Interdisciplinary Rehabilitation / Rehabilitación Interdisciplinaria. 2023; 3:45
doi: 10.56294/ri202345

ORIGINAL

Characteristics of the Dementia Syndrome in Primary Health Care

Características del Síndrome Demencial en la Atención Primaria de Salud

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Cite as: Matos-Rodríguez A, Sargenton-Savon S, Mosqueda-Lobaina Y, Chibas-Muñoz EE. Características del Síndrome Demencial en la Atención Primaria de Salud. Interdisciplinary Rehabilitation / Rehabilitación Interdisciplinaria. 2023;3:45. https://doi.org/10.56294/ri202345

Submitted: 18-04-2023 **Revised:** 12-05-2023 **Accepted:** 29-06-2023 **Published:** 30-06-2023

Editor: Prof. Dr. Carlos Oscar Lepez

Peer-reviewed paper

ABSTRACT

Introduction: dementia is one of the most important organic brain disorders. It manifests itself chronically and progressively, with the presence of alterations in cognitive functions such as memory, thought, orientation, calculation, language and learning capacity without having to produce, in principle, a disorder in consciousness.
Objective: to characterize patients diagnosed with dementia syndrome in the Geriatrics Clinic of the "Asdrúbal López Vázquez" Polyclinic in Guantánamo during the period from June 2019 to July 2021.
Methods: an observational, descriptive cross-sectional study was carried out in the "Asdrúbal López Vázquez" Polyclinic in the municipality and province of Guantánamo. In the statistical analysis, the variables sex, age group, school level, toxic habits, family pathological history, personal pathological history, cognitive impairment group according to the Minimental Test Examination, the level of independence of the patients according to the Katz index and the index of Lautow, through the SPSS 23.0 statistical package, descriptive indicators were obtained, as well as totals and percentages.
Result: according to the results of the Folstein Mini Mental Test and Sex, we found a predominance of the female sex in the group with cognitive impairment with 21,7 % (17), it can be seen that the school level is statistically significant (p= 0,001) to talk about dementia syndrome, low school level has 5,53 times more risk (RR=5,5).
Conclusions: the female sex, low school level, smoking and arterial hypertension are risk factors for cognitive impairment.

Key words: Dementia; Cognitive Functions; Dementing Syndrome.

RESUMEN

Introducción: la demencia es uno de los trastornos cerebrales orgánicos más importantes. Se manifiesta de forma crónica y progresiva, con presencia de alteraciones en funciones cognitivas como la memoria, el pensamiento, la orientación, el cálculo, el lenguaje y la capacidad de aprendizaje sin tener que producir, en principio, un trastorno en la conciencia.
Objetivo: caracterizar a los pacientes con diagnóstico de síndrome demencial en la consulta de Geriatría del Policlínico "Asdrúbal López Vázquez" en Guantánamo durante el período de junio de 2019 a julio de 2021.
Métodos: se realizó un estudio observacional, descriptivo de corte transversal en el Policlínico "Asdrúbal López Vázquez" en el municipio y provincia Guantánamo. En el análisis estadístico se extrajeron las variables sexo, grupo de edad, nivel escolar, hábitos tóxicos, antecedentes patológicos familiares, antecedentes

patológicos personales, grupo de deterioro cognitivo según Minimental test Examination, Nivel de independencia de los pacientes según índice de Katz e índice de Lautow, a través del paquete estadístico SPSS 23.0, se obtuvieron los indicadores descriptivos, así como los totales y porcentajes.
Resultados: según los resultados del Mini Mental Test Folstein y el Sexo, encontramos un predominio del sexo femenino en el grupo con deterioro cognitivo con un 21,7 % (17), se puede apreciar que el nivel escolar es estadísticamente significativo (p= 0,001) para hablar de síndrome demencial, el bajo nivel escolar tiene 5, 53 veces más riesgo (RR=5,5).
Conclusiones: el sexo femenino, el bajo nivel escolar, el tabaquismo y la Hipertensión arterial constituyen factores de riesgo para padecer deterioro cognitivo.

Palabras clave: Demencia; Funciones Cognitivas; Síndrome Demencial.

INTRODUCTION

Dementia is one of the most important organic brain disorders. It manifests itself chronically and progressively, with alterations in cognitive functions such as memory, thinking, orientation, calculation, language and learning ability without initially causing consciousness disorders. However, it can lead to deterioration in emotional control, social behavior, or motivation. The clinical diagnosis of dementia is based on the detection of a set of symptoms following international diagnostic criteria accepted by the scientific community (Ochoa, 1996).[1]

It has been estimated that the number of people with dementia would increase from 57,4 million cases worldwide in 2019 to 152,8 million cases by 2050. Despite significant increases in the projected number of people living with dementia, the age-standardized prevalence of both sexes remained stable between 2019 and 2050. The predominance of the female sex is projected to continue until 2050.[2]

In the current millennium, dementia syndromes constitute a worldwide major health issue as a result of progressive aging of the population. According to the World Health Organization (WHO), dementia affects 50 million people worldwide and about 60 % of them live in low- and middle-income countries.[3]

By the second decade of this century, there were 3,4 million people with dementia in Latin America and the Caribbean. By 2020 this number increased to 4,1 million, and it is expected to increase to 9,1 million by 2040, similar to data from North America.[4]

In Cuba, it is estimated that there are 130,000 people with Alzheimer's disease or related dementia. This number will increase to 260,000 people by 2030, with 28,570 new cases per year. The number of Cubans with dementia will increase by 2,3 times by 2040, that is, 300,000 people with dementia. This number represents 2,7 % of the population.[5,6]

The above figures are alarming even earlier the projection that Cuba will arrive in 20 years to 31 % of its population aged 60 and over, and it will be at that time the oldest country in Latin America and the Caribbean and in 2050 it would be among the 11 oldest countries in the world, with 38 %.[7]

Undoubtedly, dementia is a global public health priority because of its high prevalence, the devastating effect it has on patients and their families, its impact on health and social assistance systems, its economic cost, and the need to establish comprehensive action plans to address it.[8,9]

The objective of this research is to characterize patients diagnosed with dementia syndrome in the Geriatrics Clinic of the "Policlínico Asdrúbal López Vázquez" in Guantánamo from June 2019 to July 2021.

METHOD

Observational, descriptive cross-sectional study on patients diagnosed with dementia syndrome from the Geriatrics Clinic of the "Policlínico Asdrúbal López Vázquez" in the municipality and province of Guantánamo, Cuba, from June 2019 to July 2021.

The study population consisted of 184 senescent patients aged 60 and older who were administered the Mini Mental State Examination. The simple random sampling selected 78 patients. This sample was divided into two series of groups based on the presence of cognitive impairment. A group of 26 patients who tested positive were classified with cognitive impairment, while the second group of 52 patients was classified without cognitive impairment. Both groups met the following criteria.

Inclusion criteria: patients aged 60 and older with alterations in cognitive functions.

Exclusion criteria: patients with psychiatric diseases, consciousness degradation, undergoing electroconvulsive therapy, suffering from aphasia, hearing impairment, blindness or visual impairment.

To obtain the primary data, patients were surveyed using Mini Mental State Examination in order to detect cognitive impairment. It was classified as mild, moderate and severe. Authors created a form with the following variables: sex, age group, educational level, toxic habits, family pathological history, personal pathological history, group of cognitive impairment according to Mini Mental State Examination, and level of independence

of patients according to Katz Index and Lawton Index.

For data processing and analysis, a database was created in a Microsoft Excel 2016 spreadsheet. The corresponding descriptive indicators (absolute frequency and relative percentage) were obtained using statistical software SPSS 23.0. Subsequently, a comparative analysis of the variables was done using the relative risk (RR) to establish the variables that posed a risk factor in the studied population. The Odds Ratio (OR) was used with a confidence interval (CI) at 95%. Values of $p < 0,05$ were considered significant.

Instruments used

Folstein´s Mini Mental State Examination is an internationally validated test for the diagnosis of cognitive impairment. The patient is assigned a qualitative score on an ascending scale. The lower the score, the greater the cognitive impairment, and vice versa. The maximum total score is 30, and scores below 24 points suggest cognitive impairment.

The Katz Index is a scale based on a dichotomous "independence-dependence" basis. The instructions and the observation protocol also allow differentiation between older individuals who perform the activity with human assistance and those who do so without such assistance. For scoring purposes, however, only the latter is assessed as independent. It consists of 6 elements arranged in a Guttman Scale according to which there would be a natural progression, both in the loss and in the recovery after rehabilitation of skills for daily living. Each element has 3 possible answers. Based on the total score, patients are classified into 8 groups.

Lawton Index assists in the detection of early signs of functional impairment in the elderly living at home or in long-term care facilities, allowing regular monitoring of the elderly at risk of disability. It evaluates 8 activities: using the phone, cooking, washing clothes, doing household chores, using transportation, managing finances, shopping, administering medications. In terms of validity and reliability, it has been confirmed that the validity of this index is of relevance in the clinical context for targeting and planning health services, as well as for evaluating them. Reliability measures with the basic components are considered acceptable. Its application in the clinic setting allows the early detection of the therapeutic plan and identification of the need for assistance.

For the conduct of this research, approval from the Medical Ethics and Research Committee of Hospital General Docente Dr. Agostinho Neto was sought. All the information obtained was used solely for scientific purposes, and the ethical principles outlined in the Declaration of Helsinki were taken into account.

RESULTS

In table 1 according to the distribution of patients by age, a predominance of patients without cognitive impairment was observed, accounting for 66,6 % (52), primarily in the group of 60 to 69 years old, with 38,4 % (30). When applying inferential statistics, it is observed that age does not constitute a risk factor despite having statistically significant values (p= 0,05).

According to the results of the Folstein´s Mini Mental State Examination and sex variable, we found a predominance of females in the group with cognitive impairment, accounting for 21,7 % (17). However, in the group without cognitive impairment males predominated with 47,4 % (37). When applying inferential statistics we can observe that sex is statistically significant (p= 0,001) and that females have 2,72 times higher risk of cognitive impairment compared to males with 95% certainty.

Regarding patients and their toxic habits, we observed a predominance of tobacco consumption in the group with cognitive impairment, accounting for 21,7 % (17) while in the group without cognitive impairment coffee consumption predominated with 37,1 % (29). When we examined the results of inferential statistics we noted that there are no significant differences between groups, but it is demonstrated that smoking constitutes a risk factor, and those who smoke have a 1,66 times higher risk of cognitive impairment.

Table 1. Distribution of patients studied with dementia syndrome according to age groups, sex, and toxic habits

Variable		With dementia syndrome		Without dementia syndrome		Total		P	RR (CI 95%)
		No	%	No	%	No	%		
Age groups	60 to 69	8	10,2	30	38,4	38	48,6	0,05[a]	0,42
(Years)	70 to 79	10	12,8	10	12,8	20	25,6		
	80 to 89	6	7,6	8	10,2	14	17,8		
	Older than 90	2	2,5	4	5,1	6	10,3		
Total		**26**	**33,3**	**52**	**66,6**	**78**	**100**		

https://doi.org/10.56294/ri202345

Sex	Male	9	11,5	37	47,4	46	58,9	0,001[a]	2,72
	Female	17	21,7	15	19,2	32	41,2		
Total		**26**	**33,3**	**52**	**66,6**	**78**	**100**		
Toxic habits	Smoking	17	21,7	16	20,5	33	42,3	0,11712	1,66
	Coffee	13	16,6	29	37,1	42	16,6		
	Alcoholism	4	5,1	0	0	4	5,12		
Total (n=78)		**34**	**43,5**	**45**	**57,6**	**-**	**-**		

Source: Form. "Policlínico Asdrúbal López Vázquez". July 2021

Abbreviatons: [a]statistically significant, RR: Relative risk, CI: Confidence interval

Observing the results in table 2, it can be inferred that there is a predominance of primary educational level with 17,9 % (14) in the group with cognitive impairment, and in the group without cognitive impairment those with basic secondary educational level predominated with 33,3 % (26). When applying inferential statistics, it is observed and affirmed with a 95% certainty that there are significant differences (p= 0,001) between the groups. Low educational level is a risk factor. Patients with primary educational level have 5,53 times higher risk of cognitive impairment.

Table 2. Frequency distribution of patients studied with dementia syndrome according to educational level

Educational level	With dementia syndrome		Without dementia syndrome		Total		P	RR (CI 95%)
	No	%	No	%	No	%		
Primary	14	17,9	5	6,4	19	24,3	0,001[a]	5,53
Secondary	4	5,1	26	33,3	30	38,4		
Pre-University	7	8,9	15	19,2	22	25,6		
University	1	1,2	6	7,6	7	8,9		
Total	**26**	**33,3**	**52**	**66,6**	**78**	**100**		

Source: Form. "Policlínico Asdrúbal López Vázquez". July 2021

Abbreviatons: [a] statistically significant, RR: Relative risk, CI: Confidence interval

Table 3 shows the frequency distribution of patients studied with dementia syndrome according to family pathological history. Family members without history of such conditions predominated in both groups, with and without cognitive impairment (88,5 % and 71,3 %, respectively). When calculating the relative risk, especially with respect to the mother and the father, we found that in both groups, having parents with dementia or some psychiatric disorder constitutes a risk factor. Individuals whose parents have had such disorders are twice as likely to develop dementia syndrome.

Table 3. Frequency distribution of patients studied with dementia syndrome according to family pathological history

FPH	With dementia syndrome								Without dementia syndrome							
	Grandpa		Father		Mother		Brother		Grandpa		Father		Mother		Brother	
	No (n=78)	%	No (n=78)	%	No (n=78)	%	No (n=78)	%	No (n=78)	%	No (n=78)	%	No (n=78)	%	No (n=78)	%
Dementia	10	9,6	7	26,9	9	34,6	4	23,5	52	25,0	13	25,0	18	34,6	2	2,6
PD	2	1,9	1	3,8	3	11,5	3	17,6	7	3,4	1	1,9	3	5,7	4	5,2
No history	92	88,5	18	69,2	14	53,8	10	58,8	149	71,6	38	73,1	31	59,6	70	92,1

Source: Form

Father and Mother RR= 1,75 p≥0,05 (p= 0,49356), RR= 1,68 p≥0,05 (p= 0,51525)

Abbreviatons: RR: Relative risk FPH: Family pathological history PD: Psychiatric disorders.

When looking at the results from table 4, it can be interpreted that in both groups, with and without cognitive impairment, patients with hypertension predominated, with 76,9 % (20) and 50 % (26), respectively.

https://doi.org/10.56294/ri202345

Table 4. Frequency distribution of patients studied with dementia syndrome according to personal pathological history

Personal pathological history	With dementia syndrome (n=26)		Without dementia syndrome (n=52)	
	No	%	No	%
HTA	20	76,9	26	50,0
Tobacco use	17	65,4	8	15,4
Diabetes mellitus	8	30,8	10	19,2
Alcohol consumption	4	15,3	5	9,6
Cerebrovascular disease	3	11,5	2	3,8
Heart disease	2	7,6	5	9,6
COPD	1	3,8	3	5,8
Parkinson's disease	1	3,8	0	0
HIV	1	3,8	0	0
Liver disease	0	0	2	3,8
Epilepsy	1	3,8	0	0
Thyroid disease	0	0	0	0
Recent traumatic brain injuries	0	0	0	0

Source: Form.

In table 5, we observe a predominance of independent patients, accounting for 65,3 % (17) with respect to the Kazt Index for basic activities of daily living. In contrast, there is predominance of dependent patients with 69,2 % (18) according to the Lawton Index for performing instrumental activities of daily living.

Table 5. Frequency distribution of patients studied with dementia syndrome according to the level of independence in relation to the Kazt Index and the Lawton Index

Level of independence	Dementia syndrome			
	Kazt Index		Lawton Index	
	Basic activities of daily living		Instrumental activities of daily living	
	No	%	No	%
Independent patients	17	65,3	8	30,7
Dependent patients	9	34,6	18	69,2
Total	**26**	**100**	**26**	**100**

Source: Form

DISCUSSION

Pérez Martinez et al.[10] reported in their study that, after applying the Folstein´s Mini Mental State Examination, they observed a progressive increase in cognitive impairment with age. Patients between 70-79 years old showed the highest rates, followed by those aged 80 and older. These results diverged from those obtained by the authors Hernandez Ulloa et al.[11]. In their study, they suggested that in developing countries, individuals reach old age with a greater deterioration in their quality of life and a higher accumulation of associated chronic diseases. This is conditioned by unhealthy lifestyles, poor eating habits and deficient health systems, especially in low- and middle-income countries.

The authors state that with the increase in life expectancy in our country, which has already reached 75 years old, we will increasingly have to face senescent patients with mental deterioration. Although age does not constitute a risk factor in our study, health care personnel should adopt a preventive approach with timely treatment for elderly patients so they can achieve a better quality of life.

Hernández Ulloa et al.[12] reported that 66 % of the participants were women, of whom 12,7 % showed some type of dementia, in accordance with our study. It is suggested that the impact of dementia and its symptoms is much greater in women than in men, especially in low- and middle-income countries. These results are similar to those of Llibre Guerra et al.[13].

In their study, Perez Martinez et al.[10] found a predominance of the females among patients with dementia syndrome, accounting for 63,4 %, especially among those aged 75 years and older.

Females are statistically linked to a higher prevalence of emotional stress and sudden emotional changes which, to some extent, can be a risk factor that ultimately may contribute to the development of this disease.

Martinez Querol et al.[14] affirm that smoking and hypertension were predominant risk factors in patients with dementia syndrome. These results are similar to those obtained in our study.

In fact, smoking as a toxic habit has historically been a risk factor for various diseases. Our research reaffirms this and emphasizes the role of health care services in reinforcing preventive measures to prevent the appearance of this factor in older adults. In addition to this, hypertension is a long-standing harmful comorbidity in individuals, which chronically and systematically affects the body. Our study also demonstrates that hypertension is prevalent. This underscores the importance of rigorous and lifelong treatment, and control measures, that these patients must follow in managing this comorbidity. The strong relationship between age and hypertension is a significant factor in this study.

Hernández Ulloa et al.[15] reported in their study that education has a protective effect, which means that the higher the educational level, the lower the prevalence of dementia. These results largely agree with ours.

Studies conducted by Terrado Quevedo et al.[16] and Calzado Salomón et al.[17] reported that the prevalence of dementia was zero in older adults who attended university. Some other research highlight the role of education in relation to dementia, such as the Declaration of Helsinki of the World Medical Association (2001).[18]

The education system of each country plays a fundamental role in this, as it must guarantee access to education for all citizens and ensure the quality and sustainability of this right. This a critical factor which usually favors the lower prevalence of this disease in the adult population.

In their study, Martinez Querol et al.[14] comment on the strong relationship between family history of dementia and and a history in healthy individuals is regenerative. Specialized literature such as publications by Issell Bacher et al.[19] and Alewijn, Monique, et al.[20], establish an increase in the risk (2 to 7 times) of Alzheimer's disease among the relatives of patients with this condition, especially in cases starting before the age of 70. This data is consistent with that reported in our study.

Llibre Guerra et al.[13] state that in people who did not maintain an active social life, the risk of dementia doubled. In this sense, it has been studied that a socially integrated and active lifestyle, as well as the practice of leisure activities, could protect against the development of dementia. Regular physical activity is associated with good mood and a positive affective state, which contributes to the improvement of physical and cognitive functions, as well as the reduction of anxiety and depression. Conversely, the lack of physical activity can lead to a higher risk of developing dementia.

As reported in table 5, the authors state that patients with dementia should not become a burden on their families, since many of them maintain some degree of independence for basic activities of daily living such as bathing, dressing, eating on their own, and other household activities.

CONCLUSION

According to the results of the Folstein´s Mini Mental State Examination, patients without cognitive impairment predominated in the 60 to 69 years age group. Significant differences were found between groups, but age was not a risk factor for cognitive impairment. Females predominated in the group with cognitive impairment. Female sex, low educational level, smoking and hypertension are risk factors for cognitive impairment. According to the Kazt Index and Lawton Index, these patients can perform basic activities of daily living, but not instrumental ones.

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FUNDING

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

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

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https://doi.org/10.56294/ri202345