# Elderly people with limited mobility: their families and the implications of their dependency

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## Summary

**Introduction and objectives.** The family has suffered several changes throughout the times, leading to many elderly people living alone or with other elderly. In a family the situation of the elderly that depended on others can compromise the family's relationships, which leads to little availability to motivate them to mobilization. The objective of the study was to understand the way the family functions in view of to the dependence of the elderly with limited mobility in a community context.

**Methodology.** Descriptive study, exploratory of a quantitive character. The data was gathered through a questionnaire, including the Lawton & Brody (1969) scales, the lifestyle profile (Nahas, 2013) and the familiar APGAR (Smilkstein, 1978). Non-probabilistic sample, composed by 1298 elderly with limited mobility, from 26 civil parishes from the municipality of Vila Nova de Famalicão.

**Results and discussion.** Most of the people polled considered that his own family was a functional one (64.8%) and 49.6% were moderately dependent. By analysing the physical activity lifestyle profile and the familiar functionality one could conclude that 65.2% had a positive profile, presenting typical behaviours of an active lifestyle. We think that the fact that 73.1% are inserted in functional families had something to do with it. We have verified a perfect association (p = 0.000) between dependency, lifestyle physical activity and familiar functionality – APGAR.

**Conclusions:** The results show that the family determines the lifestyle physical activity and the elderly's dependency. A functional family influences a positive physical activity profile, even in the elderly with limited mobility.

KEYWORDS: ELDERLY; MOBILITY, LIMITATION; FAMILY; NURSING.

## Introduction

Aging is a "common phenomenon to all living things […], it is a dynamic and progressive process in which occurs morphologic, functional, biochemical and psychological changes that determine loss of the individual capacity of adaptation to the surrounding environment provoking a greater vulnerability and a bigger incidence of pathological processes"[1].

In Portugal there is a demographic aging, that "translates into changes in the age group distribution of a population expressing a bigger proportion of the population with an advanced age" (INE, 2015, p. 1), to which one associates high indexes of dependency and limited mobility. "The elderly dependency index that relates the number of elderly people and the number of active working people (15 to 64 years old), has increased continuously between 1970 and 2014, going from 16 elderly people for every 100 active working people in 1970, to 31 in 2014"[2].

The existence of diseases, social exclusion, isolation, inactivity and family dysfunction together with physical and cognitive and emotional dependency makes the all experience harder for the families and the elderly. The family needs support to the care of the elderly that present any kind of physical and/or mental diseases. Despite the social transformations that affect the distribution of roles amongst its members, family continues to be the natural space of protection, emotional and social support for the elderly[3].

Families have become smaller and with a bigger number of elderly people. In the last decade "there was an increase in the changes that were happening in the family and in the place that it occupies in the society.

Nowadays families are few in number"[4], which causes changes in the familiar functionality and thus compromising the support, in the area of promotion healthy lifestyles.

This reality imposes the need to rethink the support model that is being used, in order to assure a bigger and better quality of life to the elderly and their family preferably in their own house. Our study has tried to identify how the elderly with limited mobility sees/understands/perceives the functionality of its own family, trying to characterise all the variables of the dependency and physical activity and understand its associations, and thus contribute to a more global intervention in the familiar environment.

## Methods

The objective of this study is to show the implications that the elderly dependent with limited mobility have in the families.

• This study is a part of the investigation "To live well with more age from the familiar context to the institutional support" which is being developed in the Escola Superior de Enfermagem do Porto (Porto Nursing School).

• We have defined as an inclusion criteria: all the elderly that say that they spent most of their time sitting down and/or walk short distances.

• Research Question: Is there any kind of association between the dependency and familiar functionality in the elderly with limited mobility?

The following objectives have been defined: to analyse the characteristics of the elderly with limited mobility; to understand the association between the familiar functionality and the dependency of the elderly with limited mobility and also between the familiar functionality and the physical activity of the elderly in a domiciliary environment; to analyse how the elderly with reduced mobility perceive the functionality of their own family in order to contribute to a wider intervention in the familiar environment.

This research is a quantitive, descriptive and exploratory one that was carried out in 26 civil parishes of a municipality in northern Portugal, with a non-probabilistic sample of 1298 elderly with limited mobility.

The variables that were taken into account were the dependency in the instrumental activities of everyday life; lifestyle physical activity and familiar functionality. The tool used to gather the data was a questionnaire that included a set of questions that aimed the social demographic characterisation, the Lawton & Brody scales[5], the lifestyle profile according to Nahas[6] and the familiar APGAR of Smilkstein[7].

The Lawton & Brody scale[5] allows the evaluation of the Dependency Index for the Instrumental Activities of Everyday Life that allow the person to adapt to its surrounding and to keep its independence in relation to the community. There are three, four or five different levels of dependency for each item and the highest score corresponds to a higher degree of dependency. This index varies between 8 and 30 points. Up to 8 it means that the person is independent; from 9-20 it means that the person is moderately dependent, it needs certain help; and higher than 20 it is severely dependent, it needs a lot of help[8].

The Nahas scale[6] of the lifestyle profile, perceives the lifestyle of one individual so that it is possible to create strategies of intervention and directive sessions to reduce less healthy lifestyles. According to the author, the lifestyle profile includes 5 components of the person's lifestyle that influence their global health. The questionnaire includes 15 items with a score of zero (total absence of any characteristics) until three points (complete realization of the behaviour). A final score between 0-5 indicates that the individual is inactive; a score between 6-11 indicates that the individual is less active; a score between 12-20 indicates that the individual is moderately active and a score of 21 or more points indicates that the individual is very active.

The familiar functionality was evaluated using the Familiar APGAR. This tool allows to measure the satisfaction of a family member in relation to the assistance given by the remaining members of the family, using five items which are defined by: Adaptation, Partnership, Growth, Affection and Resolve. A family can be considered functional or dysfunctional depending on the way that its members interact between themselves[9]. The final result of the Familiar APGAR classifies the kind of the familiar relationship: 7 to 10 points suggests a highly functional family; 4 to 6 points a family with a moderate dysfunction and 0 to 3 a family with an accentuated dysfunction. In the study we chose to group the results in only two categories: 7-10 –functional family and 0-6– moderately functional families.

The study of the variables was conducted through the analyses of the descriptive statistics, using the software program IBM SPSS, version 20.0.

The data collection was done in partnership with the Municipality of Vila Nova de Famalicão and the collaboration of the mayors of the civil parishes in the identification of the elderly over 65 years of age. In the first approach all were contacted regarding the interest and availability to participate in the study and signed the consent form. Right after they received the questionnaire and a date was agreed to retrieve the questionnaire. Later on, in the second contact, when the questionnaire was retrieved all the significant doubts were answered and the questionnaire completed. After the questionnaires were retrieved all the data was inserted in a database and were analysed.

All the ethical assumptions were taken into consideration regarding the health investigation and the human person namely the principles of beneficence, non-evilness and justi-

ce. This study received a very positive view from the Health Ethics Commission from the Centro Hospitalar de S. João, EPE/FMUP, consent form no. 244/14.

## Findings

According to the results obtained the individuals that took part in the study were mainly women (71%), married (54.70%), with no schooling (54.5%), but who could read (88.6%) and write (77.3%), lives of the retirement pension (55.3%) and lives with an elderly over 65 years of age (81.4%). The age group that is most represented is the one between 70 to 79 years old 40.2%.

### Familiar Functionality and degree of dependency

In relation to the index of dependency one can verify that almost half of the elderly (49.6%) are moderately dependent, needing of some assistance with the Instrumental Activities of the Everyday Life. Over a quarter of the elderly (26.7%) presents itself with a severe dependency (table 1).

When we analyse the association between familiar functionality and the degree of dependency we verify that the elderly that considered their families moderately functional were moderately dependent (52.4%), followed by those who were severely dependent (31.6%), on the other hand those who considered their families as functional were also distributed with a higher frequency into the class of those moderately dependent (48.2%), followed by those who were independent with a representation of (27.8%).

When we analyse the dependency related to the familiar functionality we verify that for the elderly who are independent (76.1%), for those who are moderately dependent (62.9%) and for those who are severely dependent (58.4%) their families were evaluated as functional. Therefore we can say that the most part of the elderly (64.8%) considered their family functional and that in those families occurred all the degrees of dependency.

A statistics non-parametrical analyses was conducted using the test qui-table of Pearson to the nominal variables of dependency and functionality thus obtaining a value of p = 0.000, therefore we can say that there is a perfect association between functionality and dependency.

When we analyse the distribution of the functionality in all the categories of dependency by using the Kruskal-Wallis test for independent samples the value is 0.000, which confirms the difference of the distribution of the variables.

### Familiar functionality and physical activity familiar

When we analyse the physical activity by classes in these elderly we verify that the inactivity is the most frequent behaviour (43.6%) followed by those moderately active (29.4%). The physical activity is showed as a profile of a positive lifestyle in more than half of the sample (65.2%), more than a quarter of the remaining (34.8%).

By analysing the functional families we conclude that 73.1% had a

**DISTRIBUTION OF THE ASSOCIATION BETWEEN FAMILIAR FUNCTIONALITY AND THE DEGREE OF DEPENDENCY** **1**

| | | | APGAR | | Total |
|---|---|---|---|---|---|
| | | | Moderately functional | Functional | |
| **Lawton classes** | Independent | n<br>% in Lawton classes<br>% in APGAR | 64<br>23,9%<br>16,0% | 204<br>76,1%<br>27,8% | 268<br>100,0%<br>23,6% |
| | Moderately dependent | n<br>% in Lawton classes<br>% in APGAR | 209<br>37,1%<br>52,4% | 177<br>58,4%<br>24,1% | 563<br>100,0%<br>49,6% |
| | Severely dependent | n<br>% in Lawton classes<br>% in APGAR | 126<br>41,6%<br>31,6% | 177<br>58,4%<br>24,1% | 303<br>100,0%<br>26,7% |
| **Total** | | n<br>% in Lawton classes<br>% in APGAR | 399<br>35,2%<br>100,0% | 735<br>64,8%<br>100,0% | 1134<br>100,0%<br>100,0% |

Note: n = number of elements of the sample; APGAR = familiar functionality.

**SAMPLE DISTRIBUTION ACCORDING TO THE ASSOCIATION BETWEEN THE PROFILE OF THE LIFESTYLE PHYSICAL ACTIVITY AND THE FAMILIAR FUNCTIONALITY** **2**

| | | | APGAR | | Total |
|---|---|---|---|---|---|
| | | | Moderately functional | Functional | |
| **Profile activity** | Negative Profile Lifestyle | n | 226 | 226 | 452 |
| | | % in profile activity | 50.0% | 50.0% | 100.0% |
| | | % in APGAR | 49.3% | 26.9% | 34.8% |
| | Positive Profile Lifestyle | n | 232 | 614 | 846 |
| | | % in profile activity | 27.4% | 72,6% | 100,0% |
| | | % in APGAR | 50.7% | 73.1% | 65.2% |
| **Total** | | n | 458 | 840 | 1298 |
| | | % in profile activity | 35.3% | 64.7% | 100.0% |
| | | % in APGAR | 100.0% | 100.0% | 100.0% |

Note: n = number of elements of the sample; APGAR = familiar functionality.

positive lifestyle, verifying in the negative lifestyle a symmetrical distribution between the families. The remaining 34.8% that had a negative profile lifestyle were distributed equally (50%) for every type of family relationship.

Analysing the association between the lifestyle of physical activity and familiar functionality we can state that there is an association between the two variables ($p = 0.000$).

The physical activity is showed as a profile of a positive lifestyle in more than half of the sample (65,2%), more than a quarter of the remaining (34.8%) present a profile of a negative lifestyle having the need of an intervention in this area (table 2).

By analysing the functional families we conclude that 73.1% had a positive lifestyle, verifying in the negative lifestyle a symmetrical distribution between the families.

## Discussion

According to the results obtained almost half the elderly that took part in the study are moderately dependent, needing of some assistance with the Instrumental Activities of the Everyday Life.

When we analyse the dependency related to the familiar functionality we verify that for the elderly who are independent (76.1%), for those who are moderately dependent (62.9%) and for those who are severely dependent (58.4%) their families were evaluated as functional. Therefore we can say that the most part of the elderly (64.8%) considered their family functional and that in those families occurred all the degrees of dependency.

The avaliation of a family functionality is a significant contribution to the intervention in the familiar environment because in a functional family there is consensus about the tasks and functions of its members for the resolution of problems. In the dysfunctional family there is no respect and no proper communication therefore it is a disarticulated family system[10].

By looking at the familiar functionality and the degree of dependency we conclude that the majority had needs of assistance in the Instrumental Activities of the Everyday Life. Considering that 52.4% of the moderately dependent and 31.6% of the severely dependent in their families existed some kind of commitment in the familiar functionality, which can be explained by the interaction in the family relations inherent to the task itself of taking care is more prone to the raise of stress and conflicts. On the other hand this reality might reveal a lack of preparation of the families to administer proper care to dependent elderly as shown in the study done by Reis et al.[11]

We verified a perfect association (p = 0.000) between dependency and familiar functionality.

When we analyse the physical activity by classes in these elderly we verify that the inactivity is the most frequent behaviour (43.6%), what justifies the need to develop an intervention in this area. The elderly can improve and/or prevent the several pathologies that occur with old age through the adoption of healthy lifestyle as the practice of physical activity which should be encouraged[6,12].

The physical activity is showed as a profile of a positive lifestyle in more than half of the sample (65.2%), more than a quarter of the remaining (34.8%) present a profile of a negative lifestyle having the need of an intervention in this area. Exerci-

se and mobility could improve the functionality and quality of life of older people with reduced mobility[13].

By analysing the functional families we conclude that 73.1% had a positive lifestyle, verifying in the negative lifestyle a symmetrical distribution between the families. The physical activity should be practiced regularly[14]. By analysing the lifestyle profile physical activity and the familiar functionality we have verified that most of the elderly had a positive profile (65.2%) presenting behaviours and attitudes that promote an active lifestyle. We think that this fact is due to 73.1% of them belong to functional families.

Analysing the association between the lifestyle of physical activity and familiar functionality we can state that there is an association between the two variables ($p = 0.000$). The implications of these results in the practical life reinforce the importance of the rehabilitation nurses to know the profile of lifestyle physical activity of the elderly population as well as their perception about the familiar functionality in order to implement programmes for the promotion of the health of the elderly adapted to the real needs.

## Conclusion

The elderly that took part in this study had limited physical activity, spent most of the time sitting down and walked short distances, thus presenting a positive profile of Lifestyle physical activity and were moderately dependent.

The results show that the family determines the lifestyle and the dependency of the elderly. A functional family influences a positive profile of physical activity, even in the elderly with limited mobility. One still verifies that the elderly need intervention to improve their lifestyles namely the physical activity.

The family functionality is associated with the positive profile of lifestyle and physical activity and independence even in the elderly with limited mobility. The evaluation of the functionality of the families helps to determine the kind of intervention the rehabilitation nurse has to do with the elderly and their families particularly if these are moderately functional, limiting ways to oversee its functionality.

The rehabilitation nurse is a professional that is an important part of a multi-professional team that provides care to the elderly and their families with the objective to associate healthy lifestyles namely in the profile of lifestyle physical activity and an active aging. So it is important to investigate strategies to be adopted in the implementation of the rehabilitation programmes namely to prevent immobility, that include health education sessions, assuring a well succeeded aging process that includes the familiar context and contributing in this way to the improvement of the quality of the health practices addressed to the elderly.

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