDAIF (Figueiredo, 2012). Data analysis was done through descriptive statistics.

In the sample composed of 15 families, 80% pertained to the lower middle class. All individuals suffer of one or more chronic diseases. The most common nursing interventions were directed to the residential building, safety precaution and water supply.

The assessment of the structural dimension of unipersonal households is an essential resource in identifying potentialities or vulnerabilities, in order to guide nursing interventions to improve patients' levels of HL, or proactively preventing complications arising from their limitations.

KEYWORDS: HEALTH LITERACY; UNIPERSONAL FAMILY; ELDERS; STRUCTURAL DIMENSION.

### Introduction

The concept of health literacy (HL) has been the subject of much attention in recent years by researchers in the health, education and social sciences, resulting in an increasing differentiation of its meaning.

Their first analyzes date from the seventies of the last century, related to the individual's access to health services and their ability to pay for them<sup>1</sup>. Currently, the World Health Organization (WHO) defines the concept as the "cognitive and social skills that determine the motivation and ability of individuals to gain access, understand and use information in a way that promotes and maintains good health"<sup>2</sup>.

Thus, the assessment of an individual's level of health literacy is multidimensional and attends to his or her ability to access, understand, analyze and use health information regarding the use of services, health promotion and health disease<sup>3</sup>.

The European study HLS-EU – European Health Literacy Survey, in

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which 8 countries participated, demonstrated that there is often a correlation between health status and HL levels. Thus, people with self-perceived negative health tend to have lower levels of HL, as well as those who routinely use health services. The Netherlands was the country with the best rates, with only 27% of people with insufficient HL levels. Bulgaria was the country that got the worst values: about 61% of people with insufficient indexes. The European average of insufficient HL levels is 46%<sup>3</sup>.

A parallel study carried out in Portugal in 2015 showed that the country is slightly below the European average, with insufficient HL levels found in 51% of the respondents<sup>4</sup>. This report has identified a group of vulnerable people, who tend to have low HL levels, such as<sup>4</sup>: people aged over 66, low schooling, incomes up to 500 euros, prolonged illnesses, poor self-perception of health, high

health services utilization and perception of being limited by some chronic illness.

These people present a cumulative vulnerability due to socio-economic, demographic and health conditions, along with their particular tendency towards lower HL levels. Particular attention should therefore be paid to this group of people regarding health policies, and also to health professionals, in order to minimize their potential risks and promote their strengths.

We consider that much of disease prevention is the responsibility of the health system and health professionals in the communication process, so its effectiveness should enable people to hear, understand and learn to act on the basis of the best evidence in order to make the best decisions about their health<sup>5</sup>.

Nutbeam (2000) indicates that HL is an intermediate outcome of health promotion that will result in a better knowledge and understanding of health determinants, changes in attitudes and motivations regarding health behaviors, and better self-efficacy in relation to defined tasks<sup>6</sup>. These may in turn produce higher level results translating into quality of life, equity, functional independence, reduction of mortality and morbidity.

On the other hand, studies suggest that people with low HL levels are less likely to understand the oral and written information provided by health professionals, that they demonstrate more difficulties in using health services in an effective way, as well as in performing the necessary procedures and following the professional indications<sup>5</sup>. Serrão (2014) suggests, along with other studies, that the degree of HL observed in elderly people may condition their ability to use information in interactions with health professionals and is associated with higher rates of hospitalization, longer hospitalization, misuse of services, higher costs, more difficulty in interpreting the instructions of professionals and less use of preventive services<sup>7</sup>.

Thus, the development of educational interventions aimed at the promotion of HL aims not only to increase knowledge about health aspects, but rather to develop personal skills that motivate the improvement of personal results and to make changes at the level of socioeconomic determinants in health.

In order to develop higher levels of HL for the elderly, health professionals must improve their communication skills, as well as adopt mechanisms that allow a fair and objective approach to the person and/or family. Regarding the family, its recognition as a unit of care must presuppose that the nurse is based on a theoretical and operative framework that allows the application of the nursing process. The Dynamic Family Assessment and Intervention Model (MDAIF)<sup>8</sup>, in particular its structural dimension, allows to "Identify the composition of the family, the links between the family and other subsystems such as extended family and broad systems and also specific aspects of the environmental context that can anticipate health risks" (p. 73), as well as show important resources for improving the levels of health literacy of the elderly.

We know that the health condition of an individual is influenced by individual and behavioral characteristics, in which their levels of health literacy are inserted, and significantly determined by the social, economic and environmental differences to which the individual and community are subject<sup>6</sup>. This influence is particularly important when it comes to elderly people living alone, as these two sociodemographic factors increase their vulnerability in health. The use of MDAIF<sup>8</sup>, and specifically regarding the structural dimension, will allow the characterization of important attributes of the unipersonal households in respect to the extended family, wider systems, social class, residential building and supply system. Nursing diagnoses

and interventions capable of promoting health and possibly literacy may emerge through its use, as the intermediate result of health promotion.

This study has the following research questions:

- What are the sociodemographic characteristics (sex, marital status, profession, state of the profession, education and history of chronic illness) of unipersonal households?
  - What is the composition of the social network of unipersonal households?
  - What types of roles represent their extended family?
  - What is the predominant social class in unipersonal households?
  - What are the housing characteristics of families, considering the spaces, the state of conservation, heating, appliances, water/sanitation, electricity, ventilation, natural light, gas and architectural barriers?
  - What are the characteristics of the biological environment of unipersonal households?
  - What are the needs of elderly unipersonal households in nursing care in the following areas of attention: family income, residential building, safety precaution, water supply and domestic animals?
  - What interventions have been developed to meet the needs identified in the areas of attention mentioned?
- The objectives of the study are:
- To identify the sociodemographic characteristics of elderly unipersonal families.
  - Describe the social network of elderly unipersonal families in terms of their composition and functions.
  - Identify the type of housing and its characteristics of elderly unipersonal households.
  - Classify the unipersonal families referring to social class.
  - Identify characteristics related to the biological environment.
  - State identified diagnoses that reflect nursing care needs of elderly unipersonal families.
  - Describe the interventions developed to meet identified needs.

## Methods

Exploratory and descriptive study, whose population corresponds to unipersonal families, with members over 65 years, clients of primary health care. The sample is accidental, consisting of clients with the characteristics of the population that used a functional unit for nursing consultations in a Cluster of Health Centers (ACES) from the north of Portugal, between March and April 2017. An analysis was made of the documentation produced by the nurse, using a record corresponding to the operative matrix of the MDAIF. The data collection was performed relative to extended family, wider systems, social class, residential building and supply system<sup>8</sup>. The data analysis was done through descriptive statistics<sup>9</sup>.

## Findings

From the sample, a total of 15 elderly unit families were found, 13 female and 2 men. Regarding marital status, 11 are widowers and 4 single. All individuals were retired and during their active age most of them were either farmers or domestic workers. Regarding the level of education, 80% of the sample has the first cycle of elementary school education and the remaining 20% do not have any schooling. All (100%) of the sample elements have at least one chronic disease. The most prevalent chronic disease in the sample is hypertension (HTA), followed by diabetes and dyslipidemia. Note that two people have had a stroke (AVC) recently, 2 people fell recently and 4 people are dependent regarding self-care.

### Social network

Most unipersonal families have a personal contact with the extended family, with daily or weekly (in equal proportion) contacts, with some cases where these contacts occurred in a time equal to or greater than 1 month. It was found that the extended family can represent several functions simultaneously, being social company, significant help in materials and services and emotional support. All data are shown in table 1.

The largest system with more importance for the families of the sample was the health unit in 73% of cases, followed by the church, friends and private social solidarity institution (IPSS).

### Housing and social class

The type of housing was classified according to the adapted Graffar scale (cited by Figueiredo, 2012, p. 195). Approximately 73% of the sample has a grade 4 housing, characterized by poor conditions, poor state of repair, without all essential appliances, poor ventilation and without at least one of the following elements: water / sanitation, electricity or natural light. In turn, about 14% live in a grade 3 housing, with a bathroom, kitchen, bedrooms, well maintained, essential appliances, water / sanitation, electricity, good ventilation and natural light. It should be noted that the remaining 14% (2 families) live in a grade 5, tent-like dwelling, in poor condition, no ventilation, no light conditions, no water / sanitation, electricity and little natural light.

About 7% of the families belong to the middle class, 73% to the lower middle class and 20% to the lower class, according to the adapted Graffar scale (Figueiredo, 2012, p. 194).

### Supply system

In 75% of the cases there was the private network as a supply system, so that none of them perform water quality control. Another 13% have a public water supply system and 20% have no water at home.

About 47% of the elements have a septic tank as sewage collection, 33% connect to a public network and 20% do not have any sewage system.

For the most part, these families have an inadequate water supply and waste treatment system, lacking nursing interventions in this area.

### Residential building and biological environment

The majority of the residential buildings of the sample elements use gas cylinders (87%). Almost half of the homes have architectural barriers (47%) and about 13% have insufficient hygiene. 20% do not have any waste system. Thus, residential building is not safe for a significant number of families due to the presence of architectural barriers, gas cylinders, lack of knowledge about their use and strategies adaptive to architectural barriers.

As far as the biological environment is concerned, a total of 4 elderly unit families have at least one domestic animal. Of these, only half of the cases have their animals dewormed and vaccinated.

### Nursing diagnoses and interventions

After the evaluation of all the participants in the structural dimension of the MDAIF, it was possible to carry out the diagnostic activity. Through the presented results, several diagnoses emerged. From these, those that are presented by the negative translate into nursing care needs. They are represented in table 2:

It is verified that the most common nursing diagnosis refers to the *inadequate water supply*. This diagnosis is common for the results related to the knowledge of water quality control and the knowledge about water quality maintenance strategies that have not been demonstrated in 10 families. The unpredictable safety precaution diagnosis arises from the lack of knowledge about the use of domestic gas and the unproven knowledge about strategies for adapting to architectural barriers.

## TYPE, INTENSITY AND FUNCTIONS OF CONTACT WITH EXTENDED FAMILY

1

Extended Family Contact		Frequency
Type of contact	Personal	14
	Telephone	1
Intensity of contact	Daily	6
	Weekly	6
	Monthly	1
	> 1 Month	2
Functions	Social company	7
	Emotional support	4
	Cognitive guide	2
	Social regulation	2
	Help material/services	6

## NURSING DIAGNOSES RESULTING FROM THE STRUCTURAL EVALUATION AND PERCENTAGE OF THEIR FREQUENCY

2

Nursing Diagnostics	Percentage of elderly single-parent families
Neglected residential building	14%
Non-secure residential building	27%
Unexpected safety precaution	33%
Inadequate water supply	67%
Neglected Pet	14%

## NURSING INTERVENTIONS RESULTING FROM THE DIAGNOSTIC ACTIVITY OF THE STRUCTURAL DIMENSION

3

### Nursing interventions resulting from the assessment of the structural dimension

1. Teach about unsafe residential building risks
2. Require social service
3. Teach about risks of poor housing hygiene
4. Teaching about the use of gas equipment
5. Motivating strategies for adapting to architectural barriers
6. Teach about the importance of water quality control
7. Guide to water quality control services
8. Teaching about pet vaccination
9. Teaching about pet deworming
10. Motivate for pet vaccination
11. Motivate for pet deworming

From the nursing diagnoses described above, according to the nursing process, the interventions are described in table 3:

The actions that materialize the interventions described above may be: practical suggestions for housekeeping, (1); request for assistance from the social worker for the mobilization of Community resources (2); sensitization to the hygiene of the spaces, planning of actions of hygiene of the spaces, alert to the possibility of contagious infectious diseases derived from the poor hygiene (3); alert to the risk of using gas equipment, carry out on-site visits to supervise the use of gas equipment, teach about its safe hand-

ling (4); to instruct regarding the use of ramps, suggest changes in the physical environment, including furniture and bathroom (5); describe the risks of using water unhealthy for health (6); encourage a trip to the public health service to require a water quality analysis, refer the family to the public health service (7); to instruct about the need to vaccinate domestic animals, to mention the vaccines that are common to be administered, to state the advantages of vaccination for the family and the domestic animal (8), to educate regarding the need to deworm the domestic animal, to mention the risk for the animal and family of the presence of parasites and their proliferation (9); to praise the integration of domestic animals into the family environment, to publicize community veterinary services for vaccination, to strengthen the benefits of vaccination for the prevention of serious animal and family diseases (10); reinforce the importance of deworming animals for their health as well as family health, encourage physical and affective contact between the animal and the family without risks (11).

### Discussion

The results about the sample characterization meet the characteristics of the vulnerable groups referred by other authors<sup>4,7</sup> with regard to HL levels: females, widows with schooling up to the first cycle and those with chronic disease.

The results also show that almost 75% of the participants belong to the lower middle class, being also compatible with the characteristics pointed out by other authors to the vulnerable groups of health literacy: low social class<sup>4,7</sup>. Another study with approximately 750 elderly people demonstrated that this population with higher levels of HL and financial literacy tended to be less likely to develop dementia when compared to those with lower levels<sup>10</sup> which may suggest an inverse relationship between these variables.

It is important to consider that 100% of the sample elements have at least one chronic disease and the most one is hypertension (HTA) disease. A study with elderly patients with hypertension (HTA) demonstrated that, despite being at an age where there is less capacity to process new content, health professionals should trust and take advantage of the accumulated knowledge that the elderly have about the disease<sup>11</sup>. Formulating learning experiences that require little information processing capacity (use of familiar concepts, explanation of new ideas and concepts using familiar words and terms) improve the HL levels of the aged population with decreased cognitive abilities<sup>11</sup>.

Thus, it is the duty of health professionals to confront ingrained cultural myths, such as the denial of the ageing process of the elderly or the belief that these people are no longer able to understand and make decisions<sup>7</sup>. Only then it will be possible to recognize their potential and seek solutions to problems in appropriate measures.

The application of the nursing process, based on the MDAIF, allowed an initial evaluation to be performed considering important aspects related to the family as care unit. It also allowed for the diagnosis and planning of interventions. These interventions, implemented by actions, may contribute to the increase of HL levels in the elderly, particularly those who live alone, as referred to Nutbeam<sup>6</sup>, HL is an outcome of health promotion. This intermediate result will be the contribution to improve the health levels of individuals, families and communities, since it will contribute to an increase in the quality of life, a decrease in mortality and morbidity, an improvement in equity and functional independence rates. These strategies should include an improvement of the communicational and educational competencies of the health professional<sup>7</sup>, facilitate the access of the elderly, in particular with other vulnerabilities, to health care<sup>4</sup> the acceptance of the ageing process of the elderly and the use of the accumulated knowledge and the use of teaching techniques.

## Conclusion

Older unipersonal families reveal characteristics indicative of health literacy vulnerability. Despite this fact, the social network is an important resource for these families in keeping up with their needs.

Overall, the research suggests that the health system needs to be more proactive in responding to HL deficits to meet the needs of citizens. The use of the MDAIF operational matrix, in particular with regard to the structural dimension assessment, allows nurses to perform an important data collection to estimate HL levels, to know socioeconomic risk factors that when associated with low levels of literacy raise the vulnerability of the individuals. It will also allow knowing the strengths and resources that can lead to an increase of their literacy, as well as to proactively reduce possible risks.

This initial evaluation and analysis will allow triggering the diagnostic activity, the planning of the interventions, its implementation and a new evaluation, thus equivalent to the application of the nursing process. Continuing the nursing process, it will be possible in the near future to evaluate results and move towards new strategies. On the other hand, this family approach also facilitates the use of community resources and articulation with entities to develop synergies for better health outcomes.

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