



ORIGINAL ARTICLE

Food insecurity in adults with severe mental illness living in Northern England: Peer research interview findings

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Funding information

National Institute for Health and Care Research

Abstract

Food insecurity means that a person does not have access to sufficient nutritious food for normal growth and health. Food insecurity can lead to many health problems such as obesity, heart disease, diabetes, and other long term health conditions. People living with a severe mental illness are more likely to experience food insecurity than people without mental illness. Peer-led in-depth interviews were conducted with adults with severe mental illness from Northern England, during which their experiences of food insecurity and strategies to tackle food insecurity were discussed. Interviews took place between March and December 2022, with interviews being transcribed and analysed using deductive and inductive thematic analysis. Thirteen interviews were conducted, finding that food insecurity in adults with severe mental illness was often a long-standing issue. Unemployment, the cost-of-living crisis and fuel poverty impacted on experiences of food insecurity. Difficulties accessing food banks such as transport, stigma, and the limited selection of available food was also discussed. Strategies to tackle food insecurity centred on making food banks more accessible and improving the quality of available food. Future research should aim to eradicate food insecurity for adults with severe mental illness, as limited research and action focuses on this population group over and above ‘mental illness’ or ‘poor mental health’. Removing barriers to accessing food such as lack of transport, and providing food which is of adequate nutritional quality, should be prioritised, as well as tackling the stigma and accessibility issues surrounding food banks use.

KEY WORDS

food insecurity, food poverty, interviews, peer research, severe mental illness

INTRODUCTION

Food insecurity (FI) has been defined in many ways, including when there is not enough access to safe and nutritious food for growth, development and health. This may be due to unavailability of food and/or lack of resources to obtain foods (Food and Agriculture Organization of the United Nations, 2023). Data from the Office for

National Statistics from February 2023 show that 16% of adults in the UK reported low or very low FI ($n=5630$). In the UK, Northern England has some of the highest levels of FI. Indeed, there are regional differences for levels of FI across the UK. The North-East and North-West of England have the highest levels of FI, at 11% and 10%, respectively. This compares to the East of England having levels of FI of 5% and the South-East and South-West

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at 6% (Department for Environment, Food, and Rural Affairs, 2021). Living with FI leads to multiple physical and mental health impacts, with the link between diet, good nutrition, and mental health emerging. Specifically, evidence has shown there to be a strong link between FI, depression and stress and a bidirectional link between poverty and poorer mental health (Spinosa et al., 2019). In a study from the US, findings showed that FI led to a higher risk of major depressive episodes and mood disorders with psychosis (Jih et al., 2020), and findings from Yau et al found that more adults with FI had poor mental health compared to adults who were food secure (Yau et al., 2020). This was also the case in vulnerable populations such as pregnant women, with findings from Bradford showing that FI was associated with an increased risk of mental ill health in pregnant women (Power et al., 2017). That said, there is limited literature on the impact of FI in those with an already diagnosed Severe Mental Illness (SMI). This is important, because there is evidence to suggest that some population groups are more likely to experience FI, including people living with severe mental illness (Mangurian et al., 2013).

Severe Mental Illness (SMI) constitutes the most serious mental health conditions (e.g., F20-F29 Schizophrenia, schizotypal and delusional disorders). These conditions have similar basic characteristics around symptom severity, functional impairment, and impact on a person's daily life (Whitley et al., 2015). In England (2022–2023 data), there are approximately 574 000 people with SMI. These individuals are more likely to die 15–20 years earlier than the general population (De Mooji et al., 2019), as a consequence of preventable health conditions (e.g., obesity, heart disease) (Working Group for Improving the Physical Health of People with SMI, 2016). Based on data collected between 2018 and 2020, people with SMI in England were around five times more likely to die prematurely than those without SMI (Office for Health Improvement and Disparities, 2023). In the North-East of England, premature mortality in adults with SMI is in the 'worst to the 25th percentile' in comparison to England (Office for Health Improvement and Disparities, n.d.). Of the 12 areas in England identified with the highest rates of premature mortality for adults with SMI, all but two are in Northern England.

In a slightly earlier systematic review of prevalence data, pooled prevalence of reported FI in people with SMI was 40% for all countries, and 37.5% for high and upper-middle income countries, 2.71 times higher than the general population (Smith et al., 2023; Teasdale et al., 2023). However, previous research has not focussed on the UK context. Given that highest levels of SMI related FI in the UK are in the North of England, this is where the present study was focussed. Additionally, from early discussions with participant and public involvement (PPI) members, we were told that adults with SMI and FI would prefer to talk to a peer than a researcher.

Therefore, our research adopted a peer researcher model, which is an approach not widely adopted in FI research (and including SMI). Peer research is an approach which aims to strengthen the voices of those with lived experience. The approach aims to co-produce research, helping to ensure that health inequities are not exacerbated (MacKinnon et al., 2021).

This paper reports findings from one work package of a study that aimed to explore the experiences of adults with SMI living in Northern England (the North-West, North-East and North Cumbria, and Yorkshire and Humber) in relation to FI. The research questions were: (1) What are the experiences of adults with SMI in relation to FI in Northern England? and (2) What are the possible approaches that adults with SMI think would be useful to support them to access adequate healthy, affordable food? The study was undertaken as a mixed-methods study, with a cross-sectional survey and semi-structured interviews. This paper reports findings from the peer-research led qualitative interviews, with the survey findings being reported elsewhere.

METHODS

The below methods and results are both reported in line with consolidated criteria for reporting qualitative research (COREQ) (Tong et al., 2007).

Study design and setting

The peer-led in-depth interviews were undertaken between June and December 2022 in Northern England. A peer-research methodology (Lushey & Munro, 2015) underpinned the design of the interviews, alongside a deductive and inductive orientation. Ethical approval was obtained from the Research Ethics Committee (Reference: 22/NR/0010); and the Health Research Authority and Health and Care Research Wales (IRAS ID: 306281).

Sampling and recruitment

As reported in our survey findings paper (Smith et al., [in press](#)), participants were adults aged 18 years and above, with a self-reported diagnosis of Severe Mental Illness (SMI) and resident in Northern England (North-West, Yorkshire and Humber or North-East and North Cumbria). Participants with bipolar disorder, schizophrenia, and schizoaffective disorder and other psychoses were included. The following ICD-10 conditions and codes (WHO, 2016) were considered as other forms of psychosis in this study: brief psychotic disorder (F23); shared psychotic disorder (F24); other psychotic disorder (F28); and unspecified psychosis (F29). ICD-10



codes were used as these are the codes that are used by healthcare professionals to record illness and are therefore standard diagnostic language used for diagnosis of disease.

Participants were recruited to interviews by expressing an interest during the survey phase. The initial response rate did not meet the target sample size ($n=20$), therefore, targeted recruitment via social media platforms was introduced in November 2022, and a £20 Love2Shop voucher was offered at this point as a thank you. A target sample size of 20 was estimated based on sample sizes used in wider mental health research and used as a guide to which we foresaw potential data saturation being reached (McKinlay et al., 2021). Any prior interviewees were re-contacted and were offered the incentive retrospectively. Participants were interviewed on a first-come-first-served basis utilising convenience sampling. Semi-structured interviews were undertaken on Microsoft Teams or via BT MeetMe audio conferencing. Participants self-declared that they met the inclusion criteria.

Data collection and analysis

Most interviews were conducted by peer researchers (males and females with lived experience of SMI), supported by the research associate, with the role of peer interviewers being outlined in the participant information sheet. The research associate provided support in terms of 'administering' the interviews, e.g., Microsoft Teams or phone set-up, starting and ending recordings, and being available as a support should it be needed. Peer researchers were recruited by The Centre for Mental Health and were paid as per the Centre's peer researcher rates. One interview was conducted by the research associate, as the peer researchers advised that they were unable to conduct the interview at the last moment. Peer researchers were provided with research training from Equally Well, The Centre for Mental Health, who were collaborators. No relationship was established between the peer researchers (or research associate) and participants before interviews. However, as part of the interviews, personal information was disclosed by the peer interviewers at times, such as their own SMI and food insecurity status. The semi-structured interview topic guide was developed in conjunction with experts-by-experience (those with lived experience of SMI and/or food insecurity) from our advisory group. The topic guide was piloted by the peer researchers and Equally Well UK. During the interviews the topic guide was used as a structure, but with additional probing and discussion should any other topics/line of enquiry be raised in the interviews by participants. Interviews were audio-recorded using an encrypted Dictaphone and pseudonymised recordings uploaded via a secure portal for external verbatim transcription. Field notes were made by the peer researchers

and the research associate, but these were not shared or analysed, as they were meant as a debriefing tool for interviewers only, not as a data collection tool. Transcripts were uploaded to Nvivo-12, and data coded by at least two independent researchers (from 4 of the authors) using deductive and inductive thematic analysis. Peer researchers indicated that they did not want to be involved in the analysis, although were involved in the write-up and are co-authors. For this, we were led by the main objectives of the research (deductive coding), whilst being open to other areas of exploration in the data (inductive coding), following Braun and Clarke's six thematic analysis steps (Braun & Clarke, 2006, 2018, 2019). Transcripts were not returned to participants for checking, although interpretation of the results was undertaken with the experts-by-experience on the project (including the peer researchers).

RESULTS

Participants

In total, 302 people expressed an interest in taking part in an interview, 69 met eligibility criteria and provided initial informal consent, and 13 individuals attended a (one-off) interview providing formal consent. Interviews ranged from a minimum of 30 min to a maximum of 51 min, with 10 interviews conducted via Microsoft Teams and three being telephonic interviews. Two themes based on the objectives of the research focused on (1) experience of food insecurity, and (2) perceptions of food banks and other strategies to tackle food insecurity (see Figure 1 for the coding tree). The coding tree shows the two main areas of deductive exploration (experiences of FI and strategies to tackle FI), underpinned by inductive codes. Below, the two main themes are described with quotations presented which best illustrate the theme. Participant identifiers are included in brackets after the quotation to identify the participant number (e.g. P001).

Theme 1: Experience of food insecurity

Participants discussed their FI experiences, the impact of FI on their mental health and wellbeing, the relationship between FI and mental and physical health, and barriers to accessing support and affordable food.

Food insecurity experience

In terms of their food insecurity experience, there was discussion of food insecurity being a long-term experience, with some having first experienced FI over 40 years previously, combined with experience

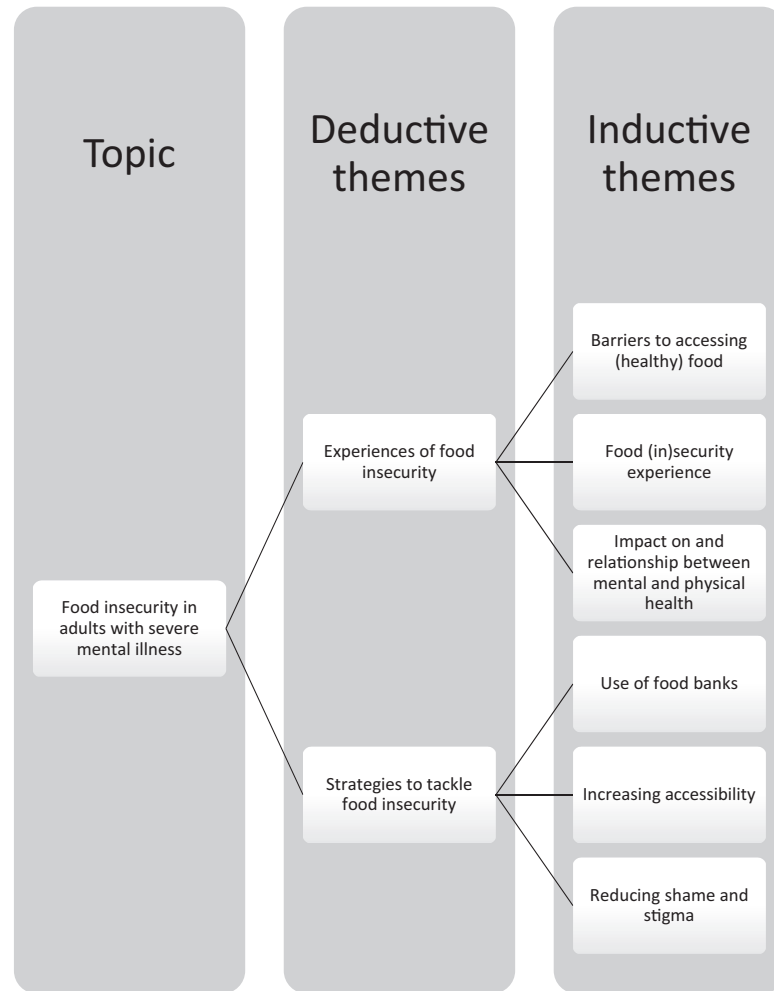


FIGURE 1 Thematic analysis coding tree.

of homelessness. For some participants, FI started through unemployment:

I'm just trying to think roughly when I...in the early eighties, nineteen-eighties... I was homeless for a while, [pause] um, and then [pause] I would eat whatever I could, really, whatever I could get my hands on. I did manage to actually buy myself some food, um, and that was because I did have a job at the time... And my father was an Irish immigrant, so obviously it was difficult for him to get work. And there was very little in terms of state support, erm, for families at that time during the 'fifties, 'sixties, 'seventies. So, erm, so I grew up, you know, with this insecurity around food

(Participant (P) 002)

I first experienced, um, food insecurity when I actually, um, lost my first job

(P005)

Additionally, it was highlighted that FI can take many forms, with some participants stating that they must shop for food every few days, as they are unable to shop on a weekly or monthly basis as they do not know where the money is going to come from to allow them to budget in that way. FI was also seen as an outcome of other factors, such as poor health:

So many times, I had to take plenty of water to supplement the inadequate feeding as I was growing.

(P012)

Food insecurity is just like [inaudible 0:03:46] how do you shop for your food, do you shop weekly, do you shop monthly and I can't really answer that question because most times I shop [maybe daily 0:03:57], I shop maybe once in three days, because most times I don't know where my next meal's coming from

(P007)



Whilst participants explained that FI often means a lack of access to food, they also discussed the impact of finances on food choices. It was discussed that often FI has impacted on them in terms of being better able to afford 'junk' food, rather than healthier options, or having to eat the same food repeatedly. Similarly, it is not only the cost of food but also the costs associated with preparing and cooking food that contribute to FI:

And junk food...Because it can be quite cheap compared to other sorts of food.
(P001)

I had to, um, live most of my days eating bread and, um, like, um, that was how I... that was what I ate like daily. Because I, I eat [inaudible 00:07:14] always, um, like I would say make me filled, but actually a lot of times I was always hungry...And, um, I couldn't get a job earlier, so I had to live my life like that for a very long time. And, um, I knew I wasn't eating healthy, but I just had to just, um, eat what I, I could afford.
(P005)

...For instance, you're talking about fresh food and all that, how are you going to get it if you don't have money all the time? And you can't get it...I crave for it. I want it. I know it's good for my health, but I can't afford it.
(P012)

Yes, most of the things comes to my mind that all the time, what will be the cost of my food and... in preparing this food.
(P009)

It's because I cannot afford to cook something else. If I decide to cook something else, yeah, I would be starved for a period of time. I can't go buy the type of food I want to cook or something that I would want to explore or try because it would limit the ration from what I can buy.
(P010)

Wider 'macro level' factors contributing to FI were discussed, including the 'cost of living crisis', and its impact on food prices. Additional problems included difficulty being able to afford to cook food (i.e., price of gas), even though many of the participants indicated that they felt confident in their cooking abilities:

There was also the hike on gas or purchasing gas had been another major challenge in our

cooking the food which I got from the food bank.
(P009)

The most challenging part of it is that for me as a person I'm a lower income earner, and looking at my income and getting my bills paid and also preparing meals, so I'm really having a financial, the most challenge is the financial challenge because of the lower income. And now the second challenge is the hike and increase in foodstuffs.
(P011)

To overcome challenges, it was discussed that at times food shopping was done later in the day to try to obtain reduced food, as well as keeping a close check on expenditure to be able to afford everything one needs:

...travelling, is not an obstacle to getting food. Um, I'm much more limited in what I actually buy, because the cost of things, especially food...well, everything, [laughs], is going up, and so I have to limit myself a lot more with what I actually buy. And I do, um, on several occasions, go to a shop later in the day when things are reduced...I have enough income with my pension and things to actually be able to afford to go and shop, provided I watch what I spend with things getting more expensive.
(P001)

Relationship between FI and mental health

In terms of the impact of FI on mental health and well-being, often it was stated that FI at some point in one's life, can lead to a lasting impact, affecting the relationship with others:

My family were very poor parents. Erm, and so food was sometimes just not available... and I think that made me, erm, afraid to be without food. Erm, you know, it caused insecurity, mentally. Erm, obviously, it was difficult physically as well, erm, to be very hungry.
(P002)

Seeing the price of food increasing and not knowing whether it is going to be affordable impacted on mental health and depressive symptoms. As was comparing their situation with FI to other people's, highlighting the unfairness of the situation:



...it affects more my mental health when I feel...when I can't get food, er, it can be a bit depressing and seeing the prices going up and not being able to afford it, tha...that can be frustrating and depressing.

(P003)

I don't feel happy when I see a lot of my friends, like I said, they are comfortable. They don't lack anything, but I am here struggling, to even put food on the table, so it's not a nice experience.

(P008)

Stigma the way it affects me it brings some level of depression. It makes people feel bad not being so equal in their community, being segregated or looked down. So, this affects the mental and psychological health.

(P011)

Other wider mental health impacts centred on the impact of not wanting to “bother other people with your problems”, and the notion of ‘duvet diving’ to avoid having to deal with current experiences such as food insecurity. The impact of mental health was also discussed in relation to needing more informal support groups, and in relation to feeling unsupported and lonely in the journey that they are on:

I find it very hard to actually ask for help for mental health situations and I don't know why, because I've had the illness for over forty years now. But I tend to not want to be a nuisance... when I'm very down, I don't want to face the world. I tend to do what we term duvet diving, in the...which is the term for not getting out of bed.

(P001)

I'm not lazy. I'm not lazy, but I found out, like, I wasn't motivated and I was depressed while at work. Like, I couldn't keep up.

(P010)

Like, I was just downcast, you know? I can't explain it. I was just downcast. Like, maybe it was music I needed to work. I don't know. There was music there, but I was just lonely. Like, I would say I'm just lonely. Like, I don't have friends anymore, you know? I don't have friends anymore. Like, I don't have anyone I socialise with anymore. Barely. Like, [I could just as everyone 31:16]. I probably need...I don't know, to be honest. I probably need a lot

to happen, a miracle to save my life, for me not to need this help really.

(P010)

Relationship between FI, physical, and mental health

In terms of the relationship between FI, mental health, and physical health, it was discussed that FI impacted on mental and physical wellbeing, but poor mental health also impacted on food intake and food security. A ‘vicious cycle’ was discussed:

I think it was mainly the illness and I just didn't want to eat. Yes, I'd have, um, er, liquid to drink, water, tea, whatever, but I just was not interested in food at all, yeah. [pause] And I couldn't get myself together to actually think, now, what do I need to buy? Um, can I cope with all this? And so, everything foodwise just deteriorated.

(P001)

I think if there's no food in the house for example, it...it's really stressful and if it's a continuous stress it can lead to depression.

(P004)

An additional concern was the impact of not being able to take medication as directed. For example, medications should not be taken on an empty stomach, but this was difficult to adhere to when also battling with FI. Other times, participants would avoid medication as it made them crave more food that they could not afford:

You need to take some medications on a full stomach, you need to have eaten, otherwise the medication won't work properly. And it can also, erm, upset your digestive system, and make you physically ill. So, you know, you're not getting the benefit of the medication working as it should. And also, there's the physical side-effects of having to take it on an empty stomach.

(P002)

...sometimes I will not take my medication because sometimes if I take the medication, yeah, I tend to eat a lot. You know, which makes me gain weight, which makes me vulnerable to lack of affordability of food. Like, if I have £20 or £25 for a week, yeah, and I keep taking my medication as I'm supposed to... I try to eat once or twice a day. I try to eat twice a day, mainly.



But with medication, I can eat four times a day...you start craving, you crave things, I probably crave things I can't afford. So sometimes I just try not to take medication all the time. If I feel okay, I don't take it. If I feel down, I try to take it.

(P010)

Participants also talked about barriers to accessing FI support. These included finding it difficult to physically access FI help, as having a physical disability makes standing in long queues to access food hard. Additionally, depending on mental health diagnoses, some participants found it difficult to wait in food queues where there may be a lot of people as they found this too overwhelming. Even completing the paperwork can be an immediate hurdle that is difficult to surmount, as was being unable to afford to travel to a foodbank:

Because especially during the pandemic, when, erm, you know, there were long queues of people trying to shop at the supermarket, and obviously being disabled, that was difficult. Erm, I can't stand in long queues of people. And then when you got inside, there was nothing to get, because the people in front of you had gone mad and panic bought everything... And also, the autism, because obviously it's difficult for me to be around crowds of people. Erm, noisy environments, lights, everything like that.

(P002)

I think, um, the, the, um, application process because I feel it's difficult for, um, for immigrants and, um, a lot of times I, I don't like, um, to go through the long [inaudible 00:11:39], kind of, long process of having to apply for things like that... if the process was easier and, um, also friendly I would, I would have, um, applied for, um, the food stamp.

(P005)

Interviewer: Why do you think that you've never used like a foodbank or a community café or anything like that yourself?

Participant: The biggest issue is affordability, I cannot afford it... so transport costs. (P006)

Theme 2: Perceptions of food banks and other strategies to tackle food insecurity

Within the second overarching theme on food insecurity (FI), participants discussed what they thought

of food banks, as well as other recommendations to tackle FI. Thoughts on food banks included adapting food banks to make them more accessible and reduce shame and stigma surrounding food bank use. Ensuring food banks catered for multiple cultures was important, as well as food banks providing methods of transport to allow more people to be able to access them, or even a way that food banks can transport food to people's homes who are unable to access them in person. Additional suggestions included food banks providing hot cooked meals.

General thoughts on food banks

Participants expressed sadness that food banks were required in the UK, and some also called for greater information to be able to be aware of what support is available. Food banks were thought of positively including that they offer both food and advice, that they are cheaper to access than supermarkets, and that it is sustaining; it means that they do not go hungry:

I would like to get more information on where the centre are where people receive the foods and also if there can be arrangements of transport instead of someone going there themselves they can do trips or information is spread someone comes [inaudible 00:29:58] where they live to the addresses of their homes.

(P006)

I'm very sad that in twenty-first century Britain we are depending so much on food banks and, um, parcels, food parcels handed out and things like that, and community shops. It just should not be happening.

(P001)

Strategies to improve food banks in the UK to reduce FI

Suggestions to improve the types of foods offered at food banks included a greater number of fruits and vegetables to be available, whilst also reducing reliance on canned and sugary foods. There was also some concern that food parcels may not be of sufficient quantity to feed a larger family:

Yes, it's not very easy and are facing like green vegetables or fresh fruit... It's really another challenge in getting our vegetables.

(P009)



I've been to a food bank just once. I think once or twice. The reason I stopped going was because of the type of food. It was mainly like canned food, sweet cereals, just sweet sugar, sugar, sugar, sugar. The food bank does not get deliveries of fruits like bananas or like shopping foods. They just give you canned food.

(P010)

I mean, I think it's good that it, it, you know, reduces food waste. However, I don't know if you could feed a family on it for a week, you know, and that's one of the problems. You, you don't know what you're gonna get in the food parcel, so you can't really choose...

(P002)

Lastly, wider suggestions for tackling FI included making the application process for accessing support easier, providing online support, and providing advice and information sessions on support for FI. Macro-level suggestions centred on political control on the price of food contributing to FI and strategies to tackle the 'root cause' of FI:

Okay, yeah, I feel it will be easier to access because considering my location and also at times going through my mental health care can be kind of stressful because you have to take a longer process than for me going to the organisation directly.

(P013)

Interviewer: Have you accessed any services in relation to food insecurity like, for example, food banks or community shops or social supermarkets, community cafes, anything like that?

Participant: These type of services should be funded by the government...Because actually the main problem for such problems is lack of funds. (P006)

And the government should look into how to control the hike in food prices.

(P011)

I would like to get more information on where the centre are where people receive the foods and also if there can be arrangements of transport instead of someone going there themselves they can do trips or information.

(P006)

DISCUSSION

Our interview findings show that FI is often a long-term experience. This included 'in-work' poverty and living

with FI. We also found, similar to existing research, that food insecurity can have adverse impacts on mental health. Furthermore, we found wider determinants and consequences of FI including the cost-of-living and fuel poverty, which is well-demonstrated in the literature. Difficulties were described around using emergency food aids, such as food banks, including difficulty accessing them, stigma around their use, and poor selection of food available. Strategies to tackle food insecurity centred on addressing the underlying causes of FI.

Similar to our findings, a long-term trajectory of FI was also found in a longitudinal study of children in Canada (Paquin et al., 2021), finding that early life experiences of FI can remain over time. It also found that poorer parent mental health was associated with long-term risk of FI, also highlighting the link between FI and mental health. However, overall, there is limited evidence on the trajectory of food insecurity within adults with SMI and the bidirectional nature of SMI and FI, although some evidence does exist for the relationship between FI and mental health in general (Pourmotabbed et al., 2020). Where evidence does exist it is from outside of the UK. For example, a study in Australia found that FI was highly prevalent in 'community-dwelling' people with SMI, with the authors recommending that food (in)security screening should take place as part of routine care for adults with SMI to tackle this (Tripodi et al., 2022).

In our findings, wider impacts of FI were also found, such as the impact of adherence to medication when unable to take with food as directed. Again, there is limited wider evidence reporting on this. Where evidence comes from existing studies, it is related more to the affordability of medications and therefore non-adherence to medication when there is limited money (i.e., not buying medications) (Fei et al., 2019). Other research reports Health Care Professionals (HCPs) views on medication regimes for long term health conditions being impacted by FI and recognising this is a problem for patients, but this is not in relation to patients with SMI in particular (Douglas, Machray, et al., 2020, Douglas, Maciver, et al., 2020). Overall, there is little, if any, research focusing more specifically on medication adherence for adults with SMI linked to FI, and what this means in terms of missing medication, or being unable to take medication when directed 'with food' and what that means for treatment efficacy, resultant impact on mental health, and on maintaining a healthy weight.

In terms of suggestions to tackle food insecurity, participants talked about providing adjustments to food banks that allow those with mental and/or physical health conditions to access food banks more easily, but also to reduce the stigma around using food banks and tackling the root causes of FI. That said, practical strategies for how to tackle stigma were not explicit in the interview discussions. In relation to this latter point, to reduce stigma certain recommendations are evidenced, including being aware of mental illness,



avoiding judgemental thinking, and educating others and challenging myths (CAMH, n.d.) around why people experience FI. Given that limited research involves adults with SMI and FI, and focuses on common mental health conditions (e.g., depression or anxiety), research such as ours is important in developing the evidence around SMI and FI and in disseminating messages that can help to reduce this stigma. Even within the last 15 years little development has occurred to best address FI in this population group (Goetz, 2008) and searches of the literature still indicate limited peer-reviewed and grey literature evidence on the best strategies to tackle FI in adults with SMI.

Our findings also showed that for some participants, food banks (emergency food aid) were the most often used resource for gaining access to food, even if they had concerns around stigma. For some, this stigma deterred them from accessing help from food banks. Such reluctance to ask for and access FI help was also found in a study exploring frontline service provider perspectives of FI (Douglas et al., 2018). Furthermore, research from Australia suggests that food banks/hubs may do little to reduce stigma, as they are not perceived as a 'normal' shopping method (McNaughton et al., 2021). That said, when asked about strategies to tackle FI, food banks were the most suggested recommendation. Previous research shows that food banks are often disproportionately used by people with ill-health and/or disability. Other research also shows that those experiencing in-work poverty, disability, and unemployment are also more likely to use food banks. The same research – of one food bank network in the UK – also found that accessibility of food banks was limited. This was from the perspective of when they were open, the hours that they were open, and the geographical spread of food banks. Similar to our qualitative findings, Loopstra et al. (2019) also found difficulties in access due to factors such as eligibility thresholds and logistical access to food banks. Therefore, whilst food banks are a helpful resource, it cannot be assumed that they are easily accessible. However, whilst research well-establishes the link between mental health and food insecurity, there is limited evidence around the impact of having SMI on accessing food banks, and whether any further reasonable adjustments are needed to enable adults with SMI to access food banks. Indeed, previous research finds that there are challenges around flagging to Health Care Professionals (HCPs) when support is needed for addressing food insecurity. This suggests that more proactive action may be needed on the behalf of HCPs to better support patients with food insecurity, rather than expecting it to be flagged to them. Two of the authors (ELG and JS) have indeed discussed the need for clinical action around this when disseminating these findings to, for example, dietitians working in mental health services, and the need to be able to better identify and support patients with FI, and resultant impacts on their treatment.

Lastly, our research also established qualitatively that our participants were concerned about the nutritional content of food from food banks. They described not being able to access healthier items easily. This limitation of food banks has been discussed in the literature, in that not only is there a lack of adequate nutrition when someone has food insecurity as they cannot afford to buy food, but that poor nutrition may be further entrenched when accessing food bank donations (Loopstra, 2018). A study in the North-East of England, in Stockton-on-Tees, one of the most deprived areas in the UK, looked at the health and health perceptions of food bank users in the region (Garthwaite et al., 2015). It found that most users were using the food bank due to mental health problems, but also found difficulty in being able to afford and access healthy foods, relying on long-life products with more limited nutritional quality. The lack of healthy nutritional content of food banks is also echoed in other research (Oldroyd et al., 2022; Simmet et al., 2017).

Proactive policy reform is essential to prevent people with severe mental illness (SMI) from developing food insecurity, rather than relying on retroactive community initiatives to address food insecurity, with an argument that the state more proactively engages in tackling FI within a context of social justice (Caraher & Furey, 2019). However, any strategies to help tackle FI 'on the ground' need to ensure they meet the needs of vulnerable adults, particularly those with SMI, as limited research involves this population group. It is important to consider the views of adults living with SMI, alongside other stakeholders, to co-produce strategies to ensure any strategies/interventions are accessible and effective. Ongoing research by some of the authors involves co-producing an intervention to tackle FI in adults with SMI, exploring further challenges such as structural and social determinants of FI and higher-level macro-drivers of FI. This co-production research involves those with lived experience but also HCPs and wider policymakers/stakeholders.

Strengths and limitations

A limitation of this study is that we did not achieve our target of 20 interviews. However, it is recognised that it is difficult to recruit adults with SMI to research studies (Kanuch et al., 2016), further impacted potentially by discussing an emotional topic in our research. Whilst many more people expressed an interest in an interview, some did not turn up to their interview, some could not agree on a suitable date and time for an interview, and for some interviews, the peer researchers were unavailable to conduct the interview. Additionally, the use of social media for recruitment may have meant that harder to reach people with SMI were excluded, particularly those that may not be comfortable participating in a long (up to 1 h) interview, although we did expand our



recruitment avenues to try to combat this. Furthermore, we acknowledge that the lived experience of the peer researchers may have generated an interest in the research topic and certain lines of probing within the interviews, although there was a research associate present to ensure that a priori questions from the topic guide were discussed.

However, the main strength of this research includes being, to our knowledge, one of the first UK studies to explore, using in-depth qualitative interviews, the experiences of adults with SMI with regards to their food insecurity experience, and to directly ask what strategies would be useful to help reduce FI for them. Additionally, our peer-research led interviews are a key strength in that the participants may have felt more comfortable discussing their SMI diagnosis and food insecurity status with someone with lived experience. However, one of the interviews was conducted by the RA due to attrition amongst the peer researchers. Whilst this may have impacted the type of data received, the team had to act quickly to not disengage those who had volunteered for an interview.

CONCLUSION

Our qualitative study found adults with SMI in the North-East of England experienced FI, and often had experienced this over a long time. It identified a range of barriers to accessing healthy food and the impact that this had on mental- and physical health, including adherence to SMI medication. 'System' issues included considerable difficulty accessing food banks, with suggestions made around improving accessibility of food banks and increasing the nutritional quality of food provided within them. Further research and action are required, with a focus on interventions to address this stark health inequality for adults with SMI as well as more proactive action on the behalf of (health care) professionals to address food insecurity in discussions with patients. Whilst our study is one of the first to focus on adults with SMI and food insecurity, we have found similar results to previous studies in this area highlighting that limited action has been taken over the last few years to ensure that FI is tackled at a population level, and in particular for adults with SMI.

RELEVANCE FOR CLINICAL PRACTICE

This study suggests adults with Severe Mental Illness (SMI) living in northern England are experiencing food insecurity. At present, mental health practitioners may not prioritise asking about food insecurity. Further attention and focus need to be on eliminating food insecurity, but in the meanwhile (1) ensuring widespread access

to food banks, as they are one of the main sources of emergency food aid in the UK, (2) in making sure they are easily accessed by adults with SMI, and (3) that they also offer adequate nutritional food supplies. This emphasises the need for action and change.

TRANSPARENCY NOTICE

The lead author affirms that this manuscript is an honest, accurate, and transparent account of the study being reported. The reporting of this work is compliant with the COREQ statement for qualitative studies. The lead author affirms that no important aspects of the study have been omitted and that any discrepancies from the study as planned have been explained.

AUTHOR CONTRIBUTIONS

All authors meet the authorship criteria according to the latest guidelines of the International Committee of Medical Journal Editors and all authors agree with the manuscript. The lead author affirms that this manuscript is an honest, accurate, and transparent account of the study reported. The lead author affirms that no important aspects of the study have been omitted and that any discrepancies from the study as planned have been explained. Emma L. Giles and Jo Smith conceived of the study, were joint Chief-Investigators, wrote the grant application, supported with data collection and analysis, resolution of queries, advice on protocol design, oversight of data synthesis and interpretation, and led on writing the manuscript. Fatemeh Eskandari was the research associate for the project and was involved in the research ethics, data collection and analysis and contributed to the final manuscript. Grant McGeechan, Steph Scott, Amelia A. Lake, Scott Teasdale were co-applicants for the project, wrote the grant application, supported with research ethics, data analysis, and contributed to the final manuscript. David Ekers was an advisory group member, supported with data interpretation, and contributed to the final paper. Alex Augustine, Chris Lynch, Hannah Moore, and Nikita Le Sauvage were peer researchers, and supported with data collection, data analysis, and contributed to the final paper.

ACKNOWLEDGEMENTS

We would like to thank the peer researchers on this project and our collaborating partner Equally Well UK, part of the Centre for Mental Health. We would also like to thank the study/project funder: NIHR Research for Patient Benefit (NIHR203466). The views expressed are those of the author(s) and not necessarily those of the NIHR or the Department of Health and Social Care.

FUNDING INFORMATION

This study/project was funded by the NIHR Research for Patient Benefit (NIHR203466). The views expressed



are those of the author(s) and not necessarily those of the NIHR or the Department of Health and Social Care.

CONFLICT OF INTEREST STATEMENT

All authors declare that they have no conflicts of interest.

DATA AVAILABILITY STATEMENT

Research data are not shared.

ETHICS STATEMENT

Ethical approval was obtained from the North-East Newcastle and North Tyneside 1 Research Ethics Committee (Reference: 22/NR/0010); and the Health Research Authority and Health and Care Research Wales (IRAS ID: 306281).

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How to cite this article: Giles, E.L., Eskandari, F., McGeechan, G., Scott, S., Lake, A.A., Teasdale, S. et al. (2023) Food insecurity in adults with severe mental illness living in Northern England: Peer research interview findings. *International Journal of Mental Health Nursing*, 00, 1–12. Available from: <https://doi.org/10.1111/inm.13270>