

Falls in older adults in a remedios health area Cuba

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Abstract

Accidents and specifically falls in older adults are a problem that is increasing in the world. In Cuba, in Villa Clara, it constitutes the sixth cause of death in this population group, and Remedios is one of the oldest municipalities in the country, which is why this descriptive, retrospective longitudinal study was carried out on older adults in an urban area, with the objective of determining the risk factors, occurrence and consequences of their falls in the period from January 15, 2022 to May 1, 2023. We worked with all the older adults in a Medical Office (315), predominating the age group of 60-69 years and the female sex. High blood pressure and osteomyoarticular diseases were determined as the most frequent chronic conditions; polypharmacy, degenerative arthropathies and psychological disorders as the main consequence in the male sex, within the intrinsic factors, and within the extrinsic factors: the bathroom with a sliding floor, and the lack of a lamp or switch within reach, where the female gender stood out significantly.

Keywords: older adult; falls; risk factor's

Introduction

The health of the elderly is considered as "the functional capacity to care for oneself and develop within the family and society, which allows them, in a dynamic way, to carry out their daily activities." Accidents are the fifth cause of death in the world; Of them, 68% are in people over 65 years of age. In Cuba, they represent the sixth cause of death for people aged 60 or over and, as throughout the world, the process of senescence causes numerous alterations in the life of the elderly that affect their functionality, and therefore, their health. The world population has been aging since its origins, although not constantly, with a tendency to accelerate in recent decades. The group of those over 60 years of age is currently increasing significantly, as is the group of "the very old", that is, those over 80 years of age, who in the next 30 years will constitute 30% of the elderly (AM). in the most developed countries and 12% in the so-called developing countries. In this process Cuba is not left behind; According to estimates, by 2025 it will be the oldest in the Latin American region, and by 2050 it will become one of the oldest in the world . (Perez, 2018) The maximum duration of human life has not been established so far, although some scientists estimate it at about 120 years, but the

important thing is not to reach this age, nor even to prolong one's existence, but to be able to live years free of disabilities. healthy aging, so that we are active subjects to the limit of our lives. (Alvarez, 2014).

Old age today constitutes a serious global health problem, especially in developed countries and those that are emerging from underdevelopment. Dependency and physical and mental deterioration, more than death itself, constitute the ghost of senile age and the greatest concern of the elderly. The evaluation of the quality of life in the elderly must correspond to their life expectancy, otherwise it would become "an increase in disability expectancy"; while the main task of science today is to delay the onset of disability in the elderly. Because accidents, and specifically falls, are a problem that is increasing with a direct impact on the morbidity and mortality of people over 60 years of age in Cuba, in Villa Clara, where it constitutes the sixth cause of death in this population group, and In Remedios (one of the oldest municipalities in the country), it was decided to carry out this study. The objective is to identify the most frequent risk factors for falls in the study group, in order to determine their occurrence and main consequences in older adults who have suffered them.

According to WHO projections, around 37.3 million falls occur each year, the severity of which requires medical attention; Specifically in the age group of 65 to 75 years, the average annual rate of falls varies from 15% to 28% (World Health Organization, 2022)

Methods

The conduct of the research and the ideas presented were possible with the use of different theoretical and empirical methods, including documentary study, systematization, direct observation, as well as surveys and interviews with health professionals and older adults. from an urban area of Remedios. To obtain the information, the following sources were used: individual medical records, family medical records and the physical examination, completing the information through a

questionnaire that was administered to the patient or caregiver, with prior informed consent and taking into account the inclusion criteria and exclusion, using variables such as: age, intrinsic and extrinsic risk factors, falls, consequences of these, polypharmacy, orthostatic hypotension.

Results

Table # 1 (Annex 1) represents the older adult population by sex and age and shows how the largest percentage is represented by the female sex (54.6%). When statistically analyzing these results, it is observed that there are no significant differences in terms of sex, but there are between age groups, with 60-69 years being highly significant with 172 patients for 54.6%.

APPENDIX 1

TABLE # 1: Characterization of the older adult population by sex and age.

Age groups	Sex				Total	%
	Male		Female			
	No	%	No	%		
60-69	81	56.6	91	52.9	172	54.6
70-79	33	23.1	42	24.4	75	23.9
80-89	24	16.8	30	17.4	54	17.1
90 and more	5	3.5	9	5.3	14	4.4
Total	143	45.4	172	54.6	315	100

Source: Survey $X^2=45.45$ $p=1.1412$ $p>0.05$

In table # 2 (annex 2), chronic diseases are listed by age group. It can be seen that these diseases are more evident in the age group of 90 years and older, reversing the order of the last two (100% osteomyoarticular diseases)., 71.4% visual and 64.2% arterial hypertension) followed by the

80 a89-year-old group (79.6%, 74.1% and 46.2%). It is striking that high blood pressure was predominant in the ages between 70 a79 and 60 a69 years with 58.7% and 20.3% respectively.

APPENDIX 2

Table # 2: Relationship of chronic diseases by age.

Chronic diseases	60-69 years		70-79 years		80-89 years		90 years and more		Total	%
	No	%	No	%	No	%	No	%		
HTA	35	20.3	44	58.7	25	46.2	9	64.2	113	100
Osteoarticular diseases	12	6.9	31	41.3	43	79.6	14	100	100	100
Visual diseases	9	5.2	41	54.7	40	74.1	10	71.4	99	100
Cardiovascular diseases	2	1.2	13	17.3	25	46.2	9	64.2	49	100
Mellitus diabetes	3	1.7	5	6.7	eleven	20.4	4	28.6	23	100
Cerebral vascular accident	0	0	0	0	2	3.7	1	7.1	3	100
Total Older Adults	172	54.6	75	23.9	54	17.1	14	4.4	315	100

Source: Clinical Records $X^2=38.31$ $p=3.32$ $p<0.01$

$X^2=29.60$ $P=2.48$ $p<0.01$ (The age group of 80-89 reports a growth of all chronic diseases with respect to the other age groups.)

The physiological risk factors for balance according to sex and age are represented in table # 3 (annex 3), where it can be seen that of a total of 315 patients, 216 practice polypharmacy, which represents 73.4%, when Analyzed by age group and sex, it is observed that the group of 90 years

and older for both sexes are the ones with the highest percentage (100% and 33.3% respectively), followed by the group of 80-89 years in the female sex (90%).

ANNEX 3

Table # 3: Physiological risk factors for balance according to sex and age.

Physiological factors	60-69 years				70-79 years				80-89 years				90 years and more				Total	
	M		F		M		F		M		F		M		F		No	%
	No	%	No	%	No	%	No	%	No	%	No	%	No	%				
Polypharmacy	33	40.7	64	70.3	23	69.7	36	85.7	twenty-one	87.5	27	90	3	60	9	100	216	73.4
Hypotension orthostatic	1	1.2	2	2.2	3	9.1	4	7.3	5	16.1	7	29.1	2	40	3	33.3	27	8.6

Source: Survey $\chi^2 = 6.23$ $p = 0.0125$ $p < 0.01$

When performing the statistical analysis, it can be seen that polypharmacy is highly significant in all age groups and in both sexes. The extrinsic Risk Factors according to sex are shown in table # 4 (annex 4), which shows that the bathroom with a sliding floor, uneven and irregular floors and the lack of a lamp or switch within reach are the three most frequent extrinsic risk factors for both sexes representing 28.9%, 24.4% and 21.6%

respectively, with high and narrow beds being the least frequent risk factor in this study with only 4.2% frequency. When the statistical analysis is carried out, it is observed that in general these environmental factors present highly significant differences in the elderly but are not significant in terms of sex.

ANNEX 4

Table # 4. Extrinsic risk factors according to sex.

Environmental factors	Male		Female		Total	
	No	%	No.	%	No	%
Bathroom with sliding floor	41	28.7	fifty	29.1	91	28.9
Uneven/uneven floors	3.4	23.7	43	25	77	24.4
Lack of lamp or switch within reach of the bed	29	20.3	39	22.7	68	21.6
Floors with highly polished surfaces	22	15.4	3.4	19.8	56	17.8
Poor lighting	18	12.6	26	15.1	44	14
Bathroom away from the bedroom	17	11.9	25	14.5	42	13.3
Overcrowded Furniture	fifteen	10.5	twenty-one	12.2	36	11.4
Poor construction condition of the house	twenty-one	14.7	14	8.1	35	11.1
Inappropriate footwear	13	9.1	19	eleven	32	10.1
Furniture in poor condition	9	6.3	22	12.8	31	9.8
Floors with toys or other objects	10	6.9	18	10.5	28	8.9
Furniture with frequent changes	eleven	7.7	16	9.3	27	8.6
High and narrow beds	6	4.2	9	5.2	fifteen	4.8

Source: Survey

In the Table # 5 (Annex 5), the older adults who suffered falls are listed by sex, showing that women suffered more falls (79 for 56.4) compared to men (61 for 43.6). The number of falls that occurred in females is

significant. But, in addition, the male sex stands out as the most psychologically affected by falls, which is why, according to the survey, they demand more attention from their families.

ANNEX 5

Table # 5. Relationship of older adults who suffered falls by sex and intrinsic factor

Elderly people who have fallen	No	%	Psychological consequences (intrinsic factor)		
			Yeah	No	%
Male	61	43.6	126	17	88.1
Female	79	56.4	118	54	68.6
Total	140	100	244	71	77.5

Source: Survey

Discussion

Aging is a natural process, where biological and psychological transformations occur, with broad repercussions in the sphere of the individual's relationships. This process is subject to the interaction between man and the environment in which he develops. Until now, it is irreversible, and it behaves differently in each human being. It is nothing more than a series of morphological, physiological, biochemical and psychological modifications that appear as a consequence of the action of time on living beings. As you age, you are predisposed to the occurrence of accidents, events responsible for deaths, disorders and consequences in individuals and families. Their main risk is related to the changes and disorders of aging that affect the biological functions necessary to maintain an adequate balance of health. Our state maintains the premise of providing attention to the study and implementation of strategies in all sectors of society to face the high levels of aging of the population and increase the quality of the service provided, in order to achieve the satisfaction of the population and minimize the factors linked to falls in the home of the elderly (AM), which imposes a challenge on research, teaching and care performance. The social impact is to try to raise awareness among older adults, their caregivers and family members of the measures to prevent falls. (Perez, 2017). Domestic accidents are a major problem, both medical and social, among the elderly population. Falls are the most frequent among these accidents at that age and on certain occasions they are of special importance. Its incidence and severity of complications increase with age and are at the same time causes of hospital care, deaths and disability. Their etiology is multifactorial, making it difficult to detect a primary cause in most cases. World statistics, and Cuban statistics among them, show that in recent years morbidity and fatality rates due to accidents are increasing, as is the case with vascular diseases. This is why educational intervention at the community level aimed at modifying lifestyles, habits and behaviors tends to attenuate important causal elements related to accidents due to falls in the MA.

Considerations about falls:

The fall, defined as any event that precipitates the individual to the ground against his will, is a frequent problem at extreme ages of life.

The consequences in the case of the elderly (AM) can be important, causing in many cases, different degrees of functional deterioration, the so-called "Post Fall Syndrome", hospitalizations and premature death, especially through fractures. The fall can also be a marker or sign of other health problems and/or the announcement of a new or more serious fall in the near future.

It is estimated that approximately one third of the population over 65 years of age who lives in the community will suffer a fall over the course of a year, and this figure may reach 50% among institutionalized AM or those over 80 years of age. Thus, like other common symptoms at this stage of life, it is usually not spontaneously referred to health professionals nor

does it generate a medical consultation, so its investigation must be actively carried out by them, as well as the initiation of adequate preventive treatment, of new falls. The real incidence of the fall is not known because sometimes the elderly person hides this fact so that the family does not limit their autonomy and in other cases the doctor himself does not give it real importance and does not report it as such. Screening for falls and treating fall risk factors (orthostatic blood pressure measurement, vision evaluation, medication review, and assessment of balance, gait, and lower extremity strength) can reduce these accidents 30-40%. Falls in the Elderly have such significance that sometimes, no matter how simple it may be, it produces a state of concern such that the person who has suffered it for the first time begins to glimpse the twilight of their existence in this circumstance. (Cerquera, A. M et al, 2019).

The factors responsible for a fall can be:

- Intrinsic (patient related)
- Extrinsic (related to the environment)

Intrinsic factors include age-related physiological alterations, and join the normal alterations associated with aging that limit the functional reserve of the elderly and determine the greater frequency of falls in this age group.

When there is a pathological process or an environmental obstacle, diseases and drug use in older adults increase the risk of falls.

The activities most commonly associated with falls include getting in and out of bed, getting in and out of a chair, tripping over objects or floor fixtures (such as rugs, mats, and door thresholds), and slipping when walking on surfaces, wet, wearing inappropriate footwear or when going down stairs.

Drugs play an important role in a large number of declines. Drug use is usually very common in this population; approximately 80% of older adults receive some drug and 60% receive two or more drugs. There is also a tendency towards self-medication and therapeutic non-compliance. Two large pharmacological groups (psychotropic drugs and antihypertensives) are involved in the etiology of many falls. Its mechanisms of action are multiple: volume depletion, electrolyte alterations, deterioration in alertness, postural and orthostatic hypotension, vestibular dysfunction, etc. There is a direct relationship between the number of medications a patient receives and the increased risk of falling, which is considered polypharmacy.

Among the most prevalent non-communicable chronic diseases are High Blood Pressure, Ischemic Heart Disease and Diabetes Mellitus.

The factors that increase the risk of falling are: age, history of previous falls, alterations in stability and/or gait and the number of drugs used; so they must be divided into 3 groups:

1. High risk: Those who meet several of the above factors, over 75 years of age and who have chronic pathologies or remain admitted to homes.

2. Intermediate risk: Elderly people between 70 and 80 years old who look after themselves, but with a specific risk factor.

3. Low risk: Under 75 years of age, good mobility, not sick, but who may have had a fall, generally due to carelessness.

Falls generate fear of falling again or a continuous state of anxiety, loss of confidence, isolation and even aggression. More than half of elderly people who fall admit to living in fear of a second fall and a quarter acknowledge that due to the fear of falling they have become dependent on bathing and dressing. According to Masaquiza, (2023) they suffer from a syndrome post-fall, characterized by the patient's lack of confidence, that is, the patient's fear of falling and restriction of ambulation, presence of isolation and depression (p.12). Family members also often react with anxiety; other times this reaction ends with the institutionalization of the elderly person.

Any fall should be considered a premonitory of illness or a possible sign of impending serious illness.

More than half of people who fall do so repeatedly. The consequences of falls are greater among the elderly than among younger people. What between the ages of 30 and 40 may be an unimportant fact, forgotten after a short time, at advanced ages may mark the beginning of decline, if not, a severe disability or death.

In Cuba, death due to accident occupies 5th place among the causes of death; last year, 1,726 elderly people died from this cause and 56.08% of them were due to falls (Abreu et al, 2023).

Falls and their complications are foreseeable. The elderly are more affected, due to the number of falls and their consequences, so their preventive approach should include not only avoiding the repetition of falls or their complications, but also preventing the first fall. This entails a periodic evaluation of the individual's conditions that may predispose him or her to falling, as well as a review of the environmental hazards to which he or she is exposed. Falls can be considered a major geriatric problem; the disastrous personal, social and economic effects that they can have determine that their evolution must be carried out with all the seriousness and depth possible. (Bella and Carvajal, 2017)

The possibilities of the family doctor become unsurpassed by another professional. The periodic health examination in this age group must include the evaluation of risk factors, which must lead to a management plan to prevent the problem.

Currently, the most important thing is not for populations to live longer, but to qualitatively improve health and well-being, with careful attention to the elderly population group.

Conclusions

✓ In the study of older adults, the age group of 60-69 years predominated and the female sex was the majority and the one who suffered the greatest number of falls. High blood pressure, osteomyoarticular and visual diseases were the most frequent chronic conditions, with the first two being more revealing in the 80 to 89 age group.

Of the intrinsic risk factors, polypharmacy was the condition that most frequently altered balance and degenerative arthropathies, gait. Among the extrinsic factors, the bathroom with a sliding floor, uneven/uneven floors and the lack of a lamp or switch within reach were highlighted.

The number of older adults who suffered falls and psychological disorders as a consequence was demonstrative.

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