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Do Irish adults meet the physical activity recommendations?

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Current physical activity recommendations (PAR) for Irish adults are to achieve a minimum of 150 mins/wk of at least moderate intensity physical activity (MPA) or 75 mins/wk of vigorous physical activity (VPA)⁽¹⁾. Typically PA levels which are determined using activity questionnaires are prone to misreporting and are inconsistent in validity and reliability⁽²⁾. However, data collected using accelerometers provide an objective measure of PA, as well as information on frequency, intensity and time spent in PA. The aim of this study is to describe PA patterns in Irish adults.

A nationally representative group of Irish adults⁽³⁾ ($n = 1111$, 18–85 yrs) wore a uni-axial accelerometer (Actigraph, GTM1) for 4 consecutive days. Time spent in moderate and vigorous PA (MVPA) was determined using cut-offs⁽⁴⁾ and was normalised to give weekly estimates of PA. Anthropometric measures of weight and height were also performed and BMI (kg/m^2) was calculated. Fat mass (kg) determined by bio-electrical impedance, was adjusted for height (fat mass index FMI, kg/m^2) and expressed relative to total body weight (%).

Removal of non-wear times resulted in complete accelerometry data (≥ 600 mins/d for 2 to 4 days) for $n = 849$ subjects. There were no significant differences between those with complete accelerometer and those without complete data (weight, age or BMI $P > 0.05$) apart from height (1.68 m vs. 1.7 $P = 0.045$).

	Males						Females					
	Below PAR ($n = 33$)			Meeting PAR ($n = 358$)			Below PAR ($n = 68$)			Meeting PAR ($n = 390$)		
	Median	Percentiles		Median	Percentiles		Median	Percentiles		Median	Percentiles	
	25th	75th		25th	75th		25th	75th		25th	75th	
Weight (kg)	87.6	76.3	99.4	84.7	76.3	93.2	70.1	64.0	81.6	67.5**	60.0	75.5
Height (m)	1.7	1.7	1.8	1.8	1.7	1.8	1.6	1.6	1.7	1.6	1.6	1.7
BMI (kg/m^2)	29.4	26.5	31.8	27.4*	24.7	29.9	27.1	24.2	31.2	25.2**	22.5	27.9
Fat mass %	27.2	22.6	32.6	24.1**	19.2	28.2	37.6	31.9	41.3	33.9**	28.7	38.8
Fat mass (kg)	24.8	18.9	30.9	20.4**	15.2	25.9	26.0	20.2	32.6	22.8**	17.1	28.9
FMI (kg/m^2)	8.1	5.9	10.3	6.7**	4.7	8.4	10.0	7.8	12.3	8.5**	6.5	10.8
MPVA Mins/wk	120.2	102.6	141.4	393.8**	280.9	556.3	102.7	72.7	140.7	331.6**	245.4	467.2

BMI, body mass index; FMI, fat mass index; MVPA, moderate and vigorous physical activity; PAR, physical activity recommendation. Median values were significantly different from those Below PAR (Mann Whitney U test) * $P < 0.05$, ** $P < 0.01$.

Approximately 88% of Irish males and females met the weekly PAR. Those who met the PAR had significantly lower BMI and fat mass (% , kg) and FMI. Further analysis of these data will allow for more complete understanding of the relationship between body composition and PA in Irish adults.

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1. Department of Health and Children, Health Service Executive Ireland (2009).
2. Livingstone *et al.* (2003) Proc Nut Soc.
3. Irish Universities Nutrition Alliance (2011) www.iuna.net
4. Freedson *et al.* (1998) Med Sci Sport Exer.