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Analysis of the anthropometric data of adults aged 65+ years participating in the National Adult Nutrition Survey

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Understanding body composition, how it changes with age and any associated health implications is important to the health care and nutritional support of older populations[(1)]. The aim of this research was to obtain measured anthropometric data for those adults aged 65+ years who participated in the National Adult Nutrition Survey (NANS)[(2)].

Anthropometric measurements were performed by trained fieldworkers on consenting participants aged 65+ years. Height was assessed using a Leicester portable height measure (Chasmores Ltd, UK) and waist to hip ratio calculated using tape measurements of waist and hip circumference. Weight and body composition were determined using a Tanita® weighing scale that is based on bio-electrical impedance analysis[(3)].

	65–69 years			70–74 years			75+ years		
	n	Mean	SD	*n*	Mean	SD	*n*	Mean	SD
Weight (kg)	68	74.3	11.5	61	77.9	16.7	59	71.5	12.5
Height (m)	*68*	1.64	0.09	*62*	1.65	0.10	*59*	1.62	0.09
WHR	61	0.90	0.09	54	0.92	0.08	55	0.91	0.08
BMI (kg/m^2)	*68*	27.4	3.4	*61*	28.5	4.8	*59*	27.1	4.1
Body fat (%)	*65*	32.4	7.6	*53*	33.4	7.3	*45*	32.6	7.6
FFM (kg)	65	50.3	9.1	53	52.6	11.2	45	47.9	9.0
MM (kg)	65	47.8	8.6	53	50.0	10.7	45	45.5	8.5
TBW (kg)	65	34.8	6.3	51	36.4	8.4	45	32.9	6.7

n, sample size; WHR, waist to hip ratio; %: percentage; FFM, fat-free mass; MM, muscle mass; TBW, total body water. There were no statistical differences between the three age groups (one-way ANOVA).

The table shows the mean and SD of anthropometric measurements across three age groups (65–69, 70–74 and 75+ years) for this older cohort of NANS. While no statistically significant differences (one-way ANOVA) in measurements were identified between the groups, it can be observed that those aged 70–74 years tended to have the highest mean values for all measurements. Comparison with NANS participants under 65 years of age highlighted a significantly lower weight and higher WHR compared with those participants over the age of 75 years ($P<0.05$, one-way ANOVA, with Tamhane and Scheffe *post hoc* tests, respectively). There were also significant differences ($P<0.05$, one-way ANOVA, with Tamhane *post hoc* test) in percentage body fat; those in the younger cohort having a lower percentage body fat than each of the age groups in this cohort of adults aged 65+ years.

This preliminary analysis reveals no major differences in body composition between the three age groups of older adults, however, differences in composition were observed when compared with the younger adults. Further analysis of this dataset will allow for more complete understanding of body composition in older Irish adults.

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