

Child food insecurity in the UK: a rapid review

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Scientific summary

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Scientific summary

Background

Food insecurity (FI) is a multifaceted, social and economic problem involving difficulties accessing sufficient safe and nutritious food to meet dietary requirements and preferences for a healthy life. For children experiencing FI, there are a number of negative developmental consequences, for example poor health, high consumption of energy-dense foods, behavioural problems and poor school performance. It is, therefore, important to improve understanding of the links between child FI, health and developmental consequences, as well as any strategies undertaken to address child FI.

Objective

To determine the nature, extent and consequences of FI affecting children (aged ≤ 18 years) in the UK.

Methods

A rapid review of the current published and unpublished literature was conducted, to current methodological standards. Searches were conducted of major health-care, nutrition, education and social science electronic databases from 1995 onwards. Final searches were undertaken in December 2017. The databases searched on 4 December 2017 were MEDLINE (including In-Process & Other Non-Indexed Citations and E-pub ahead of print files), EMBASE, the Cumulative Index to Nursing and Allied Health Literature (CINAHL), the Commonwealth Agricultural Bureaux (CAB) abstracts, The Cochrane Library, the Education Resources Information Centre (ERIC), PsycINFO, the Social Science Citation Index and the Applied Social Sciences Index and Abstracts (ASSIA). Websites of relevant UK and international organisations were also searched. To understand the nature and consequences of child FI in the UK, we drew on the literature from other high-income countries including Ireland, France, Germany, Italy, Sweden, Norway, Denmark, Finland, Iceland, Canada, the USA, Japan, Australia and New Zealand. All study designs from these prespecified high-income countries, reporting relevant outcomes in children aged ≤ 18 years and published in the English language, were included.

There were five research questions (RQs):

1. What is the nature and what are the determinants of child FI in high-income countries?
2. What are the incidence, prevalence and costs of child FI in the UK (including recent trends)?
3. What is the impact of FI on children's health and social well-being in high-income countries?
4. What interventions exist to reduce, eliminate or mitigate the effects of child FI in high-income countries?
5. What is the cost-effectiveness of existing interventions that aim to reduce, eliminate or mitigate the effects of child FI in high-income countries?

Results

A total of 109 studies were included in the review, of which five were from the UK, 101 were from North America and one each was from Ireland, Australia and New Zealand. Three of the UK studies were qualitative studies, one was an observational study and one used mixed methods. The majority of studies utilised the 18-item United States Department of Agriculture Household Food Security Module to assess FI,

and around two-thirds were reported by a parent/caregiver. The main findings of the included studies were tabulated and summarised narratively. A quantitative synthesis proved unfeasible as studies varied in terms of the characteristics of the child population, outcome measures, definition and measurement of FI, and setting.

The RQs addressed by this rapid review were answered as follows.

RQ 1: 57 studies were identified in the literature and the majority were conducted in North America. Four studies that provided qualitative data were conducted in the UK. A number of factors related to child FI were identified, for example socioeconomic status (SES), material or social deprivation, minority ethnic group status, parents with lower education levels, unemployed parents and greater number of siblings in the household. Children described cognitive, physical, emotional, social and behavioural responses to FI. Qualitative data provided insights from children themselves: some children were aware of the lack of food in their household, some described experiences of hunger, some described strategies for coping with FI, some described how they felt in relation to FI (e.g. sadness, embarrassment), and some felt responsible for managing household food resources. Takeaways and junk food were described as being common for some children, and food banks were common for others. In addition, some school staff reported that they were able to identify children from food-insecure households, or at risk of FI, and other school staff reported awareness of families experiencing increased FI during weekends and school holidays. School breakfasts were generally perceived by stakeholders as effective in alleviating hunger and improving children's health and nutrition temporarily.

RQ 2: no studies assessing the prevalence or incidence of child FI in the UK were identified in the published literature. A 2017 United Nations International Children's Emergency Fund (UNICEF) publication showed that 19.5% of children aged < 15 years in the UK were living with a respondent who had moderate or severe FI and 10.4% were living with a respondent who had severe FI [Pereira AL, Handa S, Holmqvist G. *Prevalence and Correlates of food Insecurity Among Children Across the Globe. Innocenti Working Paper WP-2017-09*. Florence: UNICEF Office of Research; 2017. URL: www.unicef-irc.org/publications/900-prevalence-and-correlates-of-food-insecurityamong-children-across-the-globe.html (accessed May 2018)]. Similarly, the UK House of Commons Poverty in the UK Statistics 2018 report showed that, in 2015/16, 4.0 million children were estimated to live in relative poverty (relative low income) and 3.7 million were estimated to live in absolute poverty (absolute low income) [McGuinness F. *Poverty in the UK: Statistics. Briefing Paper 7096*. London: UK Parliament; 2018. URL: <http://researchbriefings.files.parliament.uk/documents/SN07096/SN07096.pdf> (accessed May 2018)].

RQ 3: 74 studies assessed the effects of FI on children's health and social well-being. The majority of these were conducted in North America and only one in the UK. FI was reported to have an impact on physical health status (e.g., general health, chronic conditions), social well-being (e.g. housing issues, drug/alcohol use, fighting), mental and emotional health (e.g. externalising and internalising behaviours, aggression, hyperactivity, impaired social skills) and academic outcomes (e.g. lower reading and maths scores, more days absent from school). The effects of FI on weight status was less clear.

RQ 4: 15 studies (14 conducted in the USA and one in New Zealand) reported food assistance programmes/interventions to reduce or mitigate FI. The characteristics of the interventions and their findings were not consistent across studies. In general, interventions were effective in improving FI and nutritional outcomes, such as hunger, as well as promoting healthier eating patterns in the short term, but not in eradicating FI, eliminating its effects on children's health or improving academic performance.

RQ 5: no evidence on the cost-effectiveness of interventions designed to tackle FI in the UK or in the other prespecified high-income countries was identified in the literature.

Scrutiny of the grey literature provided further information on the following general themes.

- Breakfast clubs: many teachers reported children arriving hungry at school in the morning. Around 85% of schools in the UK provide breakfast clubs, but most secondary schools think that their breakfast club will have to close, mainly because of funding issues. Teachers believe that breakfast clubs make a substantial difference to pupils' attendance, concentration in class and examination results, but results are mixed and there may also be negative outcomes.
- Holiday hunger: up to 3 million children have been reported to be at risk of hunger during the school holidays, when free school meals received during school term time are not forthcoming {UK 2017 All-Party Parliamentary Group on Hunger Report [Forsey A. *Hungry Holidays: A Report on Hunger Amongst Children During School Holidays*. All-Party Parliamentary Group on Hunger; 2017. URL: <https://feedingbritain.files.wordpress.com/2015/02/hungry-holidays.pdf> (accessed May 2018)}. The summer break may have a negative effect on the mathematics and spelling performance of lower-income children, and teachers report being worried about the negative effects of hunger in the holidays on children's social well-being and physical health. There has been an upsurge in schools and other organisations providing year-round nutrition for children.
- Food banks: the Trussell Trust reports that 484,026 food parcels went to children between April 2017 and March 2018 [The Trussell Trust. *Half of Children Helped by Foodbanks Over Summer Holiday Months are Primary School Children [News Item]*. The Trussell Trust; 2017. URL: www.trusselltrust.org/2017/07/25/half-children-helped-foodbanks-summer-holiday-months-primary-school-students/ (accessed May 2018)].
- Obesity and FI in children: findings were mixed, with some sources showing a relationship between obesity and child FI, and others not.

Key points

- One hundred and nine studies assessing FI in children in high-income countries were included in this rapid review.
- The majority (92.6%) of studies were conducted in North America (USA and Canada). Only five were conducted in the UK.
- The FI measurement was inconsistent across studies. Most studies used indirect measurements of child FI through parental reports.
- Socioeconomic characteristics, cultural characteristics and parental characteristics were frequently linked with child FI.
- In some cases, it was difficult to determine whether FI was a risk factor for children or an indicator of other types of problem (e.g. deprivation).
- The mediating effects of family stressors and parenting practices in the relationship between FI and children's health and well-being outcomes were not clear.
- Qualitative data showed that children exhibited cognitive, physical and emotional awareness of FI as well as social and behavioural reactions to FI.
- Being from a low-income background or SES, experiencing material or social deprivation, living in public, rented or assisted housing, being from a minority ethnic group, having unemployed parents, having parents with lower level of education or having a greater number of siblings in the household were some of the factors associated with an increased risk of FI.
- Most of the food assistance programmes attenuated, but did not eliminate, FI or any outcome related to it.
- None of the studies identified in the literature provide up-to-date information on the incidence, prevalence or recent trends of child FI in the UK or on the cost-effectiveness and sustainability of food assistance programmes.

Discussion and conclusion

The lack of consistency in the way child FI was measured and variation in the outcomes assessed contributed to a diverse picture of child FI in high-income countries. A number of factors related to child FI were identified, as were negative associations between child FI and physical, mental and social outcomes. However, these findings should be interpreted with caution because of the correlational nature of the analyses and the fact that it is difficult to determine if some factors are predictors or consequences of FI. Owing to time and resource restraints characteristic of a rapid review, quality assessment of included studies was not performed and 30 potentially relevant studies identified during a rescreening of the search results were not included in this review. Future research should focus on developing a reliable and valid method of assessing child FI directly from children themselves (for children aged ≥ 7 years) to allow monitoring and reporting of its prevalence, incidence and severity. Future research in the UK should also focus on the evaluation of well-designed interventions/programmes to reduce, mitigate or eliminate child FI, including their costs. In particular, there is a clear need to identify the mechanisms through which these interventions/programmes may work, produce benefits, and be sustainable.

Study registration

This study is registered as PROSPERO CRD42017084818.

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