Tackling poverty, treating obesity: a 'whole system' approach

Jatinder Hayre

INTRODUCTION

Epidemiological transition has brought us to the 'age of man-made diseases', with previously lethal infectious conditions supplanted by chronic disorders. Childhood poverty can rightly be regarded as a man-made disease. Obesity, strongly linked to child poverty, has its roots in a society characterised by gross inequalities. In 2018, a striking 30% (around 4 million) of children in England were living in relative poverty, once housing costs were taken into account.[1] This makes us one of the worst countries in the Organisation for Economic Co-operation and Development in this respect. Obesity reflects an income gradient, with adolescents with the lowest family income being 4.1 times more likely to be affected than those in the highest income quantile.[2] This disparity can already be seen in year 6 pupils (aged 10–11 years), with groups experiencing the highest deprivation having more than twice the proportion of obesity compared with those from the wealthiest background: 26.9% vs 11.4%, respectively.[3] This finding clearly indicates that obesity and poverty are deeply intertwined, raising questions about the mechanisms involved and how this situation might be remedied. Worryingly, the percentage of children living in relative poverty in the UK is projected to increase to 36.6% in 2021,[1] necessitating urgent action. The government's simplistic strategy (focusing on food labelling and advertising) fails to address the underlying issue of childhood poverty; therefore, a multidisciplinary 'whole system' approach to childhood obesity is advocated.

AUSTERITY

The politics of austerity have been deleterious to the many, and the most vulnerable young people in society inevitably find themselves in the most hostile of environments. Local authority funding for children and young people's services fell by £3 billion between 2010/2011 and 2017/2018; this represents a 29% reduction, with the most deprived areas experiencing the greatest cuts. Regional variations are stark, with the North East showing the steepest decline and the South East the smallest (34% vs 22%).[1]

Despite free childcare funding for children aged 3–4 years old being introduced, any positive gain is likely to have been negated by the extensive closure of Sure Start children's centres, with well over 500 of these being shut down. England now spends only 0.8% of gross domestic product on childcare.[1] Children's services have been disproportionately targeted by the austerity agenda. A function of Sure Start children's centres was to provide nutritional advice to parents and promote physical activity in the young. It is not difficult to imagine that their closure may be implicated in rising obesity in the poorest children, although more research is needed to explore this further. Principally, they helped in reducing the wider economic disparities associated with obesity. Protecting investment in early years services was a key recommendation of the Marmot Report aimed at reducing health inequalities, but largely ignored by the government.[1]

Austerity has a damaging effect on families. This is highlighted by the issue of in-work poverty. While more people are in employment presently, compared with 2010, wages are only £5 a week higher presently than they were in 2010. This is against a background of generally low wages, diminishing levels of benefits with the roll-out of universal credit and the increasing cost of living. Work is no longer a route towards adequate subsistence, and even in two-parent families where only one of the parents is not working or is only working part time, there are 1.6 million children living in poverty.[1] It is likely that the COVID-19 crisis will lead to an unprecedented rise in unemployment in the coming months, further exacerbating the current levels of inequality and wealth disparity.

THE OBESOGENIC ENVIRONMENT

The infrastructure and urban layout of deprived neighbourhoods are recognised as being more obesogenic compared with affluent neighbourhoods. Fast-food outlets proliferate in poorer areas, with convenience and peer influence as well as taste being major factors for fast-food consumption in school-aged children.[1 4] Exercise is clearly implicated in obesity, with higher energy expenditure reducing caloric surplus relative to activity and therefore preventing adiposity. A lack of playgrounds and suitable greenspaces in deprived areas to encourage physical activity is further associated with childhood obesity.[4]

Conversely, for children from wealthier, more affluent areas there is evidence that they benefit from an environment that promotes physical activity. A less aesthetic environment (lack of open spaces, presence of littering and graffiti) prompts parents to perceive the neighbourhood as less safe and therefore place restrictions on outdoor physical activity.[5] Increased indoor time as a consequence is often sedentary in nature. This is further driven by housing factors, with smaller, more densely packed houses lacking in gardens.[5] During national 'lockdowns' to control the spread of coronavirus, it is likely that increased indoor sedentary time and reduction in outdoor physical activity will disproportionately apply to deprived children.

EMERGING FOOD EXCLUSIVITY

The WHO identifies energy-dense, nutrient-poor foods that are high in fat, sugar and salt as contributing to the risk of chronic diseases.[6] Dietary patterns and food choices are drivers of obesity in childhood. The problem is largely the unavailability of choice rather than making innately unhealthy choices. Healthier food choices are less available to the poorer within society. Between 2002 and 2012, the cost of 1000 calories' worth of healthy foods rose from £5.65 to £7.49, while in contrast unhealthy foods with the same energy value cost only £2.50.[6] Economic constraints on food choices derive from lower wages, unemployment and increasing housing costs.[1 6] The European Union's common agricultural policy intervenes in food markets to subsidise grains, dairy products, oils and sugar, a measure that has undermined public health initiatives.[6] The reduced spending power of parents on healthy foods is not only deleterious to the health of children from poor families but exacerbates the risk of obesity.[6] In the UK, a constrained family budget is associated with higher intake of high-energy, low-nutrient food.[2] While eating behaviour is a complex phenomenon influenced by biophysiological, psychosocial and socioeconomic factors, it

Correspondence to Jatinder Hayre, Medical School, University of Nottingham, Nottingham NG7 2RD, UK; mzyjh15@nottingham.ac.uk

Table 1 Whole system policy recommendations to address the obesity crisis

Highlighted issues	Policy recommendations
The hostile political economy	1. Equity, not austerity, must be at the heart of policymaking. Quality employment, rigorous welfare and bringing the minimum wage in line with the real living wage.[1] 2. Increase levels of spending on early years and establish a rescue plan for these centres in the most deprived areas, often with the highest obesity levels. Early years centres improve equity and are vital in the 'levelling up' agenda.[1]
The obesogenic environment	3. Implementation of healthier urban development and city planning. Measures to ban fast-food outlets within 400 m of a school are welcome and ought to be extended across the UK. Working with fast-food businesses in deprived communities to shift towards healthier menus establishes a foundation for private–public cooperation. Healthy urban development and city planning should be set to a minimum standard to reduce the significant heterogenicity across the UK.[4]
The wider neighbourhood factors	4. Neighbourhood factors conducive to health-promoting physical activity need to be considered as part of the 'whole system' obesity strategy. This can be achieved through introduction of safe, aesthetic and welcoming open spaces and greenspaces with adequate security forming the nucleus for physical activity in the most deprived neighbourhoods. Locally delivered free physical activity initiatives should be developed and implemented at these hubs.[5] Children have suggested that free Wi-Fi access in these areas would encourage use.
The emerging food exclusivity	5. A 10% food subsidy programme on fresh produce should be available nationwide. A simple 10% reduction in prices of healthier foods results in a 14% increase in the consumption of fruit and vegetables, benefiting stakeholders and policymakers.[7] In the most deprived communities and most deprived individuals, a voucher scheme or a 100% subsidy on fresh produce should be sought as a measure to tackle obesity, a novel initiative of great success in the city of Washington, DC.[7]

appears that economic constraint is dominant in governing unhealthy food choice in families.[2]

TACKLING OBESITY, REDUCING POVERTY: POLICY AGENDA

To talk of 'British society' wrongly implies the existence of a homogenous entity and is inconsistent with the wide variation in socioeconomic status.[1] Children from the most deprived backgrounds navigate a very different world, compared with their more affluent peers. Treating the disease of poverty should be a paramount public health priority. The government must be prepared to invest in tackling gross inequalities if it is to both alleviate the obesity crisis and ease the mounting pressure on the National Health Service from its consequences. An evidence-based 'whole system' policy agenda needs to be established (table 1) if promises of 'levelling up' are to be given substance.

Twitter Jatinder Hayre @JatinderHayre_

Funding The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests None declared.

Patient consent for publication Not required.

Provenance and peer review Commissioned; externally peer reviewed.

To cite Hayre J. *Arch Dis Child* Epub ahead of print: [*please include* Day Month Year]. doi:10.1136/archdischild-2020-320552

Received 27 August 2020
Revised 30 November 2020
Accepted 2 December 2020

Arch Dis Child 2020;**0**:1–2. doi:10.1136/archdischild-2020-320552

ORCID iD
Jatinder Hayre http://orcid.org/0000-0003-0473-686X

REFERENCES

1 Marmot M. Health equity in England: the Marmot review 10 years on. *BMJ* 2020;368:m693.
2 Noonan RJ. Poverty, weight status, and dietary intake among UK adolescents. *Int J Environ Res Public Health* 2018;15:ijerph15061224. doi:10.3390/ijerph15061224
3 NHS. Childhood obesity: applying all our health, 2020. Available: https://www.gov.uk/government/publications/childhood-obesity-applying-all-our-health/childhood-obesity-applying-all-our-health [Accessed 25 Aug 2020].
4 Cetateanu A, Jones A. Understanding the relationship between food environments, deprivation and childhood overweight and obesity: evidence from a cross sectional England-wide study. *Health Place* 2014;27:68–76.
5 Noonan RJ, Boddy LM, Knowles ZR, *et al*. Cross-Sectional associations between high-deprivation home and neighbourhood environments, and health-related variables among Liverpool children. *BMJ Open* 2016;6:e008693.
6 Jones NRV, Conklin AI, Suhrcke M, *et al*. The growing price gap between more and less healthy foods: analysis of a novel longitudinal UK dataset. *PLoS One* 2014;9:e109343.
7 Hinks R. *Eating better for less*. Food Foundation, 2017.