(Addenbrooke's Cognitive Examination-III [ACE-III] 40.8±17.7 points), 28 community-dwelling PwD (ACE-III 52.8±18.5 points) and 26 healthy older people (ACE-III 88.7±5.4 points). Lung function (Peak Expiratory Flow [PEF]), respiratory muscle strength (Maximal Inspiratory/Expiratory [MIP/MEP] and sniff nasal inspiratory [SNIP] pressures) and UL functional ability (Grocery Shelving Task [GST] were recorded. Descriptive statistics was used to characterise the sample. Comparisons among groups were explored using a One-way ANOVA.

Results were significantly worse in institutionalised than in community-dwelling PwD, and the values from these two groups were significantly worse than those from the healthy older people group, i.e., lung function (PEF: 183.8±69.8 vs. 280.2±72.1 vs. 411.5±115.5 L/min; $p<0.001$), respiratory muscle strength (MIP: 28.5±11.6 vs. 46.5±11.4 vs. 88±26.9 cmH2O, $p<0.001$; MEP: 46.7±27.2 vs. 71±22.4 vs. 122.4±27.4 cmH2O, $p<0.001$; and SNIP: 31.2±12.1 vs. 45.7±18.4 vs. 74.1±21.1 cmH2O, $p<0.001$), and UL functional ability (GST: 130.7±52.6 vs. 90±50.4 vs. 38.5±12 seconds, $p<0.001$).

Conclusions: This study showed that respiratory function and UL functional ability, in PwD, declines with worse cognitive function and institutionalisation. Awareness for respiratory and UL routine assessment in PwD is needed to guide personalised and early interventions. Future studies with larger and representative samples are recommended.

PO2.12. Relationship between upper limb functional ability and respiratory function in people with dementia

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Background: People with dementia often experience lower respiratory tract infections. It is also known that people with dementia present decreased functionality, namely in upper limbs. These two facts lead to higher level of functional dependence and institutionalisation in people with dementia. It is likely that impaired upper limb functional ability affects respiratory function but this association in people with dementia is unknown.

Aim: To explore the relationship between upper limb functional ability, lung function and respiratory muscle strength in people with dementia.

Methods: An exploratory cross-sectional study was conducted. People with dementia were recruited in nursing homes, day care centres, long-term care facilities and in the community. Upper limb functional ability (Grocery Shelving Task [GST]), lung function (Peak Expiratory Flow [PEF]) and respiratory muscle strength (Maximal Inspiratory/Expiratory [MIP/MEP] and sniff nasal inspiratory [SNIP] pressures) were recorded. Descriptive statistics was used to characterise the sample. Correlations were explored with the Pearson's correlation coefficient.

Results: Fifty people with dementia [75.9±5.9 years old; 35 (70%) female; Body Mass Index=26.6±3.9 kg/m2] participated. GST was significantly: i) low and negatively correlated with SNIP ($r=-0.49$, $p=0.002$); and ii) moderate and negatively correlated with PEF ($r=-0.58$, $p<0.001$), MIP ($r=-0.54$, $p=0.001$) and MEP ($r=-0.57$, $p=0.001$).

Conclusions: Upper limb functional ability correlated significantly with lung function and respiratory muscle strength in people with dementia. Those with lower upper limb functional ability seem to present worst lung function and respiratory muscle strength. Thus, early detection and personalised interventions may prevent clinical and functional decline in this population. Further research on respiratory function and upper limb functional ability is needed to enhance knowledge on dementia management.

PO2.13. Lifestyle integrated Functional Exercise for people with Dementia - LiFE4D: Pilot study

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