

Special Article: Frail Elderly

Prevalence of Geriatric Syndromes in the Geriatrimss Program at Hospital De Especialidades # 14, Veracruz Mexico, Imss.

Isidro Simón ME¹; Pedraza Zárate MA^{2*}; Franco Álvarez N¹; Montes Osorio MG³

¹Instituto Mexicano del Seguro Social, Hospital de Especialidades # 14, Veracruz, México

²Instituto Mexicano del Seguro Social, Órgano de Operación Administrativa Desconcentrada Estatal Veracruz Norte, Coordinación de Nutrición. Xalapa, Veracruz, México

³Instituto Mexicano del Seguro Social, Órgano de Operación Administrativa Desconcentrada Estatal Veracruz Sur, Coordinador de Planeación y Enlace Institucional, Orizaba, Veracruz, México

*Corresponding author: Pedraza Zárate MA

Instituto Mexicano del Seguro Social, Órgano de Operación Administrativa Desconcentrada Estatal Veracruz Norte, Coordinación de Nutrición. Xalapa, Veracruz, México. Email: miguel.pedrazaz@imss.gob.mx; mapz70@hotmail.com

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Introduction

Comprehensive geriatric assessment arises in response to the high prevalence in the elderly of undiagnosed needs and problems, of dysfunctions and unrecognized reversible dependencies; It is a dynamic and structured diagnostic process that includes the clinical, functional, mental and social spheres with the aim of achieving the highest degree of quality of life [1]. Geriatric syndromes are the set of symptoms and signs that can be manifestations of one or various pathologies that frequently intertwine, producing greater morbidity and mortality [2]; there are studies on the prevalence of each syndrome in the world literature [3]. Aging is the sum of all the alterations that occur in an organism over time and that lead to functional losses and

death, it begins when the somatic development process ends and morphological changes occur in the process, functional and biochemical [4].

At the cardiovascular level there is calcification of valves and valve rings, stenosis of coronary vessels. The postload increases parallel to the elevation of the systolic tensions, which generates myocardial hypertrophy; the maximum heart rate is lower in the elderly and in many subjects the cardiac output is maintained due to a greater volume per stroke.

Geriatric syndromes have a multifactorial pathophysiology, affecting systems unrelated to the apparent main cause [4];

Abstract

Introduction: Geriatric syndromes are the set of symptoms and signs that can be manifestations of one or various pathologies that are frequently intertwined, producing greater morbidity and mortality.

Objective: To know the prevalence of geriatric syndromes of the Geriatrimss program in the specialty hospital # 14, Veracruz Mexico, IMSS.

Material and Method: Descriptive, cross-sectional, observational study, evaluating patients belonging to the GERIATRIMSS program of the specialty hospital # 14 of the city of Veracruz Ver. Mexico, in a period of 12 months. The comprehensive geriatric evaluation card was applied. Descriptive analysis with frequencies and percentages, in SPSS v24.

Results: 538 patients in total, 347 (64.5%) were female, the traumatology service was the one with the highest prevalence with 215 (40.2%), arterial hypertension with 317 (58.9%), non-abuse and/or mistreatment predominated in 528 (98.1%) patients, with functional depression there were 325 (60.4%) patients, 442 (82.0%) patients had immobility and odontoprosthetic diseases in 276 (51.3%) patients.

Conclusions: The female gender predominated, the traumatology service was the most prevalent, arterial hypertension was the most frequent comorbidity, in most of the patients there was no abuse and / or mistreatment, with greater functional depression, there was greater immobility, there was a predominance of dental prosthetic diseases as the most prevalent geriatric syndromes.

Keywords: Prevalence; Geriatric syndromes; Geriatric assessment.

they are multifactorial health disorders [5-8]. Fall syndrome is defined as the presence of two or more falls during a year, it represents the first cause of non-fatal injuries and the fifth cause of fatal injuries in older adults [9,10]. The main risk factors are muscle weakness, gait and balance disturbances, the use of walking aids, inadequate gait, visual disturbances, depression, cognitive impairment and functional dependence. The incidence reported in the literature is from 28 to 35% in people over 65 years of age and from 32 to 42% in people over 75 years of age [11]. Falls are even more common in long-term care facilities, occurring annually in more than 50% of people age 65 and older [12]. Depression is a mental disorder characterized by a primary alteration of mood or chronically depressed mood, of a chronic or relapsing type; a screening tool is the geriatric depression scale, the worldwide prevalence is 5.5 to 5.9% in patients older than 65 years [11]. The prevalence in the most frail and vulnerable older adults living in long-term care centers is 10% [13].

Frailty refers to a non-specific state with multiple causes and contributors, in which there is an increased risk for the vulnerability of the individual to develop greater dependency and/or death [14]. The criteria to define them must include at least three of the following: involuntary weight loss of at least 5kg in the last year, self-reported exhaustion, decreased muscle strength reduced physical activity and slow walking speed in a 4.57m run [15-18]. Worldwide prevalence is reported in ranges from 8.4% to 20.4%; an extensive European study estimated that the prevalence of frailty in people between 50 and 64 years of age was 4.1% and that it increases to 17% after 65 years of age [19]; however, in America figures have been reported ranging from 30 to 48% in women and from 21 to 35% in men [20]. Delirium is a syndrome characterized by alterations in consciousness, attention and perception, accompanied by a change in cognitive functions, it develops acutely, fluctuates throughout the day and is not attributable to a demented state, although it can occur in patients with cognitive impairment, is caused by the direct physiological consequence of a medical condition [15]. The prevalence in hospitalization is between 14-24%, in the surgical area it is 15-53%, in Mexico it is 38.3% [21]. Immobility syndrome is defined as the decreased ability to perform activities of daily living due to impaired motor functions. It is classified as acute and larval, and is associated with postural hypotension, pressure ulcers, venous thrombosis, hypoxemia, constipation, decreased cardiac output, and bone demineralization [22]. The prevalence is 15% in people over 65 years of age [4].

The pressure ulcers may present as persistent hyperemia, blistering, breakout, or necrosis of the skin, may extend to adjacent structures, including muscle and bone; It is classified in degrees or on a scale that goes from 1 to 4, indicating that the higher the degree, the greater the severity [23]. The reported prevalence is 4.7% to 32.1% in the hospital setting [24].

Gait disorders are defined by a slowing down of gait speed, alteration in gait characteristics, instability, generating inefficiency for displacement and altering activities of daily living.

The prevalence of gait disorder in the elderly at 60 years of age is 15%, 35% at 70 years of age, and up to 50% in those over 85 years of age [25-27]. The reported prevalence for minor cognitive impairment is reported from 3 to 19%. Age-associated memory impairment is defined as normal age-related changes in cognition, such as loss of episodic memory, difficulty multi-tasking, impairment of "working" memory. Minor cognitive impairment is defined as objective cognitive impairment with

preservation of functions; in dementia, cognitive impairment affects daily function [28,29]. Urinary incontinence is defined as the involuntary loss of urine in sufficient quantity or frequency that it becomes a health and social problem; the prevalence has been reported between 30 and 60% for women and 10 to 35% in men in the community and up to 80% in institutionalized areas [30]. It can be classified as acute or transient and chronic or persistent when it lasts for more than 6 weeks [15]. Fecal incontinence is defined as the involuntary expulsion of feces or the inability to control the expulsion of feces [31]. There are three types of incontinence: urge, passive, and fecal leakage. The literature reports a hospital prevalence of 16% [32,33]. Loss of autonomy is defined as the inability to perform activities of daily living such as bathing, dressing, going to the toilet, moving around, sphincter control and eating or instrumental activities of daily living, which can be assessed using the scales of Lawton and Katz, in this way functional dejection can be assessed; a prevalence in the literature of 50% is reported [2-4]. Figures of 40 to 50% and up to 65% of hospital malnutrition have been reported internationally [34], in Mexico the prevalence has been reported up to 64%, this geriatric syndrome increases complications during hospitalization and increases the index of mortality; increases postoperative complications and lengthens hospital stay. Assessment scales such as Nutritional Risk Screening, Mini Nutritional Assessment, subjective global assessment and the Villalobos-Gómez instrument have been used to assess whether there is a risk of malnutrition, if they present malnutrition syndrome, it is also within the geriatric evaluation that sarcopenia can be documented [35,36]. Sensory deficit or deprivation is considered positive with the presence of visual or auditory alterations that do not have auxiliary compensation. The prevalence for visual and auditory deficit in the literature is reported in 16 and 30% respectively [2,3]. It has been determined that the prevalence of severe insomnia is 25% for the 65-79 age group, where 45% of individuals had had some type of insomnia problem in the previous 12 months [37]. The prevalence of polypharmacy in the international literature is reported from 20 to 50% [38,39]. The main caregiver is any person who assumes responsibility for the care of the patient; the caregiver provides care at the emotional, instrumental and financial levels. Caregiver breakdown can be defined with scales such as the Caregiver Burden Scale and the Zarit Caregiver Burden Scale.

The collapse of the caregiver has secondary effects such as the increase in the recurrence of hospital admissions of the patient [40,41]. It is important to know the prevalence of geriatric syndromes that we have in our institution in order to assess the actions taken and as a feedback mechanism for the activities carried out. In this context, the IMSS developed the institutional geriatric plan "GERIATRIMSS", therefore the objective of the present study is to know the prevalence of geriatric syndromes of the Geriatrimss program in the specialty hospital # 14, of Veracruz Mexico, IMSS.

Material and Methods

A descriptive, observational, cross-sectional, retrospective study was carried out using the GERIATRIMSS program on patients of both genders consulted by the geriatric service through the integral geriatric evaluation card in a period of 12 months, the sampling method was non-probabilistic, it was for convenience; through intentional search as well as that carried out as an interconsultation; The sample size was made up of all the patients who met the following inclusion criteria: patients with a diagnosis of geriatric syndrome established by means of an integral evaluation card of the UMAE geriatrics service,

age over 65 years, any gender, hospitalized patients in the High Specialty Medical Unit "Adolfo Ruiz Cortines" of Veracruz Ver. Mexico. The exclusion criteria were: patients who, due to their physical or mental state, were not suitable for the application of instruments for geriatric assessment. Data such as gender, diagnosis, comorbidities, socio-familiar assessment, mental and psycho-affective assessment, medical-biological assessment and nutritional assessment were obtained from the total number of patients.

Statistic Analysis

For data analysis, descriptive statistics were used with frequencies and percentages. The statistical procedure was carried out using the Statistical Package for the Social Sciences (SPSS Chicago, IL, USA) V. 24 program.

Results

A total of 538 patients were analyzed, of which 347(64.5%) were female, (Table 1). The trauma service had the highest prevalence with 215(40.2%) patients, (Table 2). Arterial hypertension was the most frequent comorbidity with 317(58.9%), (Table 3). Regarding the socio-family assessment, the widowers were the most prevalent with 269(50%), with an integrated family 339(63%), with their own home 368(68.4%), with recent retirement only 11(2.0%), with zero support 341(63.4%), the main caregiver was a woman with 361(67.1%), the children were the greatest relationship in 361(67.1%), the support network was regular with 413(76.8%), there was no caregiver collapse in 482(89.6%) and no abuse and/or mistreatment in 528(98.1%) (Table 4). The mental and psycho-affective characteristics, delirium existed in 240(44.7%) patients, 78(15.4%) patients developed cognitive impairment, 73(13.65%) patients presented depression, with anxiety there were 19(3.55%); 325(60.4%) patients had functional depression, the other characteristics are found in (Table 5). In 90(16.7%) patients presented fall syndrome, 442(82.0%) patients had immobility, 112(20.7%) patients developed ulcers due to pressure, and 393(73.0%) patients with urinary incontinence, 377(70.1%) patients presented fragility (Table 6). There was polypharmacy in 91(17%) patients, risk of malnutrition in 180(33.5%) patients, malnutrition in 50(9.3%) patients, denture diseases in 276(51.3%) patients, and sarcopenia in 137(25.5%) patients (Table 7).

Table 1: Gender distribution.

Gender	n	%
Female	347	64.5
Male	191	35.5
Total	538	100.0

Table 2: Frequency of diagnosis.

Diagnosis	n	%
Traumatology	215	40.2
Cardiology	21	3.9
General Surgery	15	2.8
Vascular Surgery	1	0.2
Dermatology	2	0.4
Gastroenterology	35	6.5
Hematology	5	0.9
Internal Medicine	178	33.1
Nephrology	3	0.6
Pneumology	10	1.9
Neurosurgery	10	1.9
Neurology	37	6.9
Oncology	3	0.6
Emergencies	1	0.2
Urology	1	0.2
Total	538	100

Table 3: COMORBIDITIES.

Comorbidities	NO n (%)		SI n (%)	
	n	%	n	%
Diabetes Mellitus 2	351	65.1	188	34.9
Arterial Hypertension	221	41.1	317	58.9
Parkinson's Disease	530	98.5	8	1.5
Chronic Renal Failure	488	90.7	50	9.3
Heart Failure	502	93.3	36	6.7
Ischemic Heart Disease	504	93.7	34	6.4
Brain Vascular Disease	489	9.9	49	9.1
Hypothyroidism	533	99.1	5	0.9
Cancer	519	96.5	19	3.5

Table 4: Family partner assessment.

Civil Status	n	%
Married	178	33.1
Single	58	10.8
Widower	269	50.0
Divorced	6	1.1
Separate	24	4.5
Free union	3	0.6
Kind of family		
Integrated	339	63
No integrated	182	33.8
Dysfunctional	17	3.2
Housing type		
Own	368	68.4
Rented	22	4.1
Borrowed	45	8.4
Temporary stay	103	19.1
Recent retirement		
No	527	98.0
Yes	11	2.0
Social functionality		
Null support	341	63.4
Some	36	6.7
Support	38	7.1
Without answer	113	21.0
Main caret		
Man	177	32.9
Women	361	67.1
Relationship		
Son	361	67.1
Husband (a)	115	21.3
Brother	18	3.3
Grandson	17	3.1
Support net		
Good	89	16.6
Regular	413	76.8
Bad	29	5.4
Does not have	7	1.3
Caregiver collapse		
No	482	89.6
Yes	56	10.4
Abuse or mistreatment		
No	528	98.1
Yes	10	1.9

Table 5: Mental and psycho-affective assessment.

Delirium	n	%
No	298	55.3
Yes	240	44.7
Cognitive impairment		
No	373	69.3
Si	78	14.5
No valorado	87	16.2
Depresión		
No	278	51.7
Yes	73	13.6
Not valued	187	34.8
Depression		
No	333	61.9
Yes	19	3.5
Not valued	186	34.6
Sleep disorders		
No	415	77.1
Yes	123	22.9
Functional deflection		
No	213	39.6
Yes	325	60.4
Gait disorder		
No	302	56.0
Yes	231	42.9
Not valued	5	0.9

Table 6: Medical biological assessment.

Falls Syndrome	n	%
No	448	83.3
Yes	90	16.7
Immobility		
No	96	18.0
Yes	442	82.0
Pressure ulcer		
No	426	79.3
Yes	112	20.7
Fecal incontinence		
No	490	91.1
Yes	48	8.9
Urinary incontinence		
No	145	27.0
Yes	393	73.0
Sensory deprivation		
No	122	22.7
Yes	416	77.3
Fragility		
No	131	30.0
Yes	377	70.1

Table 7: Nutritional assessment and polypharmacy.

Polypharmacy	n	%
No	447	83
Yes	91	17
Risk of malnutrition		
No	358	66.6
Yes	180	33.5
Malnutrition		
No	488	90.7
Yes	50	9.3
Obesity		
No	457	84.9
Yes	81	15.1
Dental prosthetic diseases		
No	262	48.7
Yes	276	51.3
Sarcopenia		
No	401	74.5
Yes	137	25.5

Discussion

Aging is an unavoidable part of life and to project a plan for healthy aging it is of vital importance to know the prevalence of geriatric syndromes in our environment, in order to reduce morbidity and mortality and generate a greater positive impact on development human [1-4].

Our report concludes that the female gender represents the largest number of patients with geriatric syndromes, the trauma service has the highest prevalence of geriatric syndromes and systemic arterial hypertension is the most frequently associated comorbidity. It is important to take these data into account for further studies to define direct causes and as precipitating factors or simply as associations; of the socio-family area is reinforced with the data obtained, which at a higher socio-economic level can have an impact on reducing the prevalence of geriatric syndromes [2,3,6]. In contrast to what was reported by other authors, it was documented a prevalence for the caregiver's collapse of 10.4%, which is lower in relation to the international literature, agreeing this with the regular and good support network that exists in our environment [38,42], in this way it is explained that the prevalence for abuse reached 1.9%, which is similar to international reports [7,38,39]; the prevalence for delirium is 44.7%, which reflects a high percentage in relation to national reports, this being feasible because our study population revealed a higher prevalence of geriatric syndromes for surgical areas [13,19]; similarly to what was reported by other authors, for cognitive impairment the prevalence is 13.65%, which reinforces the correct performance of the geriatric evaluation [26,27]; for depression, a prevalence of 13.65% was found, which is in accordance with what was reported in the WHO world report, highlighting with this the social functionality and the support network that was documented, which are adequate in percentages [11]; the prevalence for anxiety is reported at 3.55%, which contrasts with that reported in the literature, which could imply subdiagnosis since due to associated polyopathologies, up to 34.6% could not be evaluated [40,41]; for functional depression, the prevalence is 60.4%, which is higher than what is described internationally, feasible because our study was carried out in a hospital in third level, which is a reference center for complicated, disabling and more complex diseases with respect to diagnosis and treatment [2,3], this also correlates with falls syndrome, where the prevalence is 16.7%, for immobility with a prevalence of 82% and pressure ulcers with a prevalence of 20.7%, unlike that reported by other authors, this is feasible because the evaluation was carried out at the hospital level in bedridden patients [11-13,23-25]; for urinary incontinence, the prevalence is 73%, which correlates with international figures, being more frequent in institutionalized patients who present greater multisystem involvement [16,31]; frailty presented a prevalence of 70.1%, which contrasts with national and foreign reports. It is equally important that our study was carried out in a tertiary level hospital where the multipathology of the patients severely compromises several organs and systems, contributing more for the prevalence for risk of malnutrition, malnutrition and sarcopenia which present a prevalence of 33.5%, 9.3% and 25.5% respectively, establishing for the first time figures that can be extrapolated to our environment [19-21,38,39]. Polypharmacy presented a prevalence of 17%, which is low in relation to the international literature, due to the geriatric evaluation where therapeutic recommendations are taken into account in relation to the established treatment [42-45]. With the present study, the bases for the knowledge of the prevalences in our environment are established, as well as the external validity, that is, its extrapolation to institutions

similar to ours, there are still unknown factors associated specifically for each geriatric syndrome and if they can be extend the knowledge for the definition of new geriatric syndromes or the conceptual modification or the establishments or changes of diagnostic criteria.

Conclusions

There was a predominance of the female gender, the traumatology service was the most prevalent, arterial hypertension was the most frequent comorbidity, in most of the patients analyzed there was no caregiver collapse or abuse and/or maltreatment, with greater functional depression, there was greater immobility, there was a predominance of odontoprosthetic diseases.

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