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Factors associated with cognitive decline in the elderly

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Introduction Improving the quality of life of the elderly will become increasingly crucial. Cognitive decline is an important indicator of quality of life for the elderly.

Objective: The purpose of this study was to determine the associated factors of cognitive impairment of the elderly.

Methods: A cross-sectional study conducted in 2017 including subjects aged 65 and over in a retirement home in Sousse, Tunisia. Two groups were defined: The first group presenting a cognitive decline defined by the MMSE (Mini-Mental State Examination) score <= 20 and the second group having an MMSE score> 20. A logistic regression analysis was used to identify factors associated with cognitive impairment .

Results:

56 patients were included in this study, the mean age was 76.2 ± 9.5. The majority was female (69.6%). 33.9% of subjects had polypathology (more than three pathologies) and 46.4% had polypharmacy (more than three drugs). The most common antecedents were cardiovascular in 42.9%and neuropsychiatric in 42.9%. Antihypertensive treatment was the most prescribed medication in 35.7%. The average SEGA (Short Emergency Geriatric Assessment) score screening for frailty was 9.2 ± 4.1.
39.3% of subjects had a cognitive impairment (MMSE <= 20).

Table I: Factors associated with cognitive impairment (The univariate analysis):

	Cognitive impairment	No Cognitive impairment	p
male sex , n(%)	12(54,5)	5(15.6)	0.002
Polypathology, n(%)	11(50.0)	7(21.9)	0.03
age>80, n(%)	10(45.5)	11(34.4)	0.41
Antecedents			
-neuropsychiatric	13(59.1)	9(28.1)	0.02
-diabetes mellitus	8(36.4)	4(12.5)	0.05
-polypharmacy	12(54.5)	13(40.6)	0.31
- neuroleptic treatment	6(27.3)	2(6.3)	0.05
-antihypertensive treatment	9(40.9)	10(31.3)	0.46
Frailty (SEGA>8)	17(77.3)	10(31.3)	0.001
udenrnutrition (MNA score> 23.5)	16(76.2)	12(50)	0.07
need for assistance	14(63.6)	14(43.8)	0.15
Dependence (ADL<6)	19(86.4)	22(68.8)	0.13

MNA: Mini Nutritional Assessment ; SEGA : Short Emergency Geriatric Assessment; ADL: Activities of Daily Living

In the **multivariate study**, only frailty was significantly associated with cognitive impairment (OR = 7.04, 95% CI [1.02-48.26], p = 0.04)

Discussion and conclusion:

Frailty is now well recognized as a risk factor for cognitive impairement[1.] Mechanisms might include shared subcellular pathophysiology (for example, oxidative stress and protein misfolding)
The results showed that the main factor associated is frailty. Intervention studies are needed to determinate the associated factors with cognitive decline in order to promote a protective lifestyle

1 Robertson, et al; Frailty and cognitive impairment—a review of the evidence and causal mechanisms." *Ageing research reviews*12.4 (2013): 840-851.