The impact of household energy poverty on the mental health of parents of young children

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Introduction

In this paper, Mohan finds that energy poverty increases the likelihood of depression in parents. Parents of young children in developed countries spend a substantial proportion of their time in the home. Living environment quality is of concern since it has been found to both directly and indirectly impact on health. In particular, household thermal conditions and the ability to meet energy requirements have impacted the mental health of occupants. Households that cannot meet these requirements experience *energy poverty* (also referred to as fuel poverty or energy insecurity). This results from a combination of three factors—fuel costs, low incomes and energy inefficiency. The Great Recession saw a rise in European energy poverty, along with higher fuel costs. Discussions on energy legislation at the EU level have prompted an increased policy interest in energy poverty. Ireland's 'Warmth and Wellbeing scheme' was highlighted as a policy measure of note (SEAI 2016). In this article, Mohan considers whether energy poverty has an impact on the mental health of parents, exemplified by their depression status. Parents living in energy poor households may be more vulnerable to mental health problems as they have to both live in and care for children living in such homes. Highlighting risk factors for parental depression is important as it has been linked to child outcomes, including children's socio-emotional and cognitive development.

Literature

The Marmot report, *The Health Impacts of Cold Homes and Fuel Poverty* (2011) noted that both fuel poverty and cold homes have a negative impact on mental health in all age groups. The negative impact of financial stress related to heating homes on mental health was highlighted. In a paper reviewing nine studies Liddell and Guiney (2015) looked at the

association between mental well-being and cold and damp housing. They noted that cold temperatures and damp contributed to a range of mental health stressors, including ongoing anxiety about the affordability and debt associated with heating homes, and living with thermal discomfort. Social stigma and shame were pronounced as were concerns about the health impacts on children with asthma or respiratory conditions. Liddell and Morris (2010) noted *spatial shrink* as a factor influencing mental health. This occurs when households limit heating to commonly shared areas such as kitchens and living rooms, thereby restricting opportunities for privacy and personal space. Boomsma *et al.* (2017) noted that difficulties in keeping a living room comfortably warm was associated with lower life satisfaction. Concerns about the affordability of household's energy bills were also associated with a lower life satisfaction score. These effects tended to be more consistent and stronger among men.

Energy efficiency upgrades have been associated with significant improvements in mental well-being. Liddell and Guiney (2015) noted that improvements in mental well-being when housing problems were addressed tended to be stronger than that for general health.

Methods

Data

Data in this study was from the Growing Up in Ireland (GUI) study using the Infant and Child cohorts. The first wave of the Child Cohort was collected between August 2007 to May 2008, based on interviews with the families of 8568 9-year-old children. The second wave of the Child Cohort was collected between August 2011 to March 2012 and based on interviews with 13-year-olds (87.8% follow-up). The third wave of the Child Cohort was collected in 2016 and was based on interviews with the children at 17 and 18 years in (82.6% follow-up). The first Infant Cohort wave was collected between September 2008 and April 2009 when 11,194 families of 9-month-olds were surveyed. Between December 2010 and July 2011 wave 2 of the Infant Cohort was collected when the children were 3 years old (88.0% follow-up). Between March and September 2013 wave 3 of the infant cohort was collected when the children were 5 years old (91.9% follow-up).

The depression status of the child's mother and father are the outcomes of interest in this paper. Depression was measured using the Center for Epidemiologic Studies Depression Scale (CES-D) which is an eight-item scale. It is used widely as a self-report measure.

In the GUI the primary caregiver was asked 'Does the household keep the home adequately warm?' Three answers were possible: (i) No, cannot afford; (ii) No, cannot other; and (iii) Yes. Caregivers responses in the could not afford to keep the home warm category were used to generate a variable where households that could not afford to heat their homes sufficiently were classified as 'cold home'. The caregiver was also asked: 'Have you ever had to go without heating during the last 12 months through lack of money?' with a 'yes' or 'no' response possible. The 'Yes' responses were used to generate the variable 'gone without heat'. Mohan's main variable of interest, 'energy poverty', was generated from a combination of having either a 'cold home' and/or 'gone without heat'. During the Great Recession, a question was added to GUI to find out if households were having difficulties utility bills (waves 2 and 3 of the Infant Cohort, wave 2 of the Child Cohort). Although an indicator of energy poverty in its own right it was also combined with 'gone without heat' and 'cold homes' to provide another measure of energy poverty for the available waves.

Results

Infant cohort results

In the Infant Cohort a small number of families were unable to afford to keep their homes warm. However, the number of families who reported having forgone heat over the previous 12 months was both higher and increasing. Overall, there was a rise in energy poverty from 8.3% to 12.7% across the three waves. In wave 2, due to the recession, just over 10% of households had utility bill arears to rose to 14.9% in wave 3. Using the CES-D scale almost ten percent of mothers met the depression threshold. In the case of fathers there was a slight upturn in the proportion of those who met the depression threshold.

Child cohort results

As with the Infant Cohort a small number of families in the Child Cohort reported that could not keep their homes properly heated. Households that had gone without heat in

the previous 12 months increased between wave 1 and 2 but declined between waves 2 and 3 and was reflected in the generated energy poverty measure. In wave 1, 5.3% of households were energy poor, rising to 7.8% in wave 2 and falling slightly 7.0% in wave 3. The question about utility bill arrears was asked in wave 2, where less than 10% of the household reported having a problem. Using the CES-D scale 8% of mothers met the depression threshold in wave 1 increasing to almost 12% by wave 3. Similarly, depression among fathers increased although not at such a high level as for mothers.

Discussion

Only a small number of families in the GUI Cohorts reported that they were unable to maintain adequate thermal conditions due to cost or had gone without heating in the previous year, which is a positive discovery. Among families experiencing energy challenges, the statistical analysis reveals that parental mental health was sensitive to thermal conditions. There is strong evidence of an effect on mothers mental health. Typically, they are the primary caregiver and being unable to ensure comfortable home temperatures for the family may be a greater worry for them. Moreover, mothers spend more time in the home.

This study adds to the knowledge base which informs evidence-based policymaking. A mixture of policy responses can be utilised due to the multifactorial nature of energy poverty. Mohan argues that, in the short-term, ad-hoc measures such as energy/fuel-related financial supports, income support and debt advice can help relieve financial insecurities. In the longer-term efforts need to be concentrated on energy efficient housing. Retrofitting existing energy inefficient buildings and legislating for energy efficiency standards on new builds would help address the mental health stressors associated with energy poverty.

In order for resources to be targeted effectively robust eligibility criteria for energy interventions need to be applied. Entitlement to state-support could be means tested or based on health needs. GPs and community health workers could have a role in the assessment, identification and referral of those at risk of, and vulnerable to, fuel poverty and the associated health risks.

Conclusion

Using longitudinal data from two child cohorts in Ireland, this analysis found that the odds of maternal and paternal depression were higher in households characterized by energy poverty. A continued policy focus on energy poverty is warranted to allow healthy and comfortable home environments and maximize the health and well-being of families.

References

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