

Understanding weight gain in female prisoners

Abstract

Purpose

The purpose of the study was to investigate female prisoners' perspectives on why they gain weight while in prison.

Design/methodology/approach

A qualitative design was used with semi structured interviews with six females currently residing in a prison in the south of England.

Findings

Analysis of the data generated three themes relating to the reasons why women gain weight in prison. These were labelled as *'The only thing you haven't got to ask permission for is your food, it's just handed to you'*, *'If you've been stripped of the things that make you happy, or that you are addicted to, eating can soothe you'*, and *'prison can make you take better care of your health'*.

Originality/value

The results identify perceived reasons why women gain weight in prison uniquely from the female prisoner perspective. The implications of the research identify the need for systemic change throughout different prison departments to enable women to maintain a healthy weight during their custodial sentence.

Introduction

Obesity affects approximately one in four adults in the UK (NHS, 2019) and can lead to a variety of serious health problems including type 2 diabetes, coronary heart disease, some cancers and stroke (NHS, 2019). Risk factors for obesity include lifestyle factors such as diet and physical inactivity, genetics, medical conditions, and medication (NICE, 2017). In addition, environmental factors are thought to have an influence.

Indeed, the term 'obesogenic environment' refers to the influences that the surroundings, opportunities or conditions of life have on promoting obesity in individuals and populations. Hobbs and Radley (2020:p.1) recognise that the causes of obesity are complex, they suggest that it is plausible that obesity "is driven largely by environmental factors, which undermine the self-regulatory capacity that people have to make responsible decisions about personal diet and physical activity". For example, availability and accessibility of energy-dense foods, is likely to at least partly,

explain excess energy intake and weight gain (e.g. Hobbs & McKenna., 2019; Swinburn et al., 2011). Verde et al (2024: p6) take a stronger view and state that obesogenic environments “are the predominant driving forces behind the growing obesity epidemic”. They argue for increased attention, research, action and priority setting. They recognise that implementing their proposals will require a paradigm shift not just in recognising the influence of obesogenic environments, but also in terms of non-health sectors becoming aware of the contribution they could make to reversing the obesity epidemic.

As in the general population, obesity is prevalent in prisoners in high income countries, and weight gain during imprisonment is common (Herbert et al., 2012). Prisons have been described as obesogenic environments indeed Canadian researchers Johnson and colleagues (2018a) suggest that prisons are equally obesogenic for males and females. Another Canadian study with both male and female inmates has argued the cause is the use of the canteen/commissary rather than the offering provided by the food service system within the institution (Johnson et al., 2018b)

Research into weight gain in prisoners has found that both males and females gain weight during their sentences, but this is higher in women (Lagarrigue et al., 2017) and can be almost eight times as high than in male prisoners (Gates and Bradford, 2015). Furthermore, research suggests that weight gain happens soon after the start of imprisonment with women gaining around 1.5kg during their first month in prison (Plugge et al., 2009). A more recent review exploring cardiovascular risk factors amongst prisoners reinforces the positive association between weight gain and incarceration and furthermore, highlights that this effect may be most pronounced during the first 2 years of incarceration (Bondolfi et al., 2020).

It can therefore be understood that being in prison can lead to increases in weight and obesity levels in this population, especially for women. To reduce the risk of obesity in prisoners, it is pertinent to understand why women gain weight in prison, as it can increase their risk of serious health problems and escalate healthcare costs (Vlad, 2003). Gates and Bradford (2015) investigated the impact of incarceration on obesity in both males and females by reviewing health records of prisoners in the United States. They found that chronic illnesses including diabetes and hypertension were not explanatory factors for obesity in prisoners, nor was it related to race. Johnson and colleagues (2021a) explored the impact of psychotropic medication and weight gain in prison. They found that those taking psychotropic medication did not gain more weight during incarceration compared to their counterparts who were not taking psychotropic medications. However, they noted that participants

taking psychotropic medications were more likely to be overweight or obese and already had higher BMI at the beginning of their incarceration as opposed to gaining more weight during incarceration.

It therefore may be the case that factors specific to the prison environment may be contributing to weight gain. Prison nurses' perceptions of weight gain in a male prison (Choudhry et al., 2017) offer some insights into this as they identified that sedentary behaviour, poor food choices, prison regime (such as limited food choices and being locked up for long periods of time) and prison culture as being the reasons for weight gain in prison. Furthermore, Mutz and Muller (2023) note that prison management often marginalize health promotion. This makes it difficult for prisoners to carry out health-promoting behaviours such as managing their weight. Johnson and colleagues (2021b) found that participants who gained a significant amount of weight whilst in prison, were more often diagnosed with co-morbid obesity-related chronic conditions. In other words, weight gain may contribute to the deterioration of peoples' health during incarceration.

However understanding of the factors specific to the female prison environment remain underexplored and there is a paucity of research into female prisoners' views on weight gain during imprisonment. Hearing from prisoners themselves using a qualitative design will allow for exploration of the topic from the point of view of the population themselves, rather from an outside opinion (Mohajan, 2018). The purpose of the present study is therefore to investigate female prisoners' views of why women's weight increases in prison.

Method

Participants

Participants were six females imprisoned in a closed female prison in the south of England. All were convicted and sentenced prisoners and working age adults.

Participants were recruited via posters on residential wings and in the healthcare department. The posters invited prisoners interested in taking part to contact the researcher through an application form (the application form is the communication system used in prison). On receipt of the application form, the researcher met with the prisoner to explain the study, to provide an information sheet and to answer any questions.

We aimed for a sample of between six to ten participants. This is considered to be a suitable sample size to explore participant experience(s); large enough to demonstrate patterns across the interviews and small enough to retain a focus on the experiences of individuals (Braun and Clarke,

2013). Seven prisoners volunteered and six were interviewed. One left the prison before she was able to be interviewed. The criteria for inclusion were self-identification as having gained weight in prison, ability to communicate in English and ability to provide informed consent. Prisoners who lacked the mental capacity to consent were excluded.

Design

As noted in the introduction, there is a paucity of research into female prisoners' views on weight gain during imprisonment. Hearing from prisoners themselves using a qualitative design allows for exploration of the topic from the point of view of the population themselves, rather from an outside opinion (Mohajan, 2018). Face-to-face semi structured interviews were chosen as they provide a guide for the researcher and allow for the flexibility to explore interesting and relevant ideas that are raised by the participants (Eatough & Smith, 2013).

Procedures

A mutually agreeable time was arranged to complete the interview with participants who met the criteria and wished to take part. At the agreed time, the researcher collected the participant from their wing and took them to a private room in the healthcare department. The study was explained again. Participants were reminded of the specific limits of confidentiality related to risk to self and others, and risks to the prison security after which their written consent was obtained.

Interviews took place between August and September 2021 and were audio recorded. All interviews were conducted in the prison's healthcare department in a private room. Interviews ranged from 20 to 50 minutes in length. The semi structured interviews were designed to gain insight into why women gain weight while they are in prison. Prompts were included to encourage participants to expand on their answers when needed, for example, *"In your experience, does women's weight change during their time in prison? Why do you think this is?"*.

The recording was stored securely on an encrypted USB and kept on site in a locked cabinet. At the end of the interview the participant was thanked for their participation and reminded they could withdraw their consent and data up to two weeks after the interview. They were then taken back to their wing.

Since the interviewer worked in the prison as a mental health professional, it was explained to all participants that the interviewer's role in the study was separate to their role in the mental health team and that information given in the interview would not be shared.

Ethics

Ethical approval was achieved from Staffordshire University, the NHS Research Ethics Committee and Her Majesty's Prison and Probation Service (HMPPS) National Research Committee.

The research was carried out in a prison that does not house category A prisoners (i.e. those that would pose the most threat to the public, the police or national security should they escape). In terms of safety; the room in which the interviews were conducted had an emergency alarm on the wall and the researcher carried a radio and personal alarm to call for help should it be required.

If a participant had become distressed or concerned about their weight or health, there were procedures in place to refer them to the prison healthcare department. If they had disclosed any significant risk to themselves or others, the prison staff would be informed following correct procedures by contacting the safer custody and/or the security department. This was made clear to participants prior to their participation in the interview.

To ensure the safety of the researcher and the participant, other staff were made aware of the interview. The interview was held in a room with a glass window so that both researcher and participant could be seen from the outside. This meant that prisoners who took part in the study could not remain anonymous, but the confidentiality of the content of their interview was maintained. This was made clear to them prior to their participation.

Data analysis

The data was analysed using inductive reflexive thematic analysis (Braun & Clarke, 2019, 2021). The phases of analysis as described in Braun and Clarke's (2021) book were undertaken to explore patterns across the interviews. The phases are distinct, but not hierarchical steps. Analysis moves in a recursive way between the phases. The authors recognise that their values and experiences would impact on the way in which they interpreted the interview data. The lead author, who conducted the interviews and led the analysis, was mindful of her role as an allied health professional in the prison service and aware of how her experiences may impact on the analysis of the interviews.

Phase 1 is known as ‘familiarisation with the data’ where the researchers immersed themselves in the data by reading and re-reading and noting any initial observations. The interviews were transcribed by the first author. Phase 2 involved ‘coding’ where segments of data that were potentially interesting, relevant or meaningful for our research question were identified, and code labels developed. Phase 3 is known as ‘generating initial themes’. This involved clustering codes that seemed to share a core idea or concept. These clusters were then further analysed to generate candidate themes. There were initially nine candidate themes. Phase 4 involved ‘developing and reviewing themes’. This is where we checked whether our candidate themes fitted with the data and our overall analysis. This phase involved returning to the data and ensuring that the candidate themes made sense in relation to the coded extracts and the full dataset.

All transcripts were read by the first two authors and selected transcripts were read by the third and fourth authors to ensure the team were familiar with the data. The lead author completed the analysis and presented it to the co-authors. Their familiarity with the data set enabled them to question assumptions and sense-making within the developing themes and in so doing, highlighted areas where further refinement of the developing theme was needed. As a consequence, some initial themes were refined, others were combined. In phase 5, known as ‘refining, defining and naming themes’, the researchers worked together to ensure that each theme was “clearly demarcated and built around a strong core concept or essence” (Braun and Clarke, 2022:p36) and labelled them accordingly. A brief synopsis of each theme was also written. In the final phase, Phase 6, which is known as ‘writing up’ the analytical narrative was refined and illustrated with compelling extracts from the data set.

Results

The women in our study all agreed that women gained weight during their time in prison;

“Everyone that goes to jail puts on weight.” (Participant 4)

There was also the assumption from nearly all of the participants that this weight gain happened due to being in prison, as they expected to lose any gained weight when they left.

“Well, every woman I've spoken to that has either left and stayed out, or left and then come back, they've gone ‘don't worry, you'll lose it. As soon as you leave, you'll lose it as soon as you leave’. That's the general consensus” (Participant 1)

Analysis of the data generated three themes explaining the reasons for women gaining weight in prison. These were labelled as *'The only thing you haven't got to ask permission for is your food, it's just handed to you'*, *'If you've been stripped of the things that make you happy, or that you are addicted to, eating can soothe you'* and *'Prison can make you take better care of your health.'*

Theme One: The only thing you haven't got to ask permission for is your food, it's just handed to you

A prison is a significantly different environment to live in compared to the community, and many of the participants identified how this changed their lifestyle and limited their control and choices, particularly with respect to physical activity, food, information, and support. For example, Participant 6 said, *"suddenly you gotta remember you gotta ask permission for everything."* Although not a term used by the women in our study, the many factors described by the women could be encompassed by the phrase 'obesogenic' environment.

Physical Activity: Being in prison offers little opportunity for physical movement. Prisoners live on a small site and are often restricted to their cell. The contrast between their opportunity to engage in physical activity in their life pre-prison and their current experiences in prison was marked.

"I used to work at a (job), so that was a lot of walking, a lot of cleaning, a lot of own activity to suddenly I'm in prison and I'm in a room....So I went from a very active job, and I don't drive either so even when I was at home after doing the housework, I then had to walk to the shops or walk everywhere to get somewhere, to be in a prison. It's not just that you just sat in a room but then you also sat on a house block. And to get to work is only like 100 paces that way." (Participant 6)

Not only was there reduced opportunity for movement in their everyday life, but the formal exercise opportunities offered in prison were limited to gym use and exercise classes. The women spoke about barriers to exercising which included not liking the type of exercise on offer as well as feeling uncomfortable in a gym setting.

"not everybody likes spin class, running. You know, great if you do and I'm lucky that I'm really into that. But some people just fancy a little jaunt or a little walk or erm maybe games." (Participant 1)

In addition, due to the prison regime and timetabling, the women could only access the gym at certain times. The choice of when to exercise was removed from them and, exercising with other prisoners whom they perceive to be in better shape, was described as intimidating. Collectively, these barriers prevented prisoners from using the sessions offered to them. Participant 4 said:

“I don’t feel comfortable going to the gym with everyone who’s in shape. So I just don’t go.”

(Participant 4)

The women in our study also offered comparisons between male and female gym use. They felt that men used the gym more in prison. Two main reasons were offered to explain this. First that it was considered more socially acceptable for men to use the gym often and to gain muscle. Muscled women in contrast, were less acceptable. Since the women could see no other options for exercising, the net result was that women gained weight and lost tone, whereas men gained weight and muscle:

“Because (men) put on weight, but they also come to the gym on a regular basis. So, when they do come out as big and kind of muscled, where women, they don’t really go to the gym. So just put it on” (Participant 3)

The second explanation for the difference in use was the perception that staff encouraged men to use the gym more than women prisoners. The active encouragement of gym use was not necessarily about maintaining physical health, but more to do with giving the male prisoners an outlet for their emotions. Exercising was equated with emotion management for men:

“So, I wonder if in the male establishment, they hammer home, how important it is for them to get exercise because they want them to not be as pent up, whereas here, it’s more a case of, if you feel like it, you should do it.” (Participant 1)

Food: Since the food in prison is provided for prisoners, they have little choice over their meals. The women in our study felt the food offered to them was neither aesthetically pleasing, nor healthy. In effect, the choice they had was to either eat the unhealthy, unpalatable looking food, or to go hungry:

“The food that is on offer is not really green. It’s all beige and... So what can you do?”

(Participant 4)

The lack of healthy food was another reason why the women in our study believed women in prison gain weight. Participant 6 had spoken to someone who had been released and had lost weight perceiving that the woman who had been released now had choice and opportunity to move more, cook for herself and eat well:

“I think because they're able to prepare that food... buy the food and prepare their food themselves. And she says just because she was able to cook for herself again...I think a fair few people would find they'll lose a little bit of weight, because also the moving around.”
(Participant 6)

Information and Support: Being in prison meant that the women did not have access to resources that they would have in the community. This included nutritional information that they would be able to obtain from packaging or the internet, information about weight management from professionals or the internet, and no access to weight management groups and programmes.

The women highlighted the lack of nutritional information with respect to the food provided. They felt that this contributed to the challenges they faced when trying to make healthy decisions about food.

“But I think it's bad that the things that come from the kitchen do not have calories on them. Like, you know, every.... outside, I don't know if I've ever come across something that doesn't have calories on it, especially if you get something from the shop. So why shouldn't stuff in prison have calories on it?” (Participant 5)

There was a desire for the prison to offer support for weight management. The women felt that there was no professional support for those who wanted to avoid gaining weight, or to manage and reduce their weight gain. In the community they were aware that they would have had access to resources such as weight management groups. Had they not been in prison they would also have been able to seek advice, support and information online, something which because they were in prison, they were no longer permitted to do. The women felt alone; many of their freedoms and choices had been removed, and they lacked sufficient information and support to make informed choices about their weight management. Support for managing weight was strongly desired by the women in our study:

“I feel like there should be support, people that you can go to, to help you. And not just a GP, because you go to the GP, they just give me like some, some slimming tablets or oil tablets or

something because a lot of people using the oil tablets right now. I feel like they should be more support than that.” (Participant 3)

Participants did not want what were perceived as ‘quick fixes’ like the tablets mentioned by Participant 3 above. They wanted to learn how to manage their weight and knew that they needed both support and information, neither of which was forthcoming in their prison setting.

“even if it's someone that comes in, you know, to not only educate women about weight loss and weight gain, but someone to advise them as well. Because some people a lot of the time don't know” (Participant 5)

Participant 1 summed up this theme eloquently. She believed that a prison ought to do more than simply keep those incarcerated safe and alive. Whilst this is obviously important, she considered that prisons had a further responsibility and should focus on keeping their population healthy and well. To do this, she suggested prisons ought to be a place where education and support is provided to help prisoners learn the skills about living well, that they could take with them once their time is served:

“But I think as the prison are responsible for keeping you alive, they should be responsible for keeping you healthy. The buck doesn't just end with making sure you're breathing in and out and your heart beating it, it, it ends with making sure that you actually can live as good a quality of life as you possibly can. Because you're a human being.” (Participant 1)

Theme Two: If you've been stripped of the things that make you happy, or that you are addicted to, eating can soothe you

The women talked about how in their experience many women prisoners will have been addicted to drugs prior to entering the prison system. Although it was acknowledged that accessing illicit substances whilst in the prison system was not impossible; the opportunities to do so were significantly reduced.

“yeah, I think for a lot of women in prison, stuff like, some were either on alcohol or drugs, and then obviously coming to prison where I mean, you can.. they're available, but not as much as outside” (Participant 4)

Our participants suggested that since opportunities to access drugs and alcohol were significantly reduced, food was substituted. This process was thought of as replacing one addiction with another. For example, participant 4 replaced using drugs with eating:

“I think, because you, you're addicted to a substance, you come to prison. And for me, personally, I substituted it with food” (Participant 4)

The participants linked being underweight and thin with repeated drug use. It was therefore not considered surprising that once opportunities to access drugs were restricted, whilst access to food was more consistent compared to life outside the prison system, women would gain weight. Our participants spoke about how they had repeatedly witnessed other women gaining weight during their prison sentence and attributed this to previous drug use before prison.

“most of the women, almost every single one of them that came in to prison when I came into prison, that was years ago, they were extremely thin because they're on drugs. And when they were coming off the drugs, they started eating and craving for sugar and eating all the really unhealthy stuff, anything they would get their hands on, and their weight will go up, and then it would, it would stabilise” (Participant 2)

The prior use of alcohol and drugs and the substitution of these substances for food on entering prison was perceived as a means of engaging in a self-soothing behaviour. The women described significant psychological and emotional consequences of being in prison, particularly related to separation from loved ones, feeling lonely and guilt around being in prison. Eating became a way of self-soothing.

Many women talked about the difficulty of being separated from family and children and how this significantly affected their mood and emotional wellbeing. One participant described what that felt like.

“It's like a bereavement for some women coming in here, because they've lost all contact with families, or most of it.” (Participant 2)

As with the gendered perception outlined above concerning gym use, Participant 2 suggested that this separation from family and children affected women more than men, and therefore was considered to be more distressing for women;

“And it's not just the PMT, we're, I think, (women) get more attached to our children, as well because we've been carers for them. So, it's attachment causes us to be more, like, suffering..” (Participant 2)

Another source of distress for the participants was related to being given a custodial sentence for an offence. One participant said that her guilt about being in prison had led to her eating more.

“But for me, personally, I do it because I like miss my family, my children, and I feel guilty about being in here. So it's kind of a bit of a self-pity. Like our poor me, poor me, but I'll just eat, eat, eat” (Participant 4)

Due to the distress that they felt being in prison many of the participants talked about using food as a replacement for things that they used to find soothing or enjoyable.

“The eating to soothe aspect of it, if you've been stripped of the things that make you happy, or that you are addicted to. So that could be anything from drugs, alcohol, shopping, sex, all of those things under that umbrella, you're going to supplement that with eating your emotions.” (Participant 1)

Theme Three: Prison can make you take better care of yourself

In contrast to the previous two themes which focused on the negative aspects of losing autonomy, this theme highlighted a recognition that in the ‘outside’ lives they had also experienced a lack of autonomy. They spoke of feeling they had to conform to partners expectations of how they should look. They also realised that they had been addicted to drugs and other substances which had in effect taken away their autonomy. They recognised the impact on their mental health and the link that had with their physical health. The prison environment, whilst taking away their liberty and ability to make many decisions about their day-to-day life, also provided them with a regular structure and routine as well as access to mental health support. This in turn provided the possibility for a positive impact on women’s health:

“if you've got mental health issues diagnosed, and you don't take your meds, and then you come to prison, and then you're on these medications, and they're great, they help you stabilise you. But those side effects, the majority of them, is that if you like, weight gain,” (Participant 3)

The prison environment was therefore viewed in a contradictory manner. An obesogenic environment which contributed to weight gain through lack of food choice and reduced opportunity to exercise, whilst at the same time, an environment which allows space for introspection and access to mental health support, which enabled them to take better care of themselves. They reflected on women's ability to look after their health and wellbeing before prison compared to during their custodial sentences. Many of the participants spoke of how they were better able to look after themselves in prison compared to their life context before prison. Participant 4 summed this up:

“And also, I think for a lot of women, when you are on drugs, you neglect every part of your yourself. So that's your mental health included.[. . .] for me, I had a really abusive partner. And he used to call me fat. And that's I used to be really careful about what I ate. So I think it's a combination of things.” (Participant 4)

Although the challenges of having autonomy removed were substantial, the women were able to recognise that being forcibly removed from their life context gave them the opportunity to reflect and begin to make positive changes to their behaviours. This included eating more healthily, reducing drug use and taking prescribed medication regularly in line with guidance. One consequence of these positive behaviour changes was weight gain. This was not always seen as a negative, some women came to recognise that their previous life context and behaviours had meant they had not eaten sufficient, nutritious food. Participant 1 spoke eloquently about this and highlighted the complexity of the issue of weight gain:

“And I think, personally, and this I can only speak for me here, I didn't eat enough outside, I ate enough to sustain myself and sometimes not even that. I didn't look after myself... I had to do a lot of erm soul searching when I came to prison and put on loads of weight and my confidence. It's been a real, weird journey to navigate actually.” (Participant 1)

Discussion

The aim of the study was to investigate female prisoners' views of why women's weight increases in prison. Our participants felt that they gained weight in prison due to a variety of systemic and individual factors. They also felt that weight gain was more likely to happen in females than males, which is in line with previous research that women gain more weight in prison (Lagarrigue et al., 2017; Gates and Bradford, 2015).

Three themes provide insight into why it is that women prisoners gain weight. A range of perspectives were shared: the impact of the lack of autonomy (*'The only thing you haven't got to ask permission for is your food, it's just handed to you'*), the women's response to the lack of autonomy (*'If you've been stripped of the things that make you happy, or that you are addicted to, eating can soothe you'*) as well as a recognition that gaining weight was not always a negative outcome (*'Prison can make you take better care of your health'*).

The first theme (*'The only thing you haven't got to ask permission for is your food, it's just handed to you'*) covered a variety of factors that related to the physical environment that they were in due to being detained in prison. This included reduced opportunity for physical movement due to living and working in a constricted area as well as barriers to engaging in exercise whilst in prison. Another issue that was highlighted was that the food is provided in prison, meaning little choice and control over the food they consumed. This was compounded by what the women described as a lack of information about the food they were being given. This meant that they felt unable to regulate their intake. Indeed, knowing the nutritional content of food is important for weight management (Laz et al., 2014). Additionally, it was felt that support for weight management was not made available in prison. This differs from the community where various weight management programmes and groups are readily available in person and online.

With no nutritional information, no weight management support, reduced opportunity for exercise and severely restricted autonomy, it was not surprising that these women felt helpless. The lack of autonomy and the obesogenic environment of prison therefore may make it difficult for women to maintain a healthy weight as they are not being given the necessary opportunities, which is vital for behaviour change (Michie, van Stralen & West, 2011). This theme therefore highlights how prison can limit access to resources to help manage a healthy weight that are available in the community, and therefore puts prisoners at a disadvantage of managing their weight and consequently are at higher risk of overweight and obesity.

The second theme (*'If you've been stripped of the things that make you happy, or that you are addicted to, eating can soothe you'*), highlighted the women's response to their enforced lack of autonomy. One of the options available to them was to focus on their emotional response to their situation. The women in our study highlighted that prisoners' drug use may change when they enter the prison system due to the reduced access to drugs. Our participants spoke of switching drug use for food intake, which resulted in weight gain. The anecdotal observation from our participants is supported by research findings. For example, drug abstinence can lead to weight gain (Nolan, 2013) and although this weight gain may be to a healthy level for some, it may also cause people to gain an unhealthy amount of weight in prison.

A history of substance misuse has been found to be slightly higher in female prisoners worldwide (Fazel & Baillargeon, 2011). Furthermore, although research from the UK found that male and females tend to use the same level of illegal substances both during their sentences, female prisoners reported more class A use before custody (Light, Grant & Hopkins, 2013). This may explain the differences in weight gain when coming into custody as their drug use may reduce more.

The UK Prison Drugs Strategy (HM Prison & Probation Service, 2019) suggests that many prisoners feel that using drugs will help relieve boredom and provide temporary respite from depression and anxiety. In line with this, our participants saw switching one behaviour (drug use) to another (eating more), as providing an alternative method for managing emotions and 'self-soothing'. Eating was described as being used as a mechanism to cope with difficult and distressing emotions. This distress in the prison context was related to being separated from friends and family, struggling with substance withdrawal and the shame of being convicted of an offence. Previous research supports the idea that people eat more when in distress (Devonport et al., 2019) and that they use food to try and cope with emotional distress (Sawkill et al., 2012). It is possible that a combination of increased distress and limited access to their normal coping strategies may lead to overeating as a coping mechanism, and subsequent unhealthy weight gain.

In contrast, the third theme (*'Prison can make you take better care of your health'*) demonstrated an awareness that although prison reduced autonomy and brought many challenges, there were also opportunities to take time to reflect on their previous experiences and begin to make positive behavioural changes. Our participants recognised that they were able to care for themselves more in prison. The space to reflect allowed them to see how their behaviours before prison had been unhealthy and for some, neglectful. Being in prison offered the opportunity to eat more regularly and take prescribed medication; both of which can lead to weight gain. Although these were seen as

positive behaviours towards looking after themselves better in prison, paradoxically many of these actions lead to weight gain to an unhealthy level. It is known that some psychotropic medications for mental health conditions can lead to weight gain (McCloughen and Foster, 2011) and many of the participants described experiences of this. It seemed that there might be a confusion between what is seen as 'healthy' and 'unhealthy' and that striking the right balance was difficult to achieve. This may be due to a variety of factors, possibly including lack of knowledge about health and weight, limited monitoring of weight and limited access to information about side effects of medication.

It is important to recognise that themes presented are inter-related. Weight management is complex and is therefore impacted by multiple factors. As noted in the introduction, obesity is caused by a variety of biological, socioeconomic and cultural factors (Apovian, 2016), with increasing evidence to show the influence of the obesogenic environment. Therefore the weight gain seen in female prisoners will be combination of a range of factors identified in the themes in this paper.

Implications

This research has highlighted a range of reasons why women may gain weight during their custodial sentence. Prison is a unique environment that causes significant limitations on lifestyle choices and it seems that a variety of factors contribute to unhealthy weight gain. In short, prison is complex. On the one hand it is experienced as an obesogenic environment. Prisoners have reduced opportunities for physical activity and no choice over their food, other than to eat the unhealthy food or go hungry. In addition they felt there was no support for weight management. In contrast, for others, prison was an opportunity to reset. They were no longer in the midst of their usual life context and so were away from the negative influences on their behaviour. Prison gave them a structure and regular meals which allowed them to regain their health. Bearing in mind the call to action from Verde and colleagues (2024) to improve the health of female prisoners, systemic changes are needed throughout the prison environment involving a variety of departments and processes.

There is a significant role for prison healthcare departments in healthy weight management. Many of the participants felt that the side effects of their medication included weight gain. Prison healthcare departments could consider, when prescribing medication with a likelihood of weight gain that this is explained to the women and interventions are shared with the women to counter this.

Routine prisoner health checks allow for the provision of opportunistic health interventions. These opportunistic interventions would be in line with the drive towards 'Making every Contact Count'

(Public Health England, 2016). The proposal is that health professionals capitalise on opportunistic delivery of consistent and concise healthy lifestyle information. These would obviously require tailoring for the prison environment and might include awareness raising, behaviour change interventions, referral pathways and accessible support, interventions and specialist staff within prison, as they will be unable to access any community programmes or weight loss groups. These services may need to be brought into prisons if not supplied by existing services. In addition, increased health promotion activities may be beneficial to support a preventative approach and increase engagement.

Furthermore, the exercise opportunities provided in prison may need to be reviewed. It was identified by the participants that men and women may use the gym in prison differently. It therefore may be useful for a change in attitude towards the gym for both prisoners and staff, and for considerations of the specific barriers to using the gym for women. It may be that alternative exercise where possible, needs to be provided, not all women want to use the gym or attend classes, some prefer to take walks outside. More than adding to the menu of opportunities to exercise, understanding the reasons behind women's reluctance to take part in the exercise opportunities would allow more tailored interventions to increase the likelihood of participation.

There are a range of behaviour change interventions available. Most prominent in the field of health psychology is a model called the COM-B. This focuses on how in order to change a behaviour, an individual needs to be capable, have the opportunity and the motivation to change. Taking the women's comments about using the gym, there was an assumption that gym use equates to gaining more muscle and becoming 'bulky'. Using the COM-B (without going in to depth about the complexities of the model), it could be argued that women have the opportunity (there is a gym on site) and the motivation (they want to exercise), but they lack the capability (they do not know how the gym equipment can be used for different purposes). An intervention could be designed to ensure that when the women are informed of the gym, they are also given a clear information about how to use the equipment for different purposes. For example Hall and Noonan (2023) note that there is extensive evidence supporting the physical and mental health benefits of participating in muscle-strengthening activities. If women were better informed about the potential impacts of muscle strengthening, it could positively influence their perceptions of the gym.

The results indicated many issues related to being provided with food rather than buying and cooking for themselves. This included lack of knowledge about nutritional information, limited choice of food and an excess of carbohydrates. It therefore may be pertinent for prisons to provide

nutritional information on all the food supplied to prisoners, as is now provided in restaurants in England (The Calorie Labelling (Out of Home Sector) (England) Regulations, 2021). Alongside this, it is important that education about healthy eating is supplied to enable prisoners to make healthy choices. It also may be useful to review the types of food provided and if this is in line with government recommendations for healthy eating. In a recent study, Fennessy, Homer and Enaff (2023) share their findings exploring the impact on food choice of menu design. They incorporated a 'smiley face' emoticon next to food designated as a 'healthy choice'. There was a positive impact on behaviour, although the authors report an overall small effect size. Changes were significant for lunch and evening meals but not for desserts. Whilst further work is required to explore this, this is an inexpensive option for prisons to implement in these times of austerity.

A final implication of the results is the need for increased emotional support for women in prison. The data highlighted that overeating could occur as a way of managing emotional distress caused by being in prison. Prisons therefore need to consider how to support female prisoners in managing their emotional distress in a healthy way and enable these conversations to be had. This may include support from mental health and healthcare departments, or indeed support from prison visits. Much of the work on familial prison visits focuses on whether it can have a positive impact on the prisoner post release (e.g. Folk et al., 2019), or reduce disciplinary problems. For example, Pierce (2015: 385) focusing on male prisoners, notes that "family interaction is critical to decreasing episodes of prison misconduct and reducing recidivism rates". However, our participants were seeking emotional support for the distress they felt at being in prison. Family visits for women were reported by De Claire and Dixon (2017) as having significant positive effects on well-being and reduced depressive symptoms in incarcerated women. Supporting prisoners to receive family visits is a relatively simple, cost effective intervention.

Limitations

Limitations of the study included recruitment being limited to one prison meaning that transferability to other prison contexts may be limited. It would expand the understanding of the topic to explore male perceptions of the causes of prison weight gain. In addition, further research into this topic would benefit from the inclusion of female participants who had been released from prison to determine what happens to their weight once some of the environmental factors are changed.

A further limitation is that the criteria for inclusion in the study was self-identified as gained weight, and this was how the participants were recruited. This meant that all the participants involved had

gained weight in prison, and therefore the views of those that did not gain weight were not considered in this paper.

Finally, many of the participants answered the questions in more general terms or talked about what they had observed in others rather than their own experience. It therefore may be the case that the participants found this a difficult topic to talk about, possibly because it evoked feelings of embarrassment or shame. If this is the case, it may also be true that they find it difficult to talk about this issue to others including prison medical staff, and therefore may not be accessing the available support for weight management. Interventions for weight management therefore may need to be more accessible and wide ranging to help the maximum amount of people.

Conclusion

This study explored female prisoners' views on weight gain during imprisonment. This was important because few studies have sought the female prisoner perspective. Hearing from prisoners themselves allows a greater understanding of their experience of imprisonment and gives us insight into why they believe women's weight increases in prison. This paper has highlighted a variety of reasons why women gain weight in prison. When someone goes into prison, most of their choices are reduced or eliminated and this is having a detrimental effect on maintaining a healthy weight, and this is putting them at higher risk for associated health problems. Many of the challenges identified are organisational and systemic issues and to maintain a healthy weight female prisoners need to be given the opportunities to manage their weight, which are not currently offered in prison. Wide systemic change is needed across many departments to shift prisons towards being an environment that supports and enables women to manage their weight in a healthy way so that their health is not put at risk. Such change would narrow the gap between the strategic philosophy of health promotion in prison outlined by the World Health Organisation Regional Office for Europe (1995) and its practical implementation.

Conflicts of interest

There were no conflicts of interest.

Ethics

Ethical approval given by Staffordshire University Independent Peer Review and the Health Research Authority (HRA).

The study was approved by HM Prison and Probation Service.

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