RESEARCH

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# Vulnerability of families of elderly citizens cared for by the Family Health Strategy

*Vulnerabilidade de famílias de idosos assistidos pela Estratégia Saúde da Família*

*Vulnerabilidad de las familias de adultos mayores asistidas por la Estrategia Salud de la Familia*

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**ABSTRACT**

**Objective:** the present descriptive, exploratory, cross-sectional study aimed to identify the vulnerability of families of elderly citizens cared for by the Family Health Strategy (FHS). **Method:** the research employed home interviews and was developed with a sample of 500 families of aged people cared for by 32 FHS teams in the city of Dourados, MS, Brazil. The Family Development Index (FDI) was adapted in order to classify the families according to their degree of vulnerability. **Results:** the results revealed the presence of multigenerational families with low educational levels among individuals over the age of 20 and high illiteracy rates among elderly citizens. There were 403 families whose vulnerability was acceptable, 95 in severe vulnerability, and two families in a condition of very severe vulnerability. The most critical dimensions of the FDI were the access to knowledge and to work. **Conclusion:** the study identified that there is still a need for further investments that can assist these aged people and their families in the Primary Health Care.

**Key words:** Health Vulnerability; Family; Aged; Primary Health Care.

**RESUMO**

**Objetivo:** estudo descritivo, exploratório, de corte transversal, cujo objetivo foi identificar a vulnerabilidade de famílias de idosos assistidos pela Estratégia Saúde da Família (ESF). **Método:** foi desenvolvido por meio de entrevistas domiciliárias realizadas com uma amostra de 500 famílias de idosos assistidas por 32 equipes da ESF da cidade de Dourados, MS. O Índice de Desenvolvimento da Família (IDF) foi adaptado para classificá-las em função da situação de vulnerabilidade. **Resultados:** os resultados revelaram a presença de famílias multigeracionais, com baixa escolaridade entre os indivíduos com idade superior a 20 anos e alta taxa de analfabetismo entre os idosos. Identificaram-se 403 famílias em situação de vulnerabilidade aceitável, 95 em vulnerabilidade grave e duas famílias em situação de vulnerabilidade muito grave. As dimensões mais críticas do IDF foram os acessos ao conhecimento e ao trabalho. **Conclusão:** conclui-se que há necessidade de mais investimentos no cuidado a esses idosos e suas famílias na Atenção Básica.

**Descritores:** Vulnerabilidade em Saúde; Família; Idoso; Atenção Primária à Saúde.

**RESUMEN**

**Objetivo:** estudio descriptivo, exploratorio, transversal, con el objetivo de identificar la vulnerabilidad de familias adultos mayores asistidas por la Estrategia Salud de la Familia (ESF). **Método:** fue desarrollado mediante entrevistas a una muestra de 500 familias de adultos mayores bajo la responsabilidad de 32 equipos de ESF en la ciudad de Dourados, MS, Brasil. El Índice de Desarrollo de la Familia (IDF) fue adaptado para clasificar las familias de acuerdo a la situación de vulnerabilidad. **Resultados:** los resultados revelaron la presencia de familias multigeneracionales con bajo nivel de educación entre las personas mayores de 20 años y las altas tasas de analfabetismo entre los adultos mayores. Se identificaron 403 familias en situación de vulnerabilidad aceptable, 95 con vulnerabilidad grave y dos familias en situación de vulnerabilidad muy grave. Las dimensiones más críticas en el IDF fueron el acceso al conocimiento y al trabajo. **Conclusión:** se concluye que existe la necesidad de una mayor inversión, con un enfoque en la atención primaria, con el fin de atender a las personas mayores y sus familias.

**Palabras clave:** Vulnerabilidad en Salud; Familia; Anciano; Atención Primaria de Salud.

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## INTRODUCTION

The surveillance of the life and health conditions of families in a given territory, especially those in vulnerable conditions, is part of the healthcare surveillance practices in Primary Care (PC) services. The purpose of these services is to pinpoint the healthcare needs of these families, aiming to promote the necessary interventions[1].

Vulnerability stands out as a phenomenon that affects families in a broad sense, and may restrict their access to healthcare opportunities to varying degrees. Such status is not only bound to income needs, but also involves life conditions, access to education and work, and housing quality (including its location), among several other factors related to access to all of the necessary opportunities for a decent life[2].

Vulnerability may be classified in three categories: individual, social, and programmatic. The first category includes biological, emotional, cognitive, attitudinal, and interpersonal aspects. Social vulnerability is described as the cultural, social, and economic aspects that determine opportunities for people to access goods and services. Lastly, programmatic vulnerability refers to the necessary social resources for the protection of individuals against risks to their integrity and physical, psychological, and social wellbeing[3].

Vulnerability is defined as the status of individuals or groups that, for any reason, experience a reduced self-determination capacity, a condition that may generate difficulties for them to protect their own interests due to deficits in power, intelligence, education, resources, strength or any other attribute[3]. This condition is expressed in processes of deterioration experienced by family members in the face of adverse conditions, which may impede or deter their healthy development. When associated with negative events, such conditions may be enhanced and predispose the family to negative results and even to processes of physical, social, and emotional dysfunction.

Health vulnerability is not widely discussed in the field of geriatrics. However, the study of the vulnerability of elderly people may enrich and broaden academic discussions, as well as contribute to the daily practice of healthcare services[4].

A significant increase in life expectancy stands out as a global trend. Brazil and other Latin American nations have experienced a quick demographic transition process, resulting in a dramatic increase in the population over 60 years of age, yet without an equivalent improvement in their quality of life, differently of what occurred in developed countries that observed a slow transition process followed by an enhancement in life quality[5].

Populational aging processes lead to changes in family arrangements and generate larger numbers of families with at least one family member in advanced age. Longevity trends force families to adapt to multigenerational experiences. Financial shortages and critical health conditions narrow the possible choices of aged people and their families, who are often compelled to share the same environment. The affective bonds, the sense of belonging, and the intimacy relationships between the aged person and his/her family are not necessarily a product of geographical closeness. Also, living with a senior citizen may bring about severe emotional overloads and stress situations if the family members are not ready for the multigenerational experience; such a situation may also generate adverse conditions in the elderly individual's quality of life[6].

The typical biological dawn of senescence gives rise to psychobiological vulnerabilities. When followed by long-term damaging sociocultural processes such as educational, income, and health deficits, this condition can result in senility. This senescence stands out as multiple organic, functional, and psychological alterations related to the aging process. Senility, on its turn, stands for the alterations produced by a series of diseases affecting the elderly. Such distinct characteristics, nevertheless, are not usually identified[7].

The number of Brazilian senior citizens has been showing a rapid increase in the country, in the same way as the impact of this fact in the nation's family context: 8.9 million (62.4%) aged people have home responsibilities, with an average age of 69 years and 3.4 years of education[8]. The presence of senior citizens in healthcare services is another growing trend. This trend highlights the relevance of health surveillance in primary care services, especially those services related to aged people in vulnerable families. The needs of these senior citizens and their families are often neglected by healthcare professionals, who usually lack a broader understanding of the vulnerability concept and do not count on the necessary instruments and resources to cope with this challenge.

The present study aimed at characterizing the profile of the aged people cared for by the FHS and classify their families in accordance with their vulnerability situation.

## METHOD

This is a quantitative, observational, cross-sectional research study. It was deployed among 32 of the 39 Family Health Strategy teams working in the urban area of Dourados (MS) during the data collection process[9]. Nurses belonging to the other seven teams that did not participate in the study were either on vacation or on medical leave, or there was a shortage of professionals in the service. These factors prevented the study from being carried out in these services.

The study population was comprised of the families of the 12,574 senior citizens registered by the FHS teams in the urban area of Dourados[9]. The size of the sample initially calculated was 497 families, taking into account a significance level of 5%; a trust interval of 95%; an expected proportion of families in severe and very severe vulnerability situations[1] of 16.3%; and a sample design effect of 1.4%, error of 4%, and loss of 10%. The study employed the simple random sampling technique, and the final number of families interviewed was 500.

For the technical definition of the term "family," the study applied the concept adopted by the Brazilian Institute of Geography and Statistics (IBGE), namely: "a set of people bound by kinship ties, domestic dependence or familiarity norms, who live at the same home environment, and also a person living in a family unit"[8].

Inclusion criteria were as follows: families counting at least one senior citizen (with age equal to or over 60 years) living in the family unit. The exclusion criterion was related to the absence of family members at the time of the visit.

The interviews were performed by undergraduates belonging to the School of Nursing of the State University of Mato Grosso do Sul, and by undergraduates of the physical education course of the Federal University of the Greater Dourados, who were duly trained for the activity. The interviews also counted on the presence of health community agents. The data collection period took place between November 2012 and January 2013.

The profile of the aged people was analyzed in accordance with sex (male; female), group age (60-69; 70-79; 80 or over), educational degree (illiterate; 1-4 years; 5 years or over), type of social benefit (none; pension; retirement; others), and family arrangement (lives alone; lives with spouse; lives with children; lives with other people). As for income level, the study adopted the following classification: extreme poverty (*per capita* income $<$R$155.50) and poverty (*per capita* income between R$155.50 and R$311.00).

For the vulnerability classification, the study adopted the Family Development Index (FDI)[10], which aims to identify more vulnerable families and subsidize an action plan toward the surveillance of determining factors related to aged persons' life and health conditions, as well as the most adequate responses to their needs[11].

The FDI is comprised of six dimensions, and relies on 26 items and 48 indicators. The six life status dimensions are as follows[10]:

1. ***lack of vulnerability*:** situations that enhance the amount of resources a family needs to meet demands such as food and healthcare;
2. ***access to knowledge*:** families are expected to meet their own needs; it is assessed by educational degree, professional training, and illiteracy rate;
3. ***access to work***: opportunities a person has to use his/her productive capacity;
4. ***availability of resources***: *per capita* family income, fundamental resources that enable the acquisition of goods and services aimed at meeting needs;
5. ***child development*:** a social goal that ensures that children have all of the conditions to access a comprehensive development; and
6. ***housing conditions***: related to life conditions.

The present study employed an adapted version of the FDI[1] comprised of six dimensions, 26 items, and 59 indicators. Each indicator represents a "yes" or "no" question to be asked of families. Each "yes" response was considered as a positive characteristic and increased the score toward a higher development index. In this way, the FDI may vary from 0 to 1[10].

The score was achieved by an arithmetic average of the synthetic indicators in each dimension, thus generating the vulnerability degree of families counting on senior citizens. The cut-off points used to classify the families of aged people experiencing vulnerability conditions were as follows: very severe, for an FDI lower than 0.50; severe, for an FDI between 0.50 and 0.67; and acceptable, for an FDI over 0.67[10].

Measures of association were calculated between the outcome variable (degree of family vulnerability) and the characteristics of the senior citizens: sex, age group, years of education, number of family members with whom they live, and *per capita* income. The research applied Pearson's chi-square test with a $p<0.050$ value. The calculation also took into account severe and very severe (FDI lower than or equal to 0.67) and acceptable (FDI over 0.67) degrees of family vulnerability. When the observed value occurred less than five times, the study opted for the linear-by-linear association.

In order to verify whether or not the associations observed among the various assessed variables were self-evident or stood out as a result of outside interferences, the research proceeded using the multivariate logistic approach[12]. The study also adopted the transformation of independent variables with two or more categories into dummy variables toward achieving specific odds ratios in the age, education, income, and family arrangement categories. The model was estimated with the variables that achieved p values lower than or equal to 20% in the chi-square test. The backward selection method was employed, thus determining the odd ratios, their trust intervals, and the p value. The adjustment of the model was verified by the Likelihood Ratio test[12]. The descriptive analysis was presented by the absolute and relative frequency, and the minimum, maximum, and general index resulting from the arithmetic average, with the respective standard deviation.

All senior citizens or their responsible family members signed the Free and Informed Consent Form, which authorized their participation in the study. The research was approved by

the Research Ethics Committee of the Nursing School of the University of São Paulo under protocol number 74374, CAAE 02147012.1.0000.5392, and was authorized by the Local Department of Public Health of Dourados prior to the beginning of the data collection process.

## RESULTS

**Table 1 -** Characterization of family members of the aged citizens, Dourados, Mato Grosso do Sul, 2013

| Variables | | n | % |
|---|---|---|---|
| Sex | | | |
| | Male | 434 | 53.9 |
| | Female | 370 | 46.1 |
| Group age | | | |
| | 0-10 years | 64 | 8.0 |
| | 11-20 years | 118 | 14.6 |
| | 21-59 years | 376 | 46.8 |
| | 60 years and over | 246 | 30.6 |
| Educational degree | | | |
| | Illiterate | 138 | 17.2 |
| | 1-4 years | 264 | 32.8 |
| | 5- 8 years | 211 | 26.3 |
| | 9-11 years | 97 | 12.0 |
| | 12 and over | 94 | 11.7 |
| TOTAL | | 804 | 100.0 |

**Table 2 -** Descriptive statistics of the general FDI dimensions of families in very severe vulnerability condition, Dourados, Mato Grosso do Sul, 2013

| Dimensions | Index | Minimum | Maximum | SD |
|---|---|---|---|---|
| Lack of vulnerability | 0.77 | 0.31 | 0.94 | 0.10 |
| Access to knowledge | 0.30 | 0.00 | 1.00 | 0.19 |
| Access to work | 0.38 | 0.00 | 1.00 | 0.27 |
| Availability of resources | 0.92 | 0.00 | 1.00 | 0.18 |
| Child development | 0.99 | 0.70 | 1.00 | 0.04 |
| Housing conditions | 0.75 | 0.28 | 1.00 | 0.11 |

The researchers interviewed 500 families with senior members cared for by FHS teams, totaling 1,304 people (500 aged people and 804 family members). Women (65.6%) aged 71.9 years on average predominated among the aged citizens interviewed, ranging from 60 to 100 years of age (Me = 72.0; SD = 7.9). The majority of senior interviewees displayed between one and four years of education (49.6%) and depended on a pension (62.0%).

The most common family arrangement was the multigenerational family, in which the elderly lived with several people (children, grandchildren, sons-in-law, daughters-in-law, or a spouse). The assessed families counted 2.65 members (SD = 1.39) on average, with a maximum of 13 and a minimum of one member.

As per the characterization of family members, the study observed a higher predominance of males (53.9%) aged between 21 and 59 years (46.8%). The average age was 44.1 years, with family members of less than one year old as the lowest age, and the maximum age 91 years, resulting in a median of 37.5 (SD = 25.4). The majority (59.1%) of senior citizens had only finished elementary school. The other variables regarding the characteristics of family members are gathered in Table 1.

The general FDI reached 0.72 (acceptable condition). The lowest index was 0.49 and the maximum, 0.95 (Me = 0.71; SD = 0.07). The low standard deviation score achieved points out that there was no great difference among averages, that is, families displayed similar FDIs.

Table 2 shows the general index, the minimum and maximum scores and the standard deviation of each FDI dimension. Among the six assessed dimensions, two dimensions displaying a very severe vulnerability condition are highlighted, namely access to knowledge and access to work.

The research identified 403 (80.6%) families with acceptable FDI, 95 (19.0%) in severe conditions, and two (0.4%) in very severe vulnerability conditions. Table 3 highlights the dimensions that most contributed to the severe and very severe vulnerability conditions of families: access to knowledge and access to work.

Among the 500 families assessed, two were found to be in a very severe vulnerability condition. Family #139 was composed of a 75-year-old married, illiterate, retired lady with a *per capita* income amounting to R$274.57, who lived in her own house with six more people: an 82-year-old illiterate spouse; a 46-year-old son with two years of education; two

**Table 3 -** Distribution of families within the FDI dimensions, according to the degree of vulnerability, Dourados, Mato Grosso do Sul, 2013

| Dimensions | Very severe vulnerability n (%) | Severe vulnerability n (%) | Acceptable vulnerability n (%) | Total N (%) |
|---|---|---|---|---|
| Lack of vulnerability | 04 (0.8) | 59 (11.8) | 437 (87.4) | 500 (100.0) |
| Access to knowledge | 369 (73.8) | 115 (23.0) | 16 (3.2) | 500 (100.0) |
| Access to work | 311 (62.2) | 126 (25.2) | 63 (12.6) | 500 (100.0) |
| Availability of resources | 21 (4.2) | 71 (14.2) | 408 (81.6) | 500 (100.0) |
| Child development | - | - | 500 (100.0) | 500 (100.0) |
| Housing conditions | 03 (0.6) | 144 (28.8) | 353 (70.6) | 500 (100.0) |

**Table 4 -** Bivariate analysis among sociodemographic determining aspects of senior citizen and family vulnerability degree, Dourados, Mato Grosso do Sul, 2013

| Characteristics of senior citizens | Acceptable vulnerability n (%) | Severe and very severe vulnerability n (%) | p value |
|---|---|---|---|
| Sex | | | |
| Male | 144 (83.7) | 28 (16.3) | 0.201 |
| Female | 259 (79.0) | 69 (21.0) | |
| Group age | | | |
| 60-69 years | 184 (86.8) | 28 (13.2) | 0.011 |
| 70-79 years | 152 (76.4) | 47 (23.6) | |
| 80 years and over | 67 (75.3) | 22 (24.7) | |
| Educational degree | | | |
| Illiterate | 120 (67.8) | 57 (32.2) | < 0.001 |
| 1-4 years | 210 (84.7) | 38 (15.3) | |
| 5 years and over | 73 (97.3) | 2* (02.7) | |
| Per capita income (R$) | | | |
| Over than 311.00 | 373 (85.4) | 64 (14.6) | < 0.001 |
| Between 155.50 and 311.00 | 29 (51.8) | 27 (48.2) | |
| Lower than 155.50 | 1* (14.3) | 6 (85.7) | |
| Lives | | | |
| Alone | 59 (69.4) | 26 (30.6) | 0.006 |
| With 2-4 people | 308 (83.9) | 59 (16.1) | |
| With 5 people and over | 36 (75.0) | 12 (25.0) | |
| TOTAL | 403 (80.6) | 97 (19.4) | |

*(*) Analysis carried out by linear-by-linear association.*

**Table 5 -** Multivariate analysis for severe and very severe vulnerability degrees in accordance with sociodemographic variables concerning senior citizens, Dourados, Mato Grosso do Sul, 2013

| Variables | Categories | OR [IC 95%] | p value |
|---|---|---|---|
| Group age | | | |
| (in years) | 60-69 | 1 | |
| | 70-79 | 1.96 [1.07–3.58] | 0.030 |
| | 80 and over | 2.27 [1.11–4.64] | 0.025 |
| Educational degree | | | |
| (in years) | 5 or over | 1 | |
| | 1-4 | 4.82 [1.09–21.27] | 0.038 |
| | Illiterate | 13.43 [3.05–59.04] | 0.001 |
| *Per capita* income | | | |
| (in R$) | Over than 311.00 | 1 | |
| | Between 155.50 and 311.00 | 8.50 [4.27–16.90] | < 0.001 |
| | Lower than 155.50 | 74.57 [7.47–744.02] | < 0.001 |
| Family arrangement | | | |
| | 5 and more people | 1 | |
| | 2-4 people | 1.13 [0.43–2.94] | 0.802 |
| | Alone | 3.48 [1.20–10.09] | 0.022 |

adolescent granddaughters, a 15-year-old and a 19-year-old adolescent with seven and nine years of education, respectively; one six-year-old grandson who had not yet started going to school; and one 45-year-old daughter-in-law with eight years of education. This family showed a general FDI of 0.49, and the dimensions displaying the lowest scores were access to knowledge, access to work, and lack of vulnerability, with 0.00, 0.17, and 0.31, respectively.

Family #165 was composed of a 65-year-old married man, with two years of education and no proper financial resource, who did not own his house but lived in a borrowed one with six other people: a 53-year-old spouse with two years of education; four children aged 32, 25, 20, and 17 with five years of education each; and one 12-year-old daughter with six years of education. The family *per capita* income reached R$42.86. The general FDI was 0.49 and the dimensions with the lowest scores were access to knowledge, access to work, availability of resources, and child development, displaying 0.17, 0.17, 0.33, and 0.39, respectively.

The 95 families that presented a severe FDI showed 68 female and 28 male senior citizens, of whom 56 were illiterate and 25 had only 1-3 years of education; 66 did not have a spouse, but only 26 lived on their own, which indicates that those senior citizens had been introduced into other family environments, thus constituting multigenerational relationships. Regarding income, 86 senior citizens received some type of social subsidy, with retirement as the major source. In 31 families, the *per capita* income reached a maximum of R$311.00, and in 64 it reached R$311.00 or over. When asked about the presence of any resident with over six years in the current job, 84 aged people provided a negative response.

The illiteracy rate observed among senior citizens was one of the decisive factors in the low scores of the access to knowledge dimension, directly affecting the family vulnerability condition, as well as the access to work dimension, represented by the lack of job stability and low *per capita* income rates.

The housing condition dimension also displayed relevant results. Among the assessed families, 30 lived in wooden houses located on unpaved streets, and displayed great difficulty in purchasing electronic and electric appliances, such as a washing machine, radio, computer, or access to the Internet. These items were found in only a few homes.

Table 4 shows that, among the sociodemographic variables, those that were significantly associated with severe and very severe vulnerability conditions were as follows: group age (older seniors); educational degree (illiteracy); living alone; and low per capita income.

A conjoint analysis using a logistic regression model showed that the occurrence of severe and very severe vulnerability conditions was strongly determined by the group of the older (over 70 years of age) and poorer (*per capita* income lower than R$311.00) seniors with low educational degree and living alone, in accordance with Table 5. For each elderly person aged 60-69 who displayed severe or very severe vulnerability conditions, there were 1.96 senior citizens aged 70-79 and 2.27 seniors aged 80 or over. Additionally, for each elderly person with five years of education, there were 4.82 aged people with 1-4 years of education and 13.43 among the illiterate, with severe or very severe degrees of vulnerability. As per the family arrangement, the aged citizens who lived on their own showed 3.48 more likelihood of being located in a severe or very severe vulnerability condition.

Moreover, it should be highlighted the strong correlation between the *per capita* income and the family vulnerability condition. Estimates show that for each elderly with *per capita* income of over R$311.00, there is an odds ratio of 8.50 and 74.57 senior citizens living in a severe and very severe vulnerability condition, with *per capita* incomes located between R$155.50 and R$311.00, and lower than R$155.50, respectively.

## DISCUSSION

Throughout history, the type of care received by the elderly has been predominantly rendered by the family, especially by women as spouses, daughters, and granddaughters[6]. The presence of a senior citizen in a family generally originates in one of two distinct situations: as the head of the family, in view of holding income or owning the house; or in a situation of dependence, as a result of a lack of physical, psychic, or social conditions.

Social vulnerability may be understood as the degree to which the person's general social condition led him/her to a susceptible health status. A study carried out with senior citizens in Canada pointed to the existence of a correlation between a global social vulnerability and the mortality of aged people. Other unfavorable conditions are as follows: female gender; widowhood; living alone; advanced age; low educational degree; and frailty[13]. Another Canadian research study identified that individuals under high social vulnerability conditions show 36% more likelihood of displaying cognitive diminishment when compared with those enjoying a low degree of social vulnerability[14].

Research performed with seniors in Germany, Greece, Italy, Lithuania, Portugal, Spain, and Sweden showed that unfavorable economic conditions and low professional insertion processes are decisive toward reducing or eliminating social support for aged people. Such situations dramatically compromise their quality of life, as social support models allow seniors to be part of society and make them feel useful[15].

Therefore, primary healthcare must take into account all of the sociodemographic, cultural, and psychological variables related to the elderly person's family. Within the family context, the care rendered to the senior citizen must be treated as an additional complexity[16].

When assessing the vulnerability condition, one of the aspects to be identified is the capacity the family has to provide for their own financial and material resources, as well as mutual psychological and/or emotional support. The presence of children and elderly people enhances the number of dependent members and may also increase the degree of vulnerability[2].

The majority of the assessed families showed an acceptable level of vulnerability, with an exception made for the two families in a very severe vulnerability condition, especially due to the dimensions of access to knowledge and access to work. The lowest scores of the 95 families identified as in a

severe degree of vulnerability also pointed to the dimensions of access to knowledge and access to work, adding up to the housing conditions, a turning point in this group of families.

The present study corroborates the data shown by a study carried out in the satellite city of São Sebastião, Federal District, in which families also presented access to knowledge and access to work as very critical dimensions[1].

The access to knowledge dimension highlighted adults who had not kept up to date with knowledge as expected. Indicators reflect the relevance of the educational level and the quality of the occupation of the home residents. The access to work dimension essentially refers to the availability and quality of work, job stability, and hierarchy (command and obedience positions), with a significant weight given to remuneration[2].

The high vulnerability scores in the access to work dimension address the difficulty family members have in keeping a stable, well-paid job. This research showed that 84 senior citizens reported that no person in the family had maintained the same job for over six months. A remunerated, stable job is known to strengthen family bonds, as it allows for a family balance.

A research study carried out with institutionalized seniors in Rosário, Argentina, showed that family conflicts are often a result of the lack of material resources, and can be identified by the concern with family needs and self-fulfillment. The maintenance of continuity and conformity bonds within the family environment requires the senior citizen to postpone his/her own plans. On the other hand, the family is a guarantee against the fear of losing autonomy and a support in necessary decision-making processes[17].

The best scores observed in this research were found in the child development dimension, in which all families were in an acceptable vulnerability condition. Such a finding may be explained by the strong governmental incentive toward child education and can also be a sign that, in the future, the access to knowledge and access to work dimensions might acquire other characteristics. In contrast, several families were found in very severe vulnerability conditions in the access to knowledge dimension due to the large numbers of illiterate aged people, adding up to family members with low qualification levels involved in non-qualified remunerated activities with low decision-making power.

The access to knowledge dimension was related to the high illiteracy index among senior citizens and the low educational degree of other family members, which influences the access to work dimension, as individuals with knowledge deficits find it difficult to be inserted into specialized activities, and have to accept manual, non-specialized occupations with no social protection guarantee.

For this reason, governmental incentives should be maintained in order to assist children and adolescents so that they keep moving toward the acquisition of knowledge. At the same time, educational projects that are able to encompass populations with low educational degree should also be maintained, so that these individuals can become qualified and enhance their possibilities of searching for jobs and income.

Educational degree is one of the most decisive factors affecting healthcare conditions. People with high educational degrees tend to adopt healthier behaviors and look for preventive health services. As they have more information, they tend to value healthcare in a more intensified way. Additionally, from a general perspective, the higher the educational degree, the higher the income level, and such a trend has a strong positive reflection on the quality of life and health[17]. In the present study, low educational level was a recurrent finding, which suggests that it may be located at the root of all other identified problems, such as access to work and housing conditions.

Educational degree and income should not be seen only as risk factors toward incapacity and dependence, but as conditions that, when unfavorable, may restrict the implementation of adequate care possibilities, thus exposing families to vulnerability conditions. Low incomes may limit access to food, socialization, and healthcare, hence significantly compromising the family's quality of life[6].

In a nutshell, the present study highlighted that the majority of senior people cared for by the FHS in the city of Dourados lived with other people, that is, children, grandchildren, daughters and sons-in-law, which may have influenced the not-so-severe result in the access to work dimension of these families. The presence of people who depend on the family income, such as children and aged people, increases the responsibilities of adults to provide for the family. On the other hand, seniors counting on any type of social benefit contribute to the generation of family income, a fact that can be noticed in the availability of resources dimension regarding the families that showed an acceptable FDI.

According to two studies, one carried out in São Paulo (SP)[16] and another performed in Belo Horizonte (MG)[18], senior people classified in a high or very high social vulnerability condition are predominantly females over 70 years of age with no spouse, low educational degree, and income of half a minimum wage. These data point out that senior people living in different Brazilian states display similar characteristics concerning vulnerability conditions.

The Elderly Statute[19], created by law 10,741 in October 1, 2003, advocates that the improvement of the life condition of the elderly presupposes the right that caregiving families have to health, high quality education, leisure, culture, and work that counts on a remuneration that guarantees their worthy survival. To provide worthy life conditions to the elderly demands additional resources that allow families to go beyond the fulfillment of their own survival needs.

One of the limitations of this study is that the interviews were performed only with those families that included a senior citizen whose presence contributed to worsen the family's social vulnerability. Another difficulty was related to the low educational degree of senior people, a fact that contributed to the lower scores observed in the access to knowledge dimension.

## CONCLUSION

In Brazil, enhancement of life expectancy and the consequent increase in the number of senior citizens have not been accompanied by public policies capable of altering the life and health conditions of this populational group. The country has

not been able to quickly follow up the reversed trend in the age pyramid, and as such now has to cope with critical healthcare challenges aimed at ensuring the quality of life of aged people.

The guarantee of the rights proposed by the Elderly Statute is a set of accomplishments to be reached, as several of those benefits have yet to get off the ground. Investments in intersectorial actions aimed at reducing the individual, social, and programmatic vulnerability of families should be enhanced, including the creation of policies that can improve the educational conditions of young people and adults, as well as economic support to families. Benefits currently directed to senior citizens are only employed to guarantee the survival of more and more vulnerable families, instead of meeting the needs of the populational group assessed by this research.

Families facing the aging process of one or more of their members need support, especially those living in severe or very severe vulnerability conditions. As the aging process advances, families have to cope with progressively more fragile, incapable, and dependent seniors. To understand the family environment and the conditions of aged people inserted into different vulnerability contexts may contribute to care planning processes. To invest in the enhancement of the social network of these senior people, as well as in the qualification of their caregivers, is a must. Finally, incentives and qualification should also be directed to FHS professionals toward an innovative mode of care to this populational group.

The findings of this study are consistent with the literature and highlight relevant aspects concerning the vulnerability of families of aged people. The intention of this present research is to provide information on the quality of life and health of the senior citizens of Dourados and their families, with the aim of offering subsidies to public policies directed toward this population.

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