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Food knowledge and IMD score of Year 6 children participating in the CHANGE! Project

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'Indices of Multiple Deprivation' (IMD) are used as a measurement for deprivation within a community, city or local authority[1]. The area with the most deprivation, will have a rank of 1 or 'first'[1]. Whilst previous studies have investigated the associations between deprivation and unhealthy diets[2], and with childhood overweight and obesity[3], the connection with *knowledge* of food and nutrition has received less attention. The CHANGE! Project (Children's Health, Activity, and Nutrition: Get Educated!), involving Year 6 children ($n = 290$ total; $n = 138$ intervention; $n = 152$ control) in Wigan, aimed to promote the benefits of healthy eating and physical activity, by making small behavioural changes to lifestyle. A 20-week teaching programme, adapted from the Planet Health[4,5] resources, was delivered by teachers in the intervention schools after the baseline (BL) data collection was completed.

Residential postcode information was collected for each participant at BL and post-intervention (PI). The participants' individual postcodes were converted to IMD scores using GeoConvert[6]. These scores were ranked and stratified into quartiles. The participants also completed a validated food knowledge questionnaire[7] at each data collection point. A total food knowledge score was calculated for each participant at each point, with a possible maximum score of 59. At BL, there was a significant difference between the mean total food knowledge scores of those participants from the areas of lowest deprivation in Wigan (score = 30·41) who scored higher than those from the areas of highest deprivation (score = 25·38) ($p = 0·024$).

	Data collection points			
IMD score quartile	**BL mean score**	**S.D.**	**PI mean score**	**S.D.**
1·00 (lowest level of deprivation)	30·41*	8·67	31·89	9·96
2·00	28·44†	9·81	31·50†	9·82
3·00	28·53	10·37	30·08	8·50
4·00 (highest level of deprivation)	25·38*††	9·54	29·04††	8·53

* (1·00>4·00; $p = 0·024$), † ($p = 0·001$), †† ($p = 0·001$).

At PI, there was an increase in mean total food knowledge scores for all IMD score quartiles but there were no significant differences between the groups ($p = 0·702$). The mean scores significantly increased however between BL and PI for groups 2·00 ($p = 0·001$)and 4·00 ($p = 0·001$). The mean scores at PI may potentially have been influenced by exposure to the questionnaire at BL. The increases in scores for the participants from the areas of highest deprivation were potentially influenced by the high percentage of intervention children in this group, who had received the teaching programme. Additionally, all mean scores, at BL and PI, were significantly different to the possible maximum score of 59 ($p = 0·000$). These results demonstrate that deprivation does not necessarily preclude individuals from knowledge about food or nutrition. It is possible that there was a positive effect of the CHANGE! teaching programme, on the fourth quartile of participants.

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