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Dietary intakes of wholegrain in Irish children and teenagers

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Regular consumption of wholegrain foods has been associated with a number of health benefits including a reduced risk of developing cardiovascular disease and certain cancers⁽¹⁾. However, information on wholegrain intakes in the Irish population is lacking. The aim of this study was to quantify wholegrain intakes in a representative sample of Irish children and teenagers using the National Children's Food Survey (NCFS; ages 5–12 years, *n* 594) and the National Teen's Food Survey (NTFS; ages 13–17 years, *n* 441) (www.iuna.net). Both surveys examined habitual food and beverage consumption using a 7 day food diary. Brand information, including ingredient listings, was subsequently recorded in the Irish National Food Ingredient Database (INFID⁽²⁾), with each brand linked to consumption data. In the current analysis, the presence or absence of wholegrain was confirmed at food and brand level, and information on the grain ingredients present were ascribed using food package labelling, comparable products and recipe databases specific for the NCFS and NTFS.

	Children						Teenagers					
	Total population			Consumers only			Total population			Consumers only		
	<i>n</i>	Mean	SD	<i>n</i>	Mean	SD	<i>n</i>	Mean	SD	<i>n</i>	Mean	SD
Total Population	594	18.5	18.2	538	20.5	18	441	23.2	29.5	382	26.9	30.2
Gender												
Male	293	22.0 ^a	21.5	259	24.9 ^a	21.1	224	28.6 ^a	35.0	196	32.7 ^a	35.6
Female	301	15.1 ^b	13.5	279	16.4 ^b	13.2	217	17.7 ^b	21.3	186	20.7 ^b	21.7
Age[†]												
Age group 1	296	17.5 ^{ns}	16.3	267	19.4 ^{ns}	16.1	188	19.6 ^a	22.9	161	23.1 ^a	23.2
Age group 2	298	19.5	19.8	271	21.5	19.7	253	25.9 ^b	33.4	221	29.9 ^b	34.4
Social Class												
Professional	307	20.7 ^a	18.5	285	22.3 ^a	18.3	214	26.5 ^a	32.4	192	29.6 ^a	32.9
Non-manual	117	18.6 ^{ab}	17.9	110	19.8 ^{ab}	17.8	79	23.1 ^{ab}	31.9	67	27.3 ^{ab}	33.0
Skilled manual	93	13.8 ^b	15.4	82	15.6 ^b	15.5	85	20.6 ^{ab}	24.2	73	24.1 ^{ab}	24.5
Semi & unskilled	68	14.8 ^{ab}	18.2	53	19.0 ^{ab}	18.6	51	11.8 ^b	15.6	40	15.1 ^b	16.2
Eating Location												
Home	594	17.7 ^a	17.6	533	19.7 ^a	17.5	441	21.5 ^a	29.4	365	25.9 ^a	30.5
Other Home	349	0.79 ^b	2.6	83	3.3 ^b	4.4	192	0.9 ^b	2.8	41	4.4 ^b	4.6
Outside Home	464	0.55 ^b	2.4	68	3.8 ^a	5.2	421	1.6 ^b	3.9	124	5.5 ^b	5.6

[†]Age group 1: 5–8 years (NCFS) 13–14 years (NTFS), Age group 2: 9–12 years (NCFS) 15–17 years (NTFS).

^{ab}Different uppercase superscript letters indicate mean differences within each factor at *P* < 0.05.

Mean intakes (g/day) of wholegrain were 18.5 and 23.2 for children and teenagers respectively, rising to 20.5 and 26.9 in consumers only. 90.5% of Irish children and 86.6% of Irish teenagers consumed wholegrain. Wheat sources provided >65% of all wholegrain intake, with ready to eat breakfast cereals providing the greatest contribution to wholegrain intakes for children and teenagers (59.3, 44.3%), followed by bread and rolls (14.4, 26.5%). Although, 94.5% of children and 85.3% of teenagers were not meeting wholegrain recommendations.⁽³⁾, wholegrain consumers had significantly higher intakes of fibre, phosphorus and magnesium in comparison to non-consumers of wholegrain. The present study shows that although wholegrain is widely consumed by Irish children and teenagers, actual intakes are below recommended levels.

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1. Jonnalagadda SS, Harnack L, Liu RH *et al.* (2011) *J. Nutr* **141**, 1011S–1022S.
2. Gilsean MB, Lambe J & Gibney MJ (2002) *Food Addit Contam.* **19**(12), 1105–15.
3. U.S. Department of Agriculture (2005) *Dietary Guidelines for Americans 6th Edition*. Washington DC, U.S. Government Printing Office.