Physical and mental determinants of falls in healthy old people: baseline data of the *GABI Study*

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Objectives: To highlight the physical or mental determinants of falls in healthy old people.

Methods: 131 volunteers were assessed for history of fall, fear of falling, co-morbidities, drugs, nutritional status, body composition, grip strength and functional and cognitive performances. People were divided in two groups according history of falls. Mean values were compared by KW and Chi² using SAS 9.3. Results were considered statistically significant at 5% level (p < 0.05). All parameters with a p < 0.25 were then combined into a multivariate logistic regression with stepwise procedure.

Results: 30 (22.9%) volunteers have already fallen the year before and 51 (38.9%) volunteers feel fear of falling . Accurate results are presented enclosed. Briefly, in univariate analysis a difference was observed concerning sex, drugs, a functional limitation related to cognitive performances, anxiety, fear of falling, frail status, ADL, GDS-4, MNA-4, MOCA, grip strength, grip work, skeletal muscle mass, SPPB and fast walking speed (also after correction for the height). After multivariate analysis, only FES-I score and functional limitations related to cognitive performances are different between the two groups.

Conclusion: Fall prevention in healthy old people should consider more sensitive parameters than only physical components.

Aim of this work

To highlight the physical or mental determinants of falls in healthy old people to promote successful aging
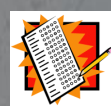
Method

131 volunteers   Functional assessment   Gait tests

Results

Variables	Fallers (n=30) Mean (SD)	N Fallers (n=101) Mean (SD)	P-values uni/multi
Sex (women)	50.5 %	76.7 %	0.011
With antidepressant	40 %	11 %	0.0002
Frailty (mild frails)	34 %	9 %	0.0009
FES-I score / 30	**22.4 (4.35)**	**18.72 (3.17)**	**<0.0001 /0.035**
MOCA score/ 30	25.83 (2.42)	26.74 (2.77)	0.043
With limitation related to cognitive	**47 %**	**19 %**	**0.002 / 0.030**
Grip strength (kPa)	50.60 (13.95)	62.41 (15.78)	0.0003
Skeletal muscle mass/ Kg of BW (Kg)	0.33 (0.06)	0.40 (0.46)	0.016
Fast walking speed (m/sec)	1.52 (0.22)	1.70 (0.23)	0.0006

Conclusions

Physical components are similar in healthy old people with or whitout previous falls .The 2 years follow up should allow to determine if the fear of falling and/or a functional limitation related to cognitive performances are sensitive marker(s) of risk of falling in healthy old people.

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