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The impact of HENRY on parenting and family lifestyle: exploratory analysis of the mechanisms for change

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Conflict of interest statement

MR co-founded HENRY; KR is Chief Executive of HENRY. TW has previously received payment from HENRY for consultancy work. GB and CE have no conflicts to declare.

Abstract

Background

Childhood obesity is a major public health concern. In the UK, a quarter of children are overweight or obese at age five years. Overweight and obese children are more likely to develop serious health issues such as diabetes later in life. Consequently, there is an urgent need for effective, early obesity prevention and intervention. This study investigated the impact of an eight-week child obesity intervention - HENRY (Health Exercise Nutrition for the Really Young) - designed to help parents with preschool children develop the skills and knowledge needed to improve family lifestyle and wellbeing. We were particularly interested in exploring the potential mechanisms by which HENRY may have a positive impact.

Method

Focus groups (n=7, total participants = 39) were completed with mothers attending the HENRY programme at one of seven locations across England. They took place within two weeks of programme completion. Follow-up telephone interviews were completed with a subsample of participants (n=10) between 17 and 21 weeks later.

Results

Parents consistently reported enhanced self-efficacy in terms of improved confidence in their ability to encourage healthier behaviours such as eating fruit and increasing physical activity, and improvements to family health behaviours. Many changes were reportedly sustained at

follow-up. Data provided insights into the potential mechanisms that created the conditions for the positive changes. Participants described the importance of mutual support, being listened to by facilitators and encouragement to identify their own ideas. Their comments indicated the success of a solution-focused, strength-based, partnership approach to supporting family lifestyle change.

Conclusion

The results of this study contribute to the body of evidence suggesting that HENRY may have a positive impact on parenting and family lifestyle behaviour. Although data were collected in 2011, the findings contribute to an understanding of the components of effective obesity prevention in young children.

Introduction

Obesity is a major global health challenge, and its prevalence continues to rise (Ng, Fleming, Robinson, et al., 2014). In the UK, models suggest that by 2050 over half of the population could be obese (King, 2011). The latest figures from the UK National Child Measurement Programme demonstrate the extent of the problem: 22.6% of children in reception (aged five years) are classified as overweight or obese, rising to 32.4% of children by the time they leave primary school (Public Health England, 2018). The negative health implications are clear; childhood obesity increases the likelihood of debilitating conditions later in life, including Type 2 diabetes, hypertension and liver disease (Arterburn, Maciejewski & Tsevat, 2005). Childhood overweight and obesity rates are strongly associated with deprivation, reinforcing and increasing inequalities in health (Public Health England, 2018). Children living in areas of higher socioeconomic deprivation also have a poorer quality diet with reduced intake of fruit and vegetables (Public Health England & Food Standards Agency, 2018). Consequently, there is a need for obesity prevention to begin in early childhood and prioritize those most in need.

Community interventions have attempted to combat the rise in childhood obesity. A review of preventative interventions (primarily targeting children aged six to twelve years) reported that potentially important strategies were the inclusion of parent support and home activities that encourage children to be more active and reduce screen time (Waters, de Silva-Sanigorski, Hall, et al., 2011). A review of interventions to treat, as opposed to prevent, childhood obesity found good evidence that parent-based interventions are effective in five to eleven year olds (Colquitt, Loveman, O'Malley, et al., 2016; Loveman, Al-Khudairy, Johnson, et al., 2015). Although the evidence is more limited in children under six years old, healthy environments

both at home and in childcare settings are important for obesity prevention (Benjamin Neelon, Ostbye, Hales, et al., 2016).

HENRY (Health Exercise Nutrition for the Really Young) is a United Kingdom based, Non-Governmental Organisation that aims to provide effective, community-based programmes to prevent early obesity. The HENRY approach is rooted in research about risk and protective factors for child obesity and was developed to meet the demand for a practical childhood obesity intervention to deliver key evidenced based messages. The approach is a holistic intervention that focuses on both the 'message' and 'messenger' to create the conditions for change and to support families to adopt healthier lifestyles. (See Appendix 1). In line with this, HENRY provides parent programmes, as well as training for health and early years' practitioners. Each programme covers parenting, family lifestyle habits, healthy eating, physical activity, and emotional wellbeing (Roberts & Rudolf, 2017; Rudolf, Hunt, George, et al., 2010).

Previous evaluation has revealed positive outcomes for participating families as well as practitioners trained in the HENRY approach. For example, significant improvements to (self-reported) attitudes and lifestyles, including increased parental self-efficacy, healthier eating across the whole family, and increased physical activity (Willis, George, Hunt, et al., 2014; Willis, Potrata, Hunt, et al., 2012). Moreover, many of these changes endured for at least 12 months beyond the immediate intervention period (Brown, Hunt, Willis, et al., 2013; Willis et al., 2014). Most recently, analysis of national data from more than 600 parents showed similar changes across a much larger sample (Willis, Roberts, Berry, et al., 2016). Thus, HENRY may have the potential to positively impact family health and protect children from obesity. A feasibility study and pilot RCT, funded by the NIHR, is currently underway so firmer conclusions regarding its effectiveness should be available in the future.

The present study aims to build upon existing research by qualitatively investigating and further assessing the impact of the HENRY programme upon participating families. In addition, we were particularly interested in identifying the potential mechanisms by which the programme achieves positive changes to attitudes and behaviours associated with the development of childhood obesity, as well as the potential for benefits to endure beyond the programme.

Methods

Study design and participants

These data were collected as part of a mixed-methods study following a cohort of families participating in the HENRY parent programme at nine locations in England. The quantitative component, published elsewhere (Willis et al., 2014), saw parents complete questionnaires at the start and end of the programme, and at eight-week follow-up. Here, we report the qualitative component of the study. Focus groups were conducted with parents that had completed the HENRY programme. All those attending focus groups were approached about being contacted for a later, follow-up telephone interview.

The nine programmes took place primarily in the south and east of England. Participating centres were selected largely on the basis of their record of attracting and retaining parents to the programme, and the quality and experience of the facilitators. The participating centres covered a diverse range of locations and communities. Programmes were delivered between September 2010 and March 2011.

HENRY intervention

The intervention has been outlined previously (Willis et al., 2014). Briefly, the eight-week programme is delivered by trained facilitators to groups of eight to ten parents. Any parent/carer with a child under 5 years old was eligible to join the HENRY programme. Parents/carers could join the programme via self-referral in response to leaflets and posters in local children's centres or be referred by health visitors or children's centre staff.

Programme facilitators were typically children's centre staff or health visitors who had all been trained and authorised by HENRY to deliver the programme. The training is accredited by the Royal Society for Public Health, and equips facilitators with the knowledge, skills and confidence to support behaviour change, integrating evidence-based models (Family Partnership Model, motivational interviewing and solution-focused support). Facilitators work in pairs when delivering sessions. Each session focuses on a different topic (e.g. parenting skills, portion sizes) and participants work together to identify strategies to support changes. Participants are encouraged to set individual goals for the week ahead.

HENRY programmes were typically delivered in local-government funded children and family centres, located in areas of socio-economic deprivation and offering children's services and

targeted support to parents. Their core purpose was, and continues to be, to improve outcomes for children and families, with a particular focus on those in greatest need.

Data collection

Focus groups were conducted during winter 2010/spring 2011. They occurred at the programme venue either immediately following (n=4), or within two weeks of (n=3) the final session and lasted 30-50 minutes. Programme facilitators were absent to encourage participants to be as open and honest as possible.

Focus groups followed a semi-structured format. The schedule covered the multiple topics featured in the programme and investigated whether participants had recognised any of the underpinning elements of HENRY, i.e. solution-focused support, and the family partnership model. The groups aimed to explore responses to the programme and identify changes made, together with the mechanisms that had encouraged and supported these changes. Questions were open-ended, with follow-up probes if necessary.

Short, semi-structured telephone interviews were completed 17-21 weeks after the focus groups. They lasted 5-15 minutes and explored participants' longer-term reflections on the programme, and the extent to which changes identified during focus groups had been maintained. All focus groups and interviews were conducted by XX, audio recorded for transcription and transcribed verbatim.

Data analysis

A thematic analysis was conducted (for a comprehensive overview of the use of qualitative methods in nutrition and dietetics research, see Swift & Tischler, 2010). Two transcripts were independently analysed by XX and XX to maximise validity and ensure consistency of coding. Identified codes and themes were compared, with differences resolved by consensus. A constant comparison and contrastive approach was undertaken, with understandings and relationships within and between themes further refined by searching for negative cases (Pilnick & Swift, 2011)

Ethical approval

Ethical approval was obtained from the University of Leeds School of Medicine Research Ethics Committee (ref: HSLTM09036).

Results

Focus groups were completed at seven locations, with a total of 39 participants. Groups were unable to be completed at two locations for logistical reasons (adverse weather and moderator non-availability). All participants were mothers aged 18-39 years (median age=30) with at least one child at home aged five years or younger. The majority (n = 34; 87%) self-identified as White British/British. The remaining participants across the groups self-identified as Asian (n = 5; 13%). Eleven (28%) participants reported that they were single parents. Twenty-three (59%) reported that they were not working at the time of the group. Thirty-two (82%) attended college or university after leaving school. All participants were considered to have completed the programme, i.e. they had attended at least 5 of 8 sessions.

Impact on behaviours

Three broad themes were identified when considering the impact of the HENRY programme: parenting and parental wellbeing; dietary intake and eating behaviour; and physical activity.

Improved parental self-esteem, wellbeing and self-efficacy were outcomes mentioned by all groups. Parents described feeling 'less anxious' (Group 2) and being 'a lot more relaxed as a parent' [G7]. Some reported that the programme initially made them feel worse as it was '*highlighting all the things that I didn't do, rather than what I did*' [G4]. However, these feelings soon changed as groups began to discuss their struggles and could 'talk openly to one another' [G3].

Participants described beginning to feel more confident in their parenting role, developing better quality relationships with their children, and implementing family lifestyle changes:

'*I'm more confident in saying 'no' and not giving in to* [son]. *Just saying, 'right, this is your choice', that's it… Believing that I can actually stick to what I'm saying, because otherwise giving in to him is, it's easier sometimes but it's not the best thing to do.'* [G6]

'It [HENRY] has definitely helped my confi*dence as a person … my confidence was really low … whereas I feel a lot more confident now, which is going to help me with interviews and stuff* like that' [G2]

Such improvements in parenting confidence and efficacy are likely to have been in part responsible for the reported positive changes to family diet, including more home-cooking and increased fruit and vegetable intake:

'*I've been doing loads of proper homemade cooking as well, I didn't think I would have the time to cook before, but I do now because I'm making the time*' [G6]

'I try and encourage eating more fruit and vegetables … Now [daughter] eats a lot more than she did before' [G7]

Moreover, they reported reduced intake of sugary snack foods. One identified 'reducing some of the treats, snacks'; another described, 'definitely reducing how much [chocolate] we have. I *used to buy it, multiple packs a day as it was easier and cheaper, but now I don't. I don't buy* any sweets or chocolates' [both G6].

A tendency to overestimate children's portion sizes was mentioned in all groups, with participants commenting that HENRY had encouraged them to 'think differently' [G7] about this:

'We were all really shocked at how small the [appropriate] *portions were … You realise by* filling the plate too much and putting too much pressure on them to eat it, and then it becomes *negative because they obviously leave half of the plate, and you say 'you haven't eaten your dinner'. But actually he has eaten* half of it, and probably all he needs' [G1]

'I realised that [children's] stomachs are quite small at the start, I think I was pushing [daughter] too much to try and eat too much food' [G7]

One parent reported that, as well as benefitting her child, she felt that she herself had gained more from the HENRY programme than from weight loss courses she had attended:

'I have learned more on this course about healthy eating than I have from years of Weight Watchers … *I don't understand the different food groups* necessarily, and what a plate should *be, and just to have that laminated plate is marvellous. … That was for me as well, not just for* [daughter].' [G3]

In addition to dietary changes, parents in all focus groups also reported increased family physical activity after attending the programme. Several participants described efforts to increase their personal activity levels, and not just those of their children:

'We have become a lot healthier. We do a lot more exercise, we talk to each other more' [G1]

'*Walking the dog, and actually sort of ditching the buggy and going for walks… so* [son] is getting more exercise and we are going out a bit more' [G3]

'*I've started to take the kids swimming and also I try to find time to* go swimming myself as well.' [G7]

Participants' comments testified to the complexity of health behaviours by highlighting that reported behavioural changes did not occur in isolation. For example, as parents developed confidence in their abilities to encourage family behaviour change, they reported that it became easier to make those changes:

'I feel stronger in myself actually and I'm more able to say "No! You can do this and you can do that, but you can't do that", and it shows with [son] as well because he's beginning to get better than what he was.*'* [G6]

Then, as those changes occurred, participants reported that their self-confidence and parental self-efficacy increased further:

'He gives things a try now. Helps you feel better as a mum.' [G6]

Such examples demonstrate the presence of a positive feedback loop which may help to further strengthen behaviours.

Mechanisms for change

In addition to exploring programme impact, the focus group format encouraged participants to identify how HENRY's structure and delivery helped to create the conditions for change. Consistent with the HENRY theory of change (See Appendix 1), the opportunity for social support and interaction with others experiencing similar challenges was consistently highlighted as something that created the conditions for change. All groups described benefitting from discussion, sharing problems and drawing comfort from the realisation that their difficulties were not unique, and from the climate of understanding and empathy which the facilitators created.

'It is nice to know that you are not the only one going through all these things... We all have bad days and everyone feels the same. Which is quite nice because when you are on your own with the kids you think it is just you that is struggling*'*

'Yeah, it is nice to know that other people have got the same sort of issues. Same things going on at home as what you have.'

'It helps you to know not to beat yourself up after you have had a bad day.

'I think what this group has been great at doing is sharing, and being honest. So actually, I *think that reinforces all the things that you were just saying. Because, if people weren't sharing and being honest you wouldn't get that picture would you?'* [G2]

Another aspect of programme delivery recognised as important was the responsive facilitation style: the partnership approach described in HENRY's theory of change. Sessions were perceived to progress at the pace of group members, with sufficient time for discussion and questions, enabling greater understanding. Participants acknowledged and valued the collaborative partnership between facilitators and parents:

'*It's not telling anyone, "you are doing this wrong", at no point does it ever do that*' [G4]

This helped to develop a trusting, supportive relationship between facilitators and participants in which groups worked together to develop solutions to lifestyle issues and create the conditions for change:

'*It's good to do it in a group because you can hear other people's views* on things and then you *like try it with your own family'* [G1]

'We had some lovely discussions all of us, and someone might have a problem and then someone else has tried something or gone through it so you can talk about it, and come up with solutions toge*ther, and each week you can ask did it work, so that's been really good.* [G1]

This approach helped participants raise concerns and talk openly:

'Being honest and letting people talk freely when they wanted to, they were not pushing anybody' [G3]

'We felt really comfortable, we didn't mind speaking out in front of one and other … we got lots of ideas from each other as well as from the actual course, just because we were quite open *and comfortable about it all'* [G4]

Several participants reported initially lacking motivation to make healthy changes. Their description of what helped, in particular the programme's solution-focused approach, again links back to the theory of change. Being encouraged to plan small manageable steps was cited

as a significant factor in building confidence and motivation, helping participants to believe that the changes were achievable and would result in tangible outcomes [G3]:

'They [facilitators] *told us to set realistic goals. You know you can't expect to start off at, say,* number three [on 1-10 scale] and expect to be number ten by the end. You need to sort of be *realistic about it and then you're likely to succeed more, if it is a realistic goa*l.'
'*It is looking at the smaller stuff isn't it?'*
'*It's just trying to achieve those as opposed to big ones*'
'It's given me a head start and like a push, an incentive, to go out and do things' [G4]

Similarly, participants reported that being encouraged to reflect on what they were finding difficult at home helped them to identify what might need changing, a key factor in the programme's approach to building motivation:
'Being aware that something was not right in the first place and then you can build from it *from there'* [G3]

Further evidence of the complexity of healthy behaviour change was provided in the different rates of change reported by participants. Some were able to make changes early in the programme, whilst others found change more challenging due to factors such as family stress: *'We had a dreadful time with a lot of stress going on, everything sort of went out the window'* [G5].

However, HENRY's strengths-based approach, starting with - and focusing on - what participants were already doing well, helped to build confidence to tackle the issues identified, and ensured that *'slowly but surely we've picked it back up again'* [G5].

Maintenance of behaviours

Telephone interviews were completed with ten of the original participants approximately five months after programme completion. Participants were aged 23 to 36 years (median 30); eight were White British and two Asian, and the majority (80%) were not currently working. Members of five of the original seven focus groups completed interviews.

In reflecting on the programme, factors identified in focus groups as mechanisms for change (social support, increased confidence, motivation) appeared to have had an enduring impact:

'…I think that is where the group really helped. You do kind of know, you know what you *should be doing, but you don't. Then when you have got other people there saying, "oh this is what we should do". Then once you do, you see the benefit of the changes*' [T8]

'If you go to a course like that, and you get the constant motivation and support...the encouragement that you get, and listening to other mothers, it was just really positive and *uplifting.'* [T2]

'Well to be honest with you, for me the course was like a lifeline […] I just felt really low and I kind of like underestimated myself and my mothering capabilities. Just having that course you *know, encouraging you to be there for the kids, and how you can do it better ... and just* realizing that we are all in the same bo*at ... it really helped.'* [T2]

'It is just recognising how and what you can do, and that you are not alone, and that everybody has, you know, difficult days, children have difficult days, you have difficult days. ... You do feel isolated and you forget that there are other mothers, we are all in the same boat, and courses like that show you and encourage you, you know, and it is the support. Plus meeting up every week, all the mothers were there and we were sharing stories, learning so much from each other. It was just brilliant. It was a bit like a jigsaw puzzle, where we were all like pieces of the jigsaw puzzle and we all fitted together, and it just made complete sense.*'* [T2]

Most interviewees felt that HENRY had enabled them to make lasting changes, to at least one aspect of their lifestyle. For one, the changes had become engrained:

'I do know that it has helped as I have just been kind of carrying on doing everything that I did start doing on the course […] I definitely feel the benefit […] *It is mainly stuff that I won't even* think has come from [HENRY] because it is stuff that I do now with the kids anyway and I am *like, "Oh, I do this" and I guess I kind of forget* [where it originated]' [T4]

Another provided a novel description of how she visualised the enduring impact:
'I have learned lots and, you know, I am now just trying to put everything into practice. […] I *wouldn't* underestimate the effects that it has. You know, it is like the ripples in the water, it is

just positive, and I can use the skills that I learned going onwards [….], *I won't ever forget it.* I just feel like I have been equipped with the skills or the tools to do my job better' [T2]

All interviewees provided examples of changes to their personal or family lifestyle. Themes typically matched those identified in the focus groups: parental efficacy and family relationships; food consumption and eating behaviour; and physical activity. Increased confidence was a common factor, often acting as the catalyst for further change:

'*I wouldn't go to the park on my own with the children. I would only ever go with a friend or something mainly because I didn't have the confidence to do it, or I didn't have the willingness* to do it. But now, I will just take them, and everyday we go somewhere like to the park or on a bike ride, something like that.' [T4]

Several participants reflected upon sustained improvements to their family's dietary intake:
'I give more thought to the snacks I give [daughter] now, like raisins and grapes rather than *chocolate. […] getting the kids to eat more fruit and healthier options rather than crisps and* biscuits and chocolate and stuff like that.' [T3]
'They always used to eat fish fingers and chips or just something and chips, you know, but now I do properly cook their dinners and they eat really well now, at least compared to then […] Instead of chicken nuggets I just cut up lots of bits of chicken and put it on skewers and I freeze it, so if like when they have that, I get a portion out' [T4]

Asked whether these examples of home-cooking were a direct consequence of HENRY, the participant was clear:
'*Oh, yeah definitely. I wouldn't do tha*t at all [before]. No, not at all.'

Portion sizes also remained prominent in participants' minds:
'I was worried that [daughter] *wasn't eating enough and all that but from what was said, I* learned that she was alright and it made sense. I was quite a bit happier with her eating styles and everything' [T7]

Improved meal planning was described by others:
'There is lots that I have stuck to. Like the meal planning is one I have stuck to […] [Before] I was just getting takeaways or whatever was in the cupboards. But now, because I plan the

meals […] writing down a menu for the week, what meals to make. When I do the shopping I go online rather than go into the store. I just buy the ingredients for all of the different meals. Then I know I can go to the cupboards and I have got enough stuff in for that meal, and enough for the next meal.' [T8]

Examples of increased physical activity and time spent outdoors were provided:
'...turning off the TV and getting out more. We have been going to the woods, like building dens in the wood and stuff. […] with the little one we have been having the TV turned off' [T8]
'*We will just take the dog for a walk around the park rather than just veg around the house ...* if we have got nothing to do, I just take [daughter] to the park. I *didn't do that before*' [T5]

An interesting feature of some conversations was that they would begin rather negatively, with respondents struggling to identify changes before then revealing several as the exchange developed. For instance, one participant felt that HENRY had failed to have any lasting impact: '*I would have liked to have done a bit more home cooking, but that hasn't really been an option what with work and other commitments. To be honest, I can't really remember what we did. I* know that sound*s awful, but I can't. It has been quite a while. I think you tend to just go with* your daily life and it is hard to fit everything in' [T6]

However, further enquiry revealed that, actually, important changes to mealtimes had been introduced and maintained, including 'sitting down together and having meals together' and portion size awareness:
'Yeah, that was one thing that I learned. I was always worried about how much they should be having, so I would always stack their plat*e and think they hadn't eaten much. […] I didn't* realise how much they eat and how quickly that they get full.'

By the end of the conversation, her views had changed considerably:
'The course definitely helped, what with the portion sizes and things, because you do just worry about everything, so I think it played a big part in sort of what to give [son], and when to give *him it, and not to worry if they don't eat*'.
Responses were not universally positive, however. Some participants had found it difficult to implement plans or sustain changes. For instance, switching the television off at mealtimes had proved difficult for one participant:

'That is something that I still feel that I need to work on. I am perhaps not so strict as what I *could be ... more* often than not, we do have dinner with the TV' [T3].

Others had struggled to make and maintain personal changes:
'Eating properly – the kids are alright, but me personally I do find it hard […] It did help when I was doing the course, but I do think if I *haven't got someone constantly telling me that I need to do this for myself, I kind of don't really do it*' [T4]
'I think my personal eating habits are the main thing. I meant to be healthy, but I am not. I *haven't really changed my diet that much. I just* think well [daughter] *is eating well, I can't be* expected to do it all.' [T5]

Several participants, particularly those who had reported mixed success in maintaining change, suggested that extending the programme length, incorporating follow-up meetings or online support might help to maintain motivation and help new processes to become embedded:
'I just wish the course was a bit longer […] to really reinforce the concepts that we learned, because sometimes it can be a struggle' [T2]
'It would be nice to have kept in touch. Maybe if there was [an online forum] that people could join. Then we could still keep in touch with people from our group, and it would sort of let us provide like a little support network. Once the course ends you kind of just go and *that's it.*' [T8]

Discussion

The current study represents a qualitative examination of the impact of the HENRY programme on family lifestyle, wellbeing and eating behaviours, based on a series of focus groups and follow up interviews with parents who attended the programme. The study provides an insight into the beliefs, behaviours and attitudes of those attending a child obesity prevention intervention, and also into the short- and medium-term impact of HENRY. The programme supports change through improvements in parenting skills, confidence and self-efficacy following attendance. Important mechanisms to enable these improvements included social support, building on strengths and a responsive, non-judgemental approach, in which facilitators and parents worked in partnership to find solutions to challenges, in line with the HENRY theory of change. Enjoyment was also identified as an important aspect of the programme, encouraging engagement and retention. The findings were notably consistent across locations, despite being drawn from diverse communities. The same types of changes

were reported across groups, and the same suggestions of mechanisms were identified. Local contexts and environments will differ, but the underlying issues and concerns that HENRY attempts to target are applicable across settings.

The HENRY programme is designed to create a trusting and empowering partnership between practitioners and parents of preschool children, within a holistic approach to obesity prevention that focuses on a healthy family lifestyle (Roberts & Rudolf, 2017). The improvements in parental and child eating behaviours and levels of physical activity that were mentioned in the focus groups reinforced previous quantitative findings (Willis et al., 2014; Willis et al., 2016). There are few studies available, however, that explore the mechanisms for success. Indeed, this was highlighted in a recent review of parent and child behaviours that increase the risk of childhood obesity in young children in disadvantaged families (Russell, Taki, Laws, et al., 2016).

Strong engagement is a particular strength of this programme and is an important aspect of health literacy which is often lacking. A lack of engagement with programmes to improve healthy behaviours may be an important factor that leads to widening inequalities, with disadvantaged families less likely to engage (Coulter & Ellins, 2007). The continuing widening inequalities in childhood obesity in England provide some evidence that policies consistently favour children in wealthier households (Public Health England, 2018). A review of interventions to prevent obesity in preschool children from socially disadvantaged backgrounds listed parental engagement as a key indicator for success (Laws, Campbell, van der Pligt, et al., 2014). Community support and improving parental skills, such as cooking skills, were also reported as important. It is also important that the views of low-income families are considered (Danford, Schultz, Rosenblum, et al., 2015). Identification of these factors could be useful for further improvement in health promotion interventions in this age group and highlight the need for continued action so that programmes like HENRY are not acting in isolation.

The proposed mechanisms for the changes reported in the focus groups may have worked additively to encourage behaviour change, as hypothesised by HENRY's theory of change. First, the interactive delivery style and partnership approach enabled facilitators and parents to develop mutual relationships based on trust and respect, which built parents' confidence, willingness to reflect on their family lifestyle, and engage openly in discussions about how to provide a healthy start for their children. This is consistent with the Family Partnership Model, which underpins the HENRY approach (Davis & Day, 2010; Davis, Day & Bidmead, 2002).

Second, instead of simply providing information, facilitators used a strengths-based and solution-focused approach to help parents select their own goals for change and identify small, manageable steps to achieve them. Solution-focused techniques appear to have been important in building confidence and motivation to make changes, as has been reported in other settings (Gingerich & Eisengart, 2000; Kim, 2008). By keeping programme sessions fun, interactive and inclusive, parents were motivated to keep returning and also to maintain positive changes at home. Third, HENRY's focus on increasing parenting self-efficacy is of importance in the context of preventing early obesity. Parents' ability to implement and maintain healthy family lifestyle routines and eating habits follows from their confidence in the role, especially the ability to hold boundaries and establish positive parent-child relationships (Tucker, Gross, Fogg, et al., 1998). Given HENRY's delivery in disadvantaged areas, evidence that the relationship between parental efficacy and health is stronger in low-income groups is particularly relevant (Lachman & Weaver, 1998; Lawrence, Schlotz, Crozier, et al., 2011).
It is of interest that parenting programmes with a similar ethos and approach to HENRY (e.g. emphasising social support, responsive facilitation, and the fostering of trusting relationships) have shown positive outcomes. For example, a randomised controlled trial of the Empowering Parents Empowering Communities programme found reduced child behaviour problems and improved parenting competencies (Day, Michelson, Thomson, et al., 2012).

Learning from the present study has been used to improve and extend the support provided to parents beyond the end of the programme. This has included training parent graduates as volunteers to organise community activities and reunions to maintain motivation and mutual support. HENRY has also developed follow-up workshops which can be delivered in children's centres and aim to both refresh and extend parents' learning on topics such as stress management, eating well on a budget, oral health, introducing solid foods, fussy eating and cooking for a healthy family.

This study is not without limitations. Participation was voluntary and not all parents attending the programme participated in the study. As a result, it is possible that bias exists with participants who had positive experiences principally taking part. Moreover, the locations involved in this study were selected on the basis of their programmes being delivered by experienced facilitators in established settings. While this had the advantage of ensuring fidelity of programme delivery, further research is required to understand the impact of HENRY in wider contexts.

Furthermore, this study was conducted in 2010/11. However, the results remain valid as HENRY continues to be widely commissioned despite cuts to children's services and public health over recent years. The programme is currently being delivered in 34 local authorities, largely in children's centres. Commissioning models have evolved in response to the changing public health environment to include licensed delivery by trained local staff and direct delivery by HENRY staff as part of formal contracts to deliver a healthy start service. As a result of cuts to funding and staffing levels in children's centre services, some local authorities are now offering the programme as a targeted rather than universal offer which may limit access to such programmes for some families.

Reducing childhood obesity, and in particular reducing inequalities in health, is a continuing global priority. In the UK, for example, the Government has published a Childhood Obesity plan for action (Department of Health and Social Care, 2018). By definition, prevention of obesity requires early intervention; excess weight gain between 0 and 5 years is particularly important in predicting obesity later in childhood (Gardner, Hosking, Metcalf, et al., 2009). Although US data indicate that half of all obese children are overweight or obese by two years (Harrington, Nguyen, Paulson, et al., 2010), the UK childhood obesity action plan does not focus upon preschool children but primary school children as this age group is easier to reach. However recent UK findings that, in the city of Leeds where HENRY is widely implemented, rates of childhood obesity at age 5 years have reduced across the city, with the greatest reduction in the most deprived areas, provide hope that it is possible to narrow the health inequalities gap (Rudolf, Perera, Swanston, et al., 2019). Successful obesity prevention programmes targeting day-care centres (de Silva-Sanigorski, Elea, Bell, et al., 2011) will not be available for families not using day care facilities and therefore are unlikely to have the same impact. In the US, there are guidelines for monitoring and surveillance (Vine, Hargreaves, Briefel, et al., 2013) although there is no universal agreement on when intervention is deemed necessary. We therefore recommend that families with pre-school children are given the opportunity to attend sessions in a programme such as HENRY, particularly those living in areas of high deprivation and at higher risk of childhood obesity.

Conclusion

This study suggests that a community-based parent programme can encourage families to improve their lifestyle behaviours and that these changes can be maintained post-programme.

Participants provided important clues about the mechanisms for change, including mutual support, a non-judgmental and partnership approach, strengths-based and solution-focused group discussions and activities, focusing on small, manageable steps, and a fun, interactive delivery style.

Key messages

1. Parental engagement is important in programmes that target disadvantaged families to reduce childhood obesity risk
2. Components that encourage parental engagement include social support, responsive facilitation based on a partnership approach and incremental changes that build on strengths
3. There is evidence that behavioural changes reported by parents immediately following attendance at a HENRY programme can be sustained in the longer term

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