

# PHYSICAL ACTIVITY, FUNCTIONAL CAPACITY AND QUALITY OF LIFE IN OLDER PEOPLE

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## INTRODUCTION

Gerontological research has shown that there is a marked decline in health with age and an associated demand for expensive medical services (Shepard, 1993). Some previous studies underline sedentary lifestyle as main responsible factor for hypokinetic diseases and reduction in quality of life (Rejeski et al, 1996). By contrast, among the elderly evidences show a positive relationship between regular physical activity and a high physical fitness on reduction of anxiety and depression levels, improving older people's quality of life (ACSM, 1998, 2000; Blair et al, 1995). Otherwise, the acquisition and maintenance of motor skills are critical to the preservation of an independent lifestyle and quality of life in the elderly (Rikli and Edwards, 1991).

The aim of the present study was to evaluate the relationship between physical activity levels, physical fitness and quality of life among institutionalized and non-institutionalized older people.

## METHODS

- Data was collected from fourteen non-institutionalized elderly [mean  $\pm$  SD] age  $81.43 \pm 6.51$  (years) dwelling in their own homes and nine institutionalized elderly [mean  $\pm$  SD] age  $83.89 \pm 4.01$  (years) living in community-residing houses for older people.
- Physical activity levels in a normal week were assessed in a total of 16 hours per day during two week days and weekend with the Actigraph GT1M accelerometer. Accelerations were registered every 15 seconds.
- Physical fitness was assessed by The Functional Fitness Test on strength, aerobic endurance, flexibility, agility, and balance variables.
- People's quality of life was measured by WHOQOL-Bref. This questionnaire evaluates physical domain, psychological domain, social relations and environment.
- Mann-Whitney test was used to determine the differences between groups and Spearman's rho test was used to determine correlations between variables.

## RESULTS

- Non-institutionalized individuals had higher (light + moderate) activity levels ( $p=0.008$ ), higher aerobic endurance capacity ( $p = 0.000$ ) and higher agility/dynamic balance ( $p = 0.007$ ) than institutionalized people.
- Similar results were found on physical domain, social relations and environment ( $p=0.002$ ), ( $p = 0.005$ ), ( $p = 0.005$ ) of the physical activity questionnaire.
- Significant correlations were observed between physical activity levels and physical domain ( $p = 0.001$ ), psychological domain ( $p = 0.024$ ) and social relations ( $p=0.028$ ).
- Physical fitness was positively correlated with physical activity for several variables as strength ( $p = 0.018$ ), aerobic endurance ( $p = 0.000$ ), flexibility ( $p = 0.001$ ) and agility/dynamic balance ( $p = 0.001$ ).

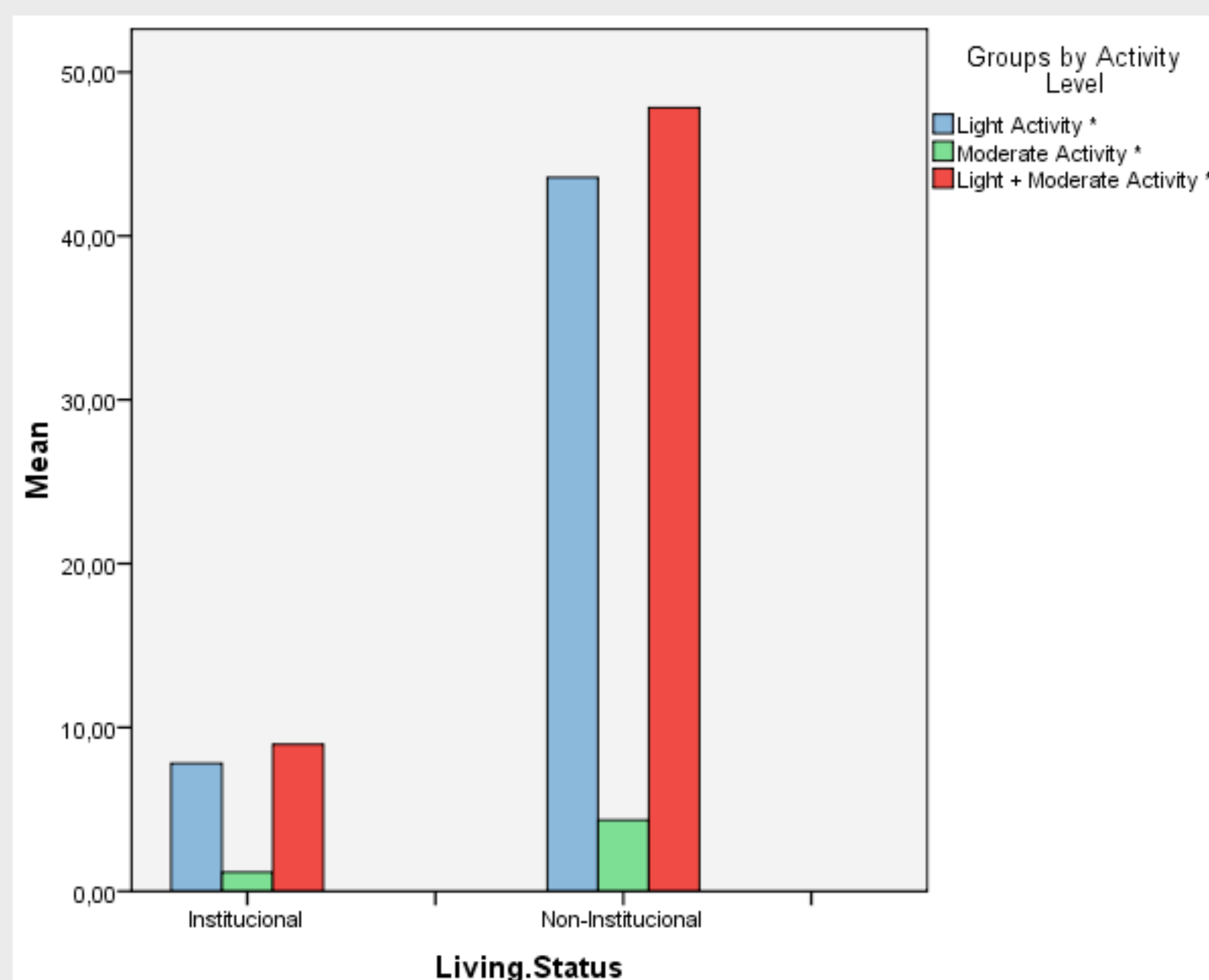


Figure 1 - Physical activity differences between institutionalized and non-institutionalized people (\* $p<0.01$ )

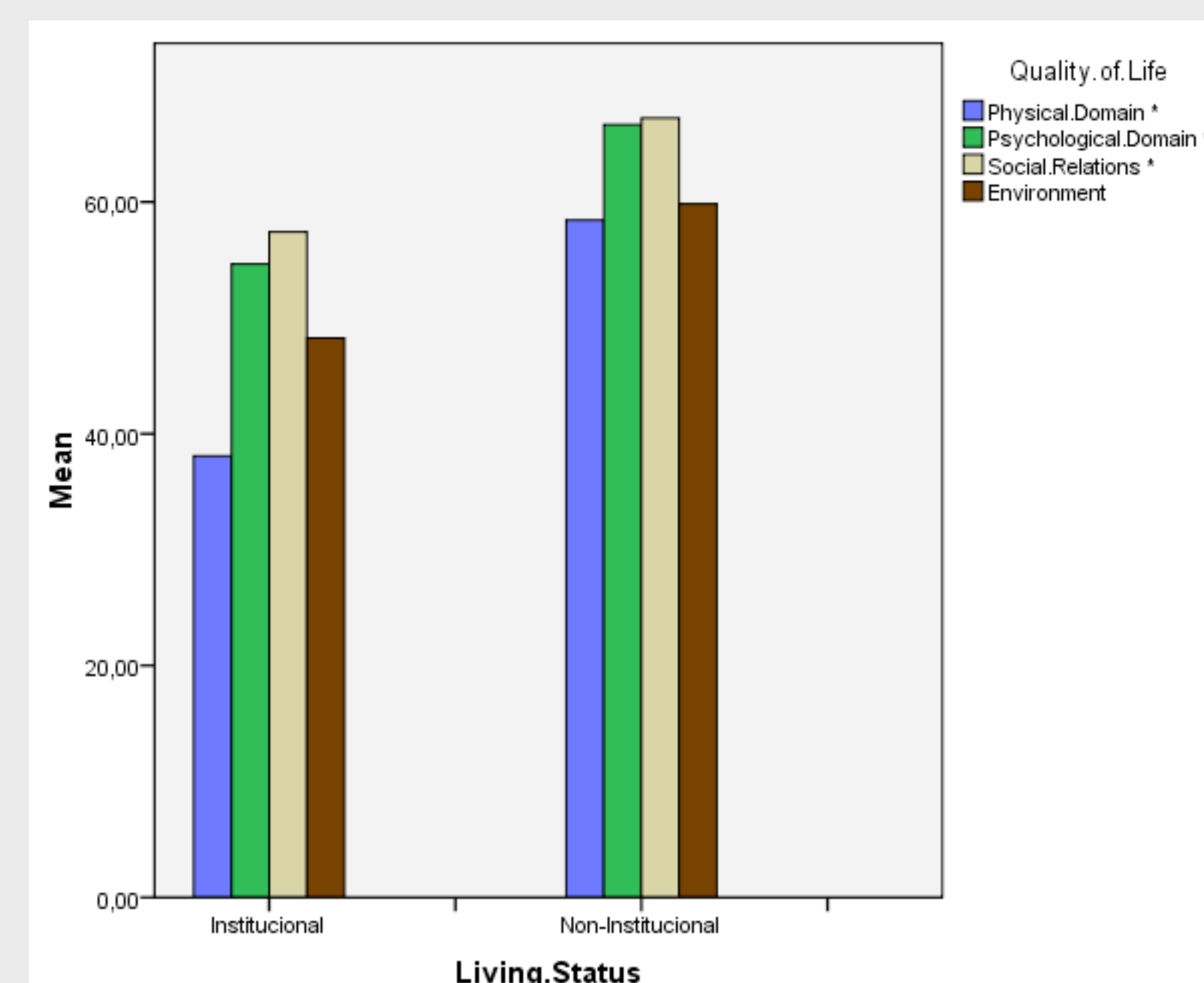


Figure 2 -Quality of life differences between institutionalized and non-institutionalized people (\* $p<0.01$ )

Table 1: Spearman's rho correlations between physical activity levels (PAL) and quality of life (QOL).

PAL	QOL Physical Domain	QOL Psychological Domain	QOL Social Relations	QOL Environment
Total PA (Light+Moderate)	0.633**	0,470*	0,457*	0,373NS

Table 2: Spearman's rho correlations between physical activity levels (PAL) and physical fitness (PF)

PAL	Strength	Aerobic Endurance	Flexibility	Agility/Dynamic Balance
Total PA (Light+Moderate)	0.490*	0,783***	0,611**	0,636**

\* $p<0.05$ ; \*\* $p<0.01$ ; \*\*\* $p<0.001$

## SUMMARY AND CONCLUSIONS

- Older people with institutional community dwelling had lower physical activity levels than non-institutionalized similar individuals.
- Physical activity influences older people's functional capacity especially aerobic capacity, and quality of life in several domains.
- The above results suggest that caring elderly in their own homes seems to provide higher activity patterns, functional capacities and quality of life.

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