



THE INSTITUTE FOR FOOD,
BRAIN AND BEHAVIOUR

Nutrition at Eastwood Park **Impact Report**

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About us

We are the UK's leading voice on the link between nutrition, the brain and behaviour. Firmly grounded in science, our aim is to transform life chances for those most in need and who are likely to have had limited access to the right nutrition. We feel we can create the greatest impact by raising awareness and enabling access to the right nutrition for those who have previously had difficulty accessing it. We work to influence public policy and to turn research into impact by building nutritional and educational programmes in prisons, schools and other environments, creating shared resources for all and raising awareness through lectures and roundtable discussions. Over our 36-year history we have adapted and grown, but one thing has remained the same: our commitment to the rigorous science that we are now translating into real-world programmes, providing people with the information and tools they need.

We continue to bring together scientists, nutritionists, educationalists, cooks and caterers to support the case for change. We are world-leaders in our field: our expert Board and Science Advisory Council includes leading academics globally on nutrition and the brain.

Our **vision** is for everyone to have the best life chances through nutrition that enhances brain health. Our **mission** is to translate research into clear information and creative solutions, empowering people to think through nutrition and make positive changes.

Why we exist

Over the last 70 years, poorer diets have coincided with a steady rise in mental health and behavioural issues. As the UK's leading voice on the link between food, the brain, and behaviour, we have spent the last 36 years building evidence that the right nutrition enhances brain health.

Most of us know that what we eat affects our physical health, but there is less understanding about the importance of good nutrition in developing and maintaining a healthy brain. Our brains contain more neurons and interconnections than any other animal on the planet. Despite weighing only 2% of our body weight, the brain consumes 25% of all the body's energy. It needs not only fats, sugar, oxygen and proteins for energy and maintenance, but also, crucially, vitamins, and minerals, and essential fatty acids. The latter nutrients, such as omega-3s, are essential for brain health, but must come from the diet as humans cannot synthesise them.

Our brains influence and dictate our intelligence, our instincts, our alertness and every aspect of our behaviour. Research demonstrates that the right nutrition improves brain health, resulting in better concentration, sociability and mental health.

Our approach translates this research into clear information and outcomes-led educational and nutritional programmes in schools and in custodial settings, where we have seen a major reduction in levels of self-harm and aggression. We now want to drive government action for nutritional programmes that promote better futures at a national level.

Think Through Nutrition at HMP Eastwood Park

Our objectives

This year, we started our first *'Think Through Nutrition in Prisons'* pilot with 33 women at Eastwood Park, focused on enhancing their nutritional knowledge and habits, and helping them to:

- › Improve their mental and physical health with emphasis on wellbeing
- › Learn about nutrition and the brain and 'take ownership' of their learning
- › Change food habits and knowledge
- › Make positive long-term changes for themselves and their families through new skills, enabling greater independence and broader career opportunities

In addition to a positive impact on individuals, the project aimed to benefit participants' wider communities within Eastwood Park. We also set out to demonstrate that recipes can be scaled up for whole prison catering, providing a diet that achieves the agreed nutritional goals cost-effectively.

Our activities

This project consisted of three core elements:

- › **Learning toolkit and practical education for better self-management**
Included sessions on nutrition basics, food for a healthy brain, food hygiene, cooking methods, label identification, shopping on a budget and eating well at home, as well as creative elements such as cookery classes, mock shopping experiences and food tastings.
- › **Menu changes to improve current health and wellbeing**
Developed by working with the women and catering team. To encourage engagement, we analysed and adapted recipes suggested by the women, adjusting them in consultation with the catering team for mass catering.
- › **Defining and measuring outcomes and impact**
Outcomes formed a core pillar of this work, and a three-tiered approach to building the project outcomes framework was taken which considered individual, organisational and Criminal Justice System needs. The five outcomes areas were defined as:
 - › Food preferences and habits
 - › Brain health and wellbeing
 - › Physical health and wellbeing
 - › Levels of activity
 - › Personal thoughts and goals

All outcomes were co-produced directly with participants, staff and existing partners to empower those involved in this work, enabling ownership for setting project goals,

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influencing project delivery, and shaping assessment of impact. We used focus groups throughout, along with pre- and post-programme questionnaires to capture experiences and progress over time.

It should be emphasised that this was a small pilot programme to test feasibility rather than a research project. As such, there was no control group and the small number of participants means that conclusions based on statistical evidence could be unreliable. However, the participants' reports are of great interest and they suggest that their positive experiences were associated with their improved dietary intake.

Our findings

Food preferences and habits

We found that the programme led to improved knowledge about nutrition and its impact on other aspects of health. Pre-programme, participants displayed varying levels of knowledge about nutrition and its health impact. After completing it, all participants passed the post-programme nutrition quiz and demonstrated improvements in knowledge of nutrition, confidence around food, and food selection and preparation skills.

This increase in knowledge was reflected in changes in nutritional habits – particularly when it came to snacking habits. We found that the programme led to improved dietary habits, such as reading food labels to inform food purchases and swapping out sugary foods for healthier alternatives. Participants that consistently chose the programme menu for their main meals were also more likely to snack healthily.

“I have a different snack relationship. I feel a lot better when I have a healthy snack.”

Brain health and wellbeing

Among participants who completed the pilot in full, our project demonstrated some improvements in cognitive and mental health – both from the perspective of those who were participating and from those who interacted with them. Participants were more likely to go to activities, felt more useful, felt closer to people, and had improved concentration.

“My mood's not up and down.”

In terms of mental health, we found that participants had improved energy levels, felt more confident, had overall improved perceptions about their day, and felt more self-worth. Completing the programme left participants with a sense of achievement. Further projects with a larger group of participants would help us to determine whether other mood symptoms could be improved by these kinds of modules.

“The cooking class was really good for me. It gave me the confidence personally to present [food], learning about food prep and types of food... I learnt so much...”

Physical health and wellbeing

Participants also reported signs of improved physical health, such as more frequent 'normal' toilet use and a reduction in aches and pains. Participants – who had in majority reported gaining excess weight since entering prison – felt particularly

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positive about the weight loss benefits they experienced, which for some led to improvements in some chronic health conditions.

Levels of activity

Participants reported higher energy levels and more physical activity but exercised for shorter durations and slept for fewer hours later in the project. This may be due to other environmental factors in the prison. We are considering incorporating additional education about exercises that can be done in the prison setting in future programmes.

“I have more energy and so am going to the gym more.”

Personal thoughts and goals

Participants felt positive about setting personal, health, and nutrition-related goals for the duration of the programme. Those who completed it reported that they had achieved their goals and wanted to continue setting goals for the future.

Participants also wanted to share their experiences of learning about food with their family members when they left prison.

“On the out[side] I will be cooking more from scratch. I’ll be having breakfast, which I never had before. I will eat more fruit now. I will be eating out a lot less; I used to eat out a lot before.”

Our conclusions

Results from the pilot are encouraging, and although participant numbers were small, they were very positive. We saw improvements in dietary habits, in secondary health benefits, mental wellbeing, self-worth, knowledge, skills and confidence levels – in particular in their ability to achieve goals

These outcomes are consistent with findings from our randomised controlled trials examining the impact of nutrition on brain health and behaviour. This is particularly promising as this pilot relied on changes in diet and education and did not have the advantage of easier measurement that comes from using nutritional supplements as we did during our clinical trials.

Despite the limitations that inevitably arise in a pilot of this nature, we are confident that it is sufficiently promising to warrant further roll out. At the same time, taking the programme to other settings with larger groups will help us determine which elements are most effective in other, more varied populations.

Recommendations

After completing the programme, we mapped out next steps and the criteria for its wider roll out with the team at Eastwood Park. After feedback from the women who participated, and with considerations of their concerns about the sustainability of current food provision, we would suggest the following actions.

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Further improve the programme menu

Overall, participants were satisfied with the programme menu and felt that it ranged from 'ok' to 'very good'. We found that participants felt positive about foods that were flavourful, had good texture, were filling, and were fresh, among other characteristics. However, participants suggested adding more green, leafy vegetables and felt negatively about foods that they thought were greasy/oily or lacked flavour when put on their plate.

Integrate the programme across Eastwood Park

Participants reported high levels of satisfaction with the Think Through Nutrition pilot and felt that it was informative, motivating, and led to improved health and energy.

Participants expressed a desire for the programme to be integrated into the regular system at Eastwood Park. This reflected the perception at the outset that the prison system was not always able to offer healthy and tasty meal options, and that healthy snacking options were also limited.

Expand the programme

Expanding the programme could include a more in-depth discussion about healthy weight loss habits, how to promote physical activity in restricted environments, and good sleep hygiene. Some participants noted skipping meals to lose weight, and reportedly exercised for shorter durations towards the end of the project.

Highlighting the health benefits of physical activity and providing exercise worksheets for keeping active in their rooms might help to prevent a reduction in physical activity, as participants adjust their dietary habits. Working with the prison Physical Training Instructors during the programme might further encourage the use of existing gym facilities and classes.

Participants also reported sleeping for fewer hours later in the project. Incorporating good sleep hygiene practices (e.g. hours of sleep, habits before bed, diet and exercise habits to avoid later in the day) could help participants improve overall wellness.

Continue our commitment

We will support our recommendations by continuing to monitor feedback as delivery of new menus progresses, making continuous improvements to our process, provision and approach as we go.

We will also continue to work with the Eastwood Park team to support long-term changes. For example, after completion of the project, all women at Eastwood Park were given access to elements of the Think Through Nutrition menu, with one recipe added as an option to each meal. We are exploring the potential for providing wider educational modules to encourage women across the prison to select this meal option, and fully enjoy the benefits of being able to access a nutrient-rich diet that was not available to them in the past.

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Case studies

“People care what we eat...”

One participant reported that her sense of self-worth increased because the programme made her believe that the people around her cared what she ate – including the Governor and prison staff as well as the programme delivery team.

Her physical health also improved. She set two goals at the start of the programme: to get over her mid-afternoon energy slump and to improve her sleep. She reported that the slump was gone by halfway through the programme, and her sleep had improved by week ten. She also lost weight.

“I’m making peach slices and natural yoghurt desserts and overnight oats, which I learnt in the education sessions...and I’m using natural yoghurt instead of fromage frais for the baby.”

One participant from the Mother and Baby Unit lost 15lbs after completing the programme and improved her baby’s diet as well as her own.

After being initially hesitant to try some of the more ‘unusual’ foods, she found that she really enjoyed them. She loved the overnight oats and now makes them for breakfast every day, having had the chance in the Mother and Baby Unit to purchase ingredients that aren’t available in the rest of the prison.

She has also shared what she has learned in the programme with her husband, encouraging him to purchase new ingredients for him and their child at home to try. She wants to apply what she has learnt when she is released so her whole family can benefit.

Other experiences

Suzy Dymond-White, Governor, HMP Eastwood Park

It had been apparent for a long time that we needed to change. Reports from the women were coming in that the food was too ‘carb heavy’ and did not contain enough variety. We embarked on a prisoner-led initiative that involved a small group of our women who worked with the team to devise a four-week menu that was high

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on nutrient value – in particular targeted to brain health – and low on sugar, carbs and processed food.

We recruited a cohort of 33 women who participated in the programme for a period of 12 weeks. They came along to sessions that offered them information about the effects of food on the body and how to read food labels as well as prepare tasty, healthy, low cost dishes. There was a strong educational element to this programme so they could take the learning on from custody into their family lives.

The feedback from the women was generally very positive. There were, of course, some dishes they didn't like, and some days when they thought the kitchen team hadn't made a very good job of the food, but generally they really appreciated the change. It was a challenge for the kitchen team preparing a different menu for a small number of women and trying to produce new dishes and healthy snacks.

But the outcome was all worth it. I have women who have told me really positive stories such as losing three stone due to the diet and having more energy to go to the gym. Another woman told me that she has become more sociable and doesn't shut herself away so much because feels better in herself.

We now have a team of women who take a more active role in the catering delivery at Eastwood Park and each day we have a menu choice that is identified by a green tick to denote that it is high in nutrients. There are still improvements to be made but this project has made the first big steps toward a healthier and more satisfying diet for the women at Eastwood Park.

Kevin Brockway, Catering Manager, HMP Eastwood Park

As the catering manager at Eastwood Park, I know just what a difference the right kind of food can make. I also know that often, within the prison system, it's difficult for prisoners to be guaranteed a balanced diet for a whole number of reasons. This programme was a big undertaking for us as a catering team, especially as it was run at our busiest time of year.

Preparing a separate two-choice menu, which included individual snacks and many extra side dishes for a small group, whilst providing a five-choice menu for the rest of the population was a challenge for the team, who were short staffed at the time of the trial and had a very short one-week lead in to arrange work schedules and sustainable procurement means. A lot of the foods originally specified on these menus are not on the main prison food catalogue. However, where we identified specific problems, we were able to take steps with the Think Through Nutrition team to resolve them – for example simplifying recipes for mass catering and switching out hard-to-access or expensive ingredients for more easily available and affordable alternatives. This made the programme more sustainable in the long-term and means we will be able to maintain its principles.

Since the programme finished, we've added key recipes to our main menu and our work doesn't stop there. Our plan, before Covid-19, was to work with some of the women who participated in the project to review our menus. We have committed to improving our engagement with prisoners and will, as soon as it is safe to do so, follow up on this. We'll also be changing our menus seasonally. We now have a

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number of different avenues to follow and hope that these activities collectively will continue to improve the health of women at Eastwood Park.

Victoria Sullivan MSc., Health Promotion Specialist & Project Partner

This was an ambitious project to improve the availability of nutrient-dense food to women in a challenging setting. It focused on a number of areas: improving the nutritional quality of the food prepared in the prison kitchens; delivering an education programme with participants to increase their knowledge, skills and confidence around food; capturing the experiences of the participants; and exploring the practicalities associated with delivering this type of project.

A range of health benefits were described by those who participated. These included developing knowledge, skills and confidence about nutrition to better manage their long-term health; understanding how certain foods affect the way they feel and choosing healthier options as a result; increased energy levels; and improved concentration. In addition, the very act of participating increased feelings of self-worth, and participants valued the work put in by Eastwood Park staff and the delivery team. Participants also described feeling more adventurous about food and more willing to give new foods a try.

Involving the participants from the beginning was key. Their contribution to menu design ensured their food preferences were considered, and the Think Through Nutrition team worked closely with the prison catering staff to shape the menus over the 12-week period. Enthusiasm from the participants was evident throughout. It was fantastic to see their commitment to using their newfound skills and knowledge to shop and eat more healthily for themselves and make plans to extend that knowledge to family members once released from prison.

Many participants were nervous that the new kitchen menus would no longer be available once the programme was finished, and that this might impact the gains they had made to their general health and wellbeing. Ensuring a number of new recipes were incorporated into the kitchen menus after the programme thus provided a degree of programme continuity and the associated benefits of eating nutritious food. Making these new recipes available for the wider prison population also provided a means for more women at Eastwood Park to choose healthier options.

This type of programme shows that improving the nutritional quality of food available to people in prison can have substantial health and wellbeing outcomes and has the potential to reduce health inequalities experienced by the prison population. Providing an educational component can equip people with the skills to self-manage their nutritional health into the future. There is value in incorporating nutrition-based programmes into the culture of wellbeing in prisons across the women's estate, and supporting these projects through effective policy to embed change within the prison service could see far-reaching impacts for the health of people in prison.