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Trends in the portion size of savoury snack intakes in Irish adults during 2001 and 2011

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Larger portion sizes of foods and increased “snacking” have been linked to an overall increase in energy intake⁽¹⁾. In terms of snacking, recent U.S. research cites “salty snacks” as the most influential snack in the increase of overall energy intake from 18–24%⁽²⁾. Trends in the portion sizes of foods such as savoury snacks have not previously been investigated. Food portion sizes (g), defined as the weight of the food consumed per eating occasion, were estimated using data from the North/South Ireland Food Consumption Survey (NSIFCS) and the National Adult Nutrition Survey (NANS). The NSIFCS collected data from 1274 adults (18–64 years) between 1997–1999 using a 7-d semi-weighed food record, while the NANS used a 4-day semi-weighed food record to collect data from 1379 adults (2009–2010). Total savoury snacks and the most frequently consumed sub-groups of savoury snacks, as well as total nuts and seeds were selected for analysis, accounting for 2803 of 214,563 eating occasions in NSIFCS and 98,466 in NANS. Of the savoury snacks selected, the majority (87% and 92% in NSIFCS and NANS, respectively) of food weights were quantified by weighed data. Data are presented for consumers only (51.3% and 36.9% of NSIFCS and NANS, respectively) at a total population level.

Food Type	NSIFCS				NANS				P
	n	M [^]	25 th	75 th	n	M [^]	25 th	75 th	
Savoury snacks*, total	1703	30	25	32	1000	26	25	37	0.001
Crisps, potato	1321	30	27	31	611	25	25	37	0.040
Crisps, other i.e. corn snacks	219	25	17	30	154	24	19	26	NS
Popcorn, all	77	30	30	38	147	30	28	50	NS
Nuts, all	239	25	11	30	269	24	10	50	NS
Seeds, all	52	10	6	12	290	5	3	10	0.001

*denotes all types of crisps (potato, maize corn snacks), popcorn, pretzels etc. (excludes nuts/seeds), n denotes eating occasions, M[^] denotes median portion weight (g), **bold** denotes statistically different between surveys with $p < 0.05$ (Mann-Whitney U-tests using the Bonferroni correction), NS denotes not statistically different.

A significant decrease in the median portion weights of all savoury snacks and seeds was seen over the ten year period. When split into sub-groups, this trend remained in potato crisps only. Potato crisps account for much of the total eating occasions of savoury snacks, and include potato crisps purchased in a variety of packaging sizes (multi-pack bags, “share” bags etc). Previous research from the U.K.⁽³⁾ found crisps sold as a multi-pack to have a median portion size of 25 g, while those sold separately tended to have larger median portion weights, suggesting that the variety in available packaging sizes may have an effect on consumption. Interestingly, the number of eating occasions of seeds increased almost six-fold, despite the latter survey consisting of shorter (4-day) food records, but the median portion size significantly decreased. In conclusion, the median portion sizes of a range of savoury snacks commonly consumed in Ireland are, in general, decreasing.

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1. Piernas C & Popkin BM (2011) *American Journal of Clinical Nutrition* **4**, 1324–1332.
2. Piernas C & Popkin BM (2010) *Journal of Nutrition* **140**(2): 325–332.
3. Church S (2008) Report to the Food Standards Agency.