



ORIGINAL ARTICLE

Presence of risk factors for major geriatric syndromes in older adults who attend the Mariscal Sucre Health Center

Presencia de factores de riesgo de los grandes síndromes geriátricos en adultos mayores que acuden al Centro de Salud Mariscal Sucre

Guadalupe Cuello-Freire¹✉, Nairovys Gomez-Martínez¹, Riber Fabian Donoso-Noroña¹

¹Universidad Regional Autónoma de Los Andes, Ambato. Ecuador

Received: June 15, 2022

Accepted: July 24, 2023

Published: July 25, 2023

Citar como: Cuello-Freire G, Gomez-Martínez N, Donoso-Noroña R. Presencia de factores de riesgo de los grandes síndromes geriátricos en adultos mayores que acuden al Centro de Salud Mariscal Sucre. Revista de Ciencias Médicas de Pinar del Río [Internet]. 2023 [citado Fecha de acceso]; 27(S1): e6078. Disponible en: <https://revcmpinar.sld.cu/index.php/publicaciones/article/view/6078>

ABSTRACT

Introduction: population aging constitutes a challenge for health systems of which Ecuador is no stranger.

Objective: to identify the risk factors of major geriatric syndromes present in older adults who attend the Mariscal Sucre Health Center.

Methods: observational, descriptive and cross-sectional study in older adults who attend the Mariscal Sucre Health Center between July and December 2022. The sample consisted of 48 patients. Downton scales, Barthel index, ICIQ-SF and SPMSQ Pfeiffer scale were used.

Results: a predominance of female patients (62,50 %), aged between 65 and 69 years (70,08 %), was found. 93,75 % of the patients consumed some medication, 83,33 % had previous falls, 50 % were dependent or required help to go up and down the stairs and 45,83 % to perform personal hygiene or bathe. 60,41 % lose urine several times a day and 18,75 % exhibited a maximum affectation of the development of daily activities. 89,58 % of the older adults were not able to identify the time of day and the date.

Conclusions: in the elderly at the Mariscal Sucre Health Center, risk factors for major geriatric syndromes were identified, with the highest incidence being medication use, previous falls, dependence to carry out activities of daily living and self-care, urinary incontinence, and disorientation in terms of time.

Keywords: Aged; Self Care; Activities of Daily Living; Urinary Incontinence; Ecuador.

RESUMEN

Introducción: el envejecimiento poblacional constituye un reto para los sistemas de salud del cual Ecuador no es ajena.

Objetivo: identificar los factores de riesgo de los grandes síndromes geriátricos presentes en los adultos mayores que acuden al Centro de Salud Mariscal Sucre.

Métodos: estudio observacional, descriptivo y transversal en adultos mayores que acuden al Centro de Salud Mariscal Sucre entre julio y diciembre de 2022. La muestra la constituyeron 48 pacientes. Se emplearon las escalas Downton, índice de Barthel, el ICIQ-SF y escala SPMSQ Pfeiffer.

Resultados: se encontró predominio de pacientes del sexo femenino (62,50 %), de edades entre los 65 y 69 años (70,08 %). El 93,75 % de los pacientes consumía algún medicamento, el 83,33 % presentó caídas previas, el 50 % resultó dependientes o requieren ayuda para subir y bajar escaleras y el 45,83 % para realizarse el aseo personal o para bañarse. El 60,41 % pierde orina varias veces al día y el 18,75 % expuso una afectación máxima del desarrollo de las actividades diarias. El 89,58 % de los adultos mayores no fueron capaces de identificar la hora del día y la fecha.

Conclusiones: en los adultos mayores del Centro de Salud Mariscal Sucre se identificaron factores de riesgo para los grandes síndromes geriátricos, siendo los que presentaron mayor incidencia el consumo de medicamentos, las caídas previas, dependencia para la realización de actividades de la vida diaria y de autocuidado, la incontinencia urinaria y la desorientación en cuanto al tiempo.

Palabras clave: Anciano; Autocuidado; Actividades Cotidianas; Incontinencia Urinaria; Ecuador.

INTRODUCTION

Latin America and the Caribbean are currently facing a process of demographic transition from which Ecuador is not exempt. While in 1985 older adults represented 4 % of the Ecuadorian population, by 2017 they constituted 10,2 %. This transition is determined by the reduction in fertility, the increase in life expectancy at birth (from 67,5 in the 1990s to 77,3 % for the period 2020-2025) and therefore a decrease in mortality, causing an increase in longevity, with changes in the demographic structure and roles in society. This poses an economic, social, legal, institutional, cultural challenge, but above all for health systems.⁽¹⁾

Aging has a direct impact on the health of the population, with an increase in the incidence and prevalence of chronic noncommunicable diseases, which generate economic burdens, both for health systems and for the community and the family. It is therefore necessary to devise social strategies aimed at promoting healthy aging.⁽²⁾

In the case of health systems, there are several strategies to be followed, including the recruitment of human resources increasingly specialized in the care of this population group, the development of subspecialties, postgraduate courses, master's degrees and doctorates oriented to aging. Similarly, the protocols for action in different situations should be updated and human resources should be trained in the timely identification of symptoms suggestive of diseases that may go unnoticed.

Over the years, a group of conditions called major geriatric syndromes have been addressed, namely cognitive impairment,⁽³⁾ falls, immobility, incontinence and frailty.⁽⁴⁾ These are the result of physiological wear and tear produced by the passage of time, causing the loss of the body's ability to respond efficiently to the demands of the environment.⁽⁵⁾

One of the strategies to be adopted with respect to these major geriatric syndromes is the identification of their risk factors in the older adult population, with the aim of providing comprehensive care, with appropriate follow-up, in which health personnel, the family and the older adult himself actively participate.

Several scales have been created with the aim of identifying the factors that influence the development of these geriatric syndromes. The Downton scale is an instrument created by J.H. Downton of England. It unites several screening criteria, as well as different risk factors for falls.⁽⁶⁾

The Barthel index is an instrument used, in general, to measure the degree of independence of a person for the performance of daily activities, as well as the risk of immobility.⁽⁷⁾

The International Consultation on Incontinence Questionnaire Short Form (ICIQ-SF) was created in 1999 with the aim of detecting symptoms suggestive of urinary incontinence, as well as its impact on the individual's daily life.⁽⁸⁾

The Pfeifferun Short Portable Mental Status Questionnaire (SPMSQ) is a cognitive screening and diagnostic support tool for dementia, designed specifically for the elderly. This test is easy to administer, as it does not require any specific material for its performance and can be applied by any health professional.⁽⁹⁾

This research was developed with the aim of identifying risk factors for major geriatric syndromes present in older adults attending the Mariscal Sucre Health Center.

METHODS

An observational, descriptive and cross-sectional study was conducted in older adults attending the Mariscal Sucre Health Center, Carchi Province, between July and December 2022.

The study population consisted of all the older adults who attended the Mariscal Sucre Health Center during the study period; the sample consisted of 48 patients, selected by simple random sampling. Those older adults who agreed to participate in the study were included in the study.

Theoretical level methods were used (Analytical-Synthetic, Inductive-Deductive, Historical-Logical, Systemic Approach). At the empirical level, observation and survey were used.

The survey was structured in 10 closed questions, whose purpose was to obtain reliable and accurate data on the risk factors that influence geriatric syndromes in older adults attending the Mariscal Sucre Health Center. The questions included variables designed to collect general patient information (age, sex, marital status, knowledge of geriatric syndromes), and questions designed to identify the presence of risk factors for major geriatric syndromes. Other questions contained items from the Downton scales, Barthel index, Consultation on Incontinence Questionnaire Short Form (ICIQ-SF), test for cognitive impairment and SPMSQ Pfeiffer scale.

The data collected in the surveys were entered into a database created for this purpose and subsequently processed in the SPSS statistical package. Descriptive statistics were used to analyze the data by calculating the respective absolute and relative percentage frequencies.

The present study followed the principles of medical ethics and bioethics (beneficence, nonmaleficence, autonomy and justice). The data used will only be used for academic purposes, without revealing the identity of the patients. Approval of the study was requested by the medical ethics committee and the scientific committee of the institution.

RESULTS

Patients were predominantly female (62,50 %), aged between 65 and 69 years (70,08 %), single (29,16 %) and living with their husbands or wives or with their partners (43,75 %) (Table 1).

Table 1. Distribution according to sociodemographic variables of older adults attending the Mariscal Sucre Health Center, July and December 2022.

Variable	Scale	No.	%
Sex	Male	18	37,5
	Female	30	62,5
Age	65 a 69	37	77,08
	70 a 74	7	14,59
	years or older	4	8,33
Marital status	Single	14	29,16
	Married	12	25
	Widowed	6	12,5
	Divorced	8	16,67
	Unmarried	8	16,67
Cohabitation	Spouse or partner	21	43,75
	Children	7	14,58
	Other	20	41,67

The older adults were surveyed on whether they were aware of the major geriatric syndromes, where 93,75 % (n=45) did not know what they were.

The risk of falls was evaluated by applying items of the Downton scale (Fig. 1), which showed that 93,75 % of the patients consumed some medication and 83,33 % reported previous falls; no patient presented a confused mental state.

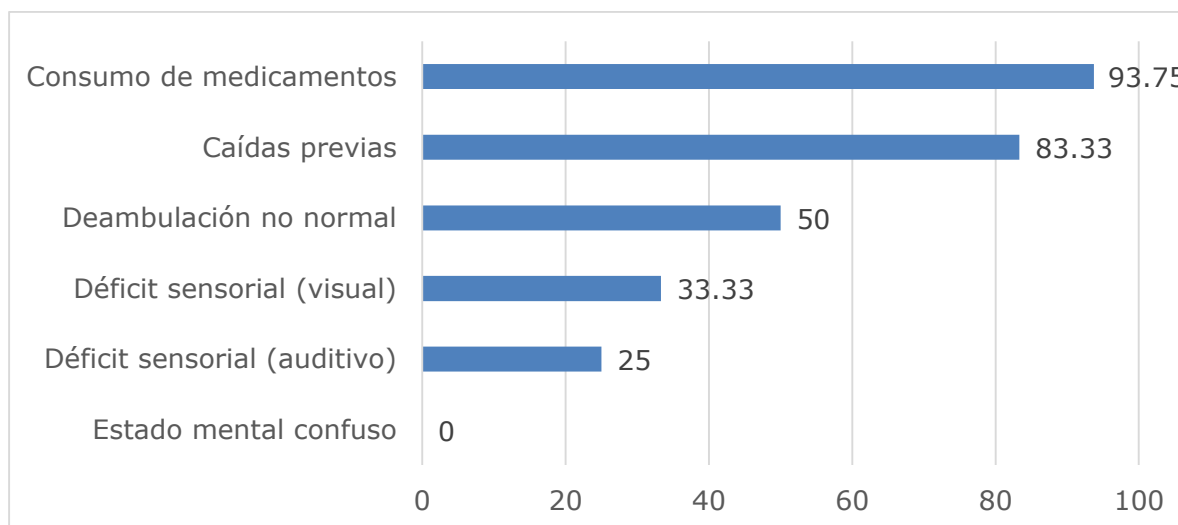


Fig. 1 Risk factors for falls.

With respect to the risk of immobility measured by the Barthel Index, it was found that 50 % of the patients are dependent or require help to go up and down stairs and 45,83 % to perform personal hygiene or bathing (Table 2).

Table 2. Risk factors for immobility measured by Barthel Index

Item	Dependent/With assistance		Independent	
	No	%	No	%
Eating	13	27,08	35	72,92
Transferring from wheelchair to bed	20	41,67	28	58,33
Personal grooming	22	45,83	26	54,17
Toilet use	13	27,08	35	72,92
Bathing	22	45,83	26	54,17
Getting around	15	31,25	33	68,75
Going up and down stairs	24	50	24	50
Dressing and undressing	14	29,17	34	70,83
Stool	3	6,25	45	93,75

It was identified that 60,41 % reported losing urine several times a day or continuously, 37,5 % reported losing a moderate/large amount, 18,75 % reported maximum impairment of daily activities and 16,67 % reported losing urine when sneezing.

Regarding mental impairment, 89,58 % of the older adults were not able to identify the time of day and date (Table 3).

Table 3. Results of the application of the SPMSQ Pfeiffer Scale

Question	Yes		No	
	No	%	No	%
Identifies time of the day	5	10,42	43	89,58
Identifies day of the week	5	10,42	43	89,58
Identifies place where you are	47	97,92	1	2,08
Remembers phone number	47	97,92	1	2,08
Remembers address	47	97,92	1	2,08
Remembers her/his date of birth	32	66,67	16	33,33
Recalls their age	38	79,17	10	20,83
Recalls the current president of the country	41	85,42	7	14,58
Recalls the past president of the country	41	85,42	7	14,58
Can remember his/her mother's maiden name	48	100	0	0
Can count down 3 by 3 starting at 20	29	60,42	19	39,58

DISCUSSION

The sociodemographic structure of the population studied, with a predominance of females and age groups from 65 to 69 years, coincides with the population pyramid of Ecuador, according to the data presented by Forttes Valdivia.⁽²⁾

The study by Álvarez Córdova et al.⁽¹⁰⁾ found a predominance of single patients, a result that coincides with that identified in the present study. This fact is of interest, since one of the determining factors in healthy aging is social and family interactions and support. Functional abilities are multidimensional; therefore, they depend on the individual's own capacities, as well as the environment, the people around him/her and their interactions. They depend on the different domains and subdomains that determine mobility, physical activity, as well as sensory, psychological and cognitive states.⁽¹¹⁾

A study conducted in Mexico by Hernández-Ramírez,⁽¹²⁾ in 364 older adults identified that 47,8 % of the patients had had a fall in the last 6 months, either inside or outside the home, 6,9 % had visual problems and 3 % had hearing problems, these data being lower than those reported in the present study.

The changes caused by aging condition the loss of physical capacities, as well as functional physical performance, which added to the presence of associated diseases constitute a risk factor for suffering falls. One of the actions to be taken is the participation of older adults in physical exercise programs with specialized personnel to help preserve the physical capacity of the elderly.

Similarly, health systems should devise strategies aimed at educating the family and the older adult about the risk factors for falls, allowing their identification in the home, making it friendly to the elderly.

The state of functional independence of an older adult constitutes one of the essential pillars to guarantee healthy aging. This aspect values the self-sufficiency of the individual to develop his or her life in a normal way, generally associated with the level of life satisfaction.

The study by Álvarez Córdova et al.⁽¹⁰⁾ showed that 53,5 % of the patients presented functional independence, which is comparable to the results of the present study according to the Barthel Index.

Parodi et al.⁽¹¹⁾ identified limited mobility in 58,6 % of their patients, with greater immobility and risk of immobility, data which are higher than those reported by the present study. Regarding immobility, she determined that this was associated with inadequate social support ($p < 0.001$) and was more common in the female sex ($n = 190$, 72,2 %; $p < 0,001$).

Regarding urinary incontinence, a study conducted by Torres Andrade et al.⁽¹³⁾ in a study conducted in geriatric centers in the province of Imbabura, identified the presence of urinary incontinence in 57 % of the study population, where 41 % presented stress urinary incontinence, 40 % mixed and 19 % urgency urinary incontinence. Likewise, 96 % reported losses in their quality of life. These results differ from the present study, and the affectation of quality of life is higher than in the present study. One factor that may influence the differences is that the study by Torres Andrade et al.⁽¹³⁾ was carried out in 299 females, and the present study includes patients of both sexes.

It is known that aging brings with it changes in the neuroanatomy, either by an atrophy of the encephalic mass, as well as by a malfunction or decrease in the availability of some neurotransmitters. This results in a loss of cognitive processes such as attention, temporo-spatial location, memory, and processing capacity and speed.⁽¹⁴⁾

There are several scales used to measure cognitive impairment in older adults; one example is the SPMSQ Pfeiffer scale which has been validated in the Ecuadorian context. The study by Angamarca Coello et al.⁽¹⁵⁾ was conducted to determine the efficacy of the Mini Mental and SPMSQ questionnaires to detect the existence of cognitive impairment in people over 65 years of age. The study found an AUC value=0.979 for SPMSQ, sensitivity of 100 and specificity of 70 at a cut-off of 10/6.

To improve this situation, it has been proposed to perform exercises that slow down cognitive decline, through cognitive stimulation by means of practical exercises of memory, language, calculation among others.⁽¹⁴⁾ Similarly, the systematic practice of physical exercise has shown its benefits on brain function in the elderly.^(5,16)

It is concluded that risk factors for the major geriatric syndromes were identified in the older adults of the Mariscal Sucre Health Center, with the highest incidence being the consumption of medications, previous falls, dependence in the performance of activities of daily living and self-care, urinary incontinence and disorientation in terms of time.

Conflict of interest

The authors declare that there is no conflict of interest.

Authors' Contribution

All authors participated in conceptualization, formal analysis, project management, writing - original draft, writing - revision, editing and approval of the final manuscript.

Funding

The authors did not receive funding for the development of this research.

BIBLIOGRAPHIC REFERENCES

1. Quispe-Fernández GM, Ayaviri-Nina D, Djabayan-Djibeyan P, Arellano-Cepeda O. El costo de la salud en adultos mayores: Un estudio descriptivo y retrospectivo en Ecuador. *Inf tecnol.* [Internet]. 2021 [citado 12/05/2023]; 32(5):75–90. Disponible en: http://www.scielo.cl/scielo.php?script=sci_arttext&pid=S0718-07642021000500075&lng=en&nrm=iso&tlng=en
2. Forttes Valdivia P. Envejecimiento y atención a la dependencia en Ecuador [Internet]. Banco Internacional de Desarrollo. 2020. Disponible en: <http://www.gerontologia.org/portal/archivosUpload/uploadManual/Envejecimiento-y-atencion-a-la-dependencia-en-Ecuador.pdf>
3. Pinto Cabrera JE. Deterioro cognitivo y funcional como grandes síndromes geriátricos desde la neurorehabilitación fisioterapéutica. *Rev Académica CUNZAC* [Internet]. 2023 [citado 12/05/2023]; 6(1):62–8. Disponible en: <https://www.revistacunzac.com/index.php/revista/article/view/94>
4. Menéndez Colino R, Mauleón Ladrero MC, Condorhuaman Alvarado P, González Montalvo JI. Aspectos terapéuticos de los grandes síndromes geriátricos. *Tratamientos farmacológicos y no farmacológicos. Indicaciones. Med - Programa Form Médica Contin Acreditado* [Internet]. 2017 [citado 12/12/2022]; 12(46):2743–54. Disponible en: <https://linkinghub.elsevier.com/retrieve/pii/S0304541217303050>
5. Martín-Barra C, Rojas-Zepeda C, Sáez-Delgado F. Efectos de la actividad física sobre el envejecimiento cerebral saludable. *Revisión sistemática. Salud, Ciencia y Tecnología* [Internet]. 2023 [citado 12/05/2023]; 3(2023): 415. Disponible en: <https://doi.org/10.56294/saludcyt2023415>
6. Gutiérrez Pérez ET, Meneses Foyo AL, Andrés Bermúdez P, Gutiérrez Díaz A, Padilla Moreira A. Utilidad de las escalas de Downton y de Tinetti en la clasificación del riesgo de caída de adultos mayores en la atención primaria de salud. *Acta Médica del Cent* [Internet]. 2022 [citado 12/12/2022]; 16(1):127-140. Disponible en: <https://revactamedicacentro.sld.cu/index.php/amc/article/view/1481>
7. Duarte Ayala RE, Velasco Rojano ÁE. Validación psicométrica del índice de Barthel en adultos mayores mexicanos. *Horiz Sanit* [Internet]. 2021 [citado 12/12/2022]; 21(1):113-120. Disponible en: <https://doi.org/10.19136/hs.a21n1.4519>

8. Grøn Jensen LC, Boie S, Axelsen S. International consultation on incontinence questionnaire – Urinary incontinence short form ICIQ-UI SF: Validation of its use in a Danish speaking population of municipal employees. Rosier PFWM, editor. PLoS One [Internet]. 2022 [citado 12/12/2022]; 17(4): e0266479. Disponible en: <https://dx.plos.org/10.1371/journal.pone.0266479>
9. Teigão FCM, Moser AD de L, Jerez-Roig J. Tradução e adaptação transcultural do Short Portable Mental Status Questionnaire (SPMSQ) de Pfeiffer para pessoas idosas brasileiras. Rev Bras Geriatr e Gerontol [Internet]. 2020 [citado 12/12/2022]; 23(4):[aprox 14 pp]. Disponible en: http://www.scielo.br/scielo.php?script=sci_arttext&pid=S1809-98232020000400211&tIng=pt
10. Álvarez Córdova LR, Artacho R, Arteaga C, Pérez DF, Sierra Nieto VH, Ruiz-López MD. Comprehensive geriatric assessment in a marginal community of Ecuador. Nutr Hosp [Internet]. 2020 [citado 12/12/2022]; 37(5):926–32. Disponible en: <https://doi.org/10.20960/nh.03040>
11. Parodi JF, Runzer-Colmenares FM. Impact of social support on limited mobility in older people in high Andean communities in Peru. Rev Panam salud publica [Internet]. 2021 [citado 12/12/2022]; 45:e88. Disponible en: <http://www.ncbi.nlm.nih.gov/pubmed/34475884>
12. Hernández-Ramírez M, Juárez-Flores CA, Báez-Alvarado M del R, Lumbreras-Delgado I, Banderas Tarabay JA. Valoración de la dependencia funcional en adultos mayores asociado a riesgo de caídas en el hogar. Horiz Sanit [Internet]. 2020 [citado 12/12/2022]; 19(1):[aprox. 12 pp]. Disponible en: <https://revistas.ujat.mx/index.php/horizonte/article/view/3546>
13. Torres Andrade CS, Esparza Echeverría KG. Incontinencia Urinaria y su afectación en la Calidad de Vida, en centros geriátricos de la provincia de Imbabura: Urinary incontinence and its effect on quality of life, in geriatric centers of the Province of Imbabura. La U Investig [Internet]. 2020 [citado 12/12/2022]; 7(2):88–95. Disponible en: <http://revistasojs.utn.edu.ec/index.php/lauinvestiga/article/view/428>
14. Hidalgo MA, Hernández CEP, Pico OMA, León EL. Cuidados para la salud del adulto mayor. Medisur [Internet]. 2023 [citado 12/05/2023]; 21(3):[aprox 10 pp]. Disponible en: <https://medisur.sld.cu/index.php/medisur/article/view/5825/4203>
15. Angamarca Coello DE, González Ortega Á, Muñoz Palomeque DG, Domínguez Villizhañay JD. Eficacia del mini mental y PFEIFFER (SPMSQ) para detectar deterioro cognitivo en mayores de 65 años. Rev Vive [Internet]. 2020 [citado 12/12/2022]; 3(9):149–57. Disponible en: <https://revistavive.org/index.php/revistavive/article/view/55>
16. Sánchez Rojas IA, Ayala Noy EG. Prescripción del ejercicio en paciente crítico adulto: una propuesta desde la planificación del entrenamiento. Rev UNIANDÉS Ciencias la Salud [Internet]. 2018 [citado 12/12/2022]; 1(1):2–17. Disponible en: <https://revista.uniandes.edu.ec/ojs/index.php/RUCSALUD/article/view/1080>