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The impact of HENRY on parenting and family lifestyle: a national service evaluation of a preschool obesity prevention programme

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Abstract

Objectives: One in five children in England are overweight/obese at school entry. Tackling obesity is therefore a priority. *Right from the Start with HENRY* is a widely commissioned programme delivered by trained facilitators to small groups of parents over eight, weekly sessions. It is designed to provide parents of infants and preschool children with the skills, knowledge and confidence required for a healthier family lifestyle. The aim of this work was to investigate programme impact using data collected routinely for quality control purposes.

Study design: Analysis of routinely collected pre-post data from programmes delivered in the UK January 2012 – February 2014.

Methods: Data were analysed from 144 programmes, including questionnaires relating to parenting, family eating behaviours, dietary intake, and physical activity/screen time.

Results: Over 24 months, 1100 parents attended programmes running in 86 locations. 788 (72%) completed >5 sessions of whom 624 (79%) provided baseline and completion questionnaires. Parents reported increases in healthiness of family lifestyle, parenting attributes, and emotional wellbeing following attendance (all $p<.001$). Both parents and children were reported to have increased their daily fruit/vegetable consumption, and reduced their consumption of high fat/sugar foods

(both p<.001). There were also positive changes in eating behaviours, physical activity (p<.001) and children's screen time (p<.001).

Conclusions: Significant changes were reported in all domains similar to those reported in a previous, smaller study in locations selected for experience and quality. The HENRY approach appears to have a beneficial impact even when delivered at scale in non-selected locations. Such changes, if maintained, may serve to protect against later obesity.

Keywords

Childhood obesity; obesity prevention; lifestyle; infants and preschool children; parental self-efficacy

Introduction

One in five children are already overweight or obese by the time they start school at the age of 5 years[1], making it increasingly clear that efforts to combat obesity must be directed towards preschool children.[2] Moreover, the gap is widening socio-demographically, placing disadvantaged children at greater risk.[1] By comparison with programmes for school-aged children, interventions targeting babies and younger children remain in their infancy.[3-10]

HENRY (Health Exercise Nutrition for the Really Young)[11-15] is a widely-commissioned, theory-based initiative (see Box 1). Drawing upon evidence regarding risk and protective factors in the early years,[2] it aims to tackle childhood obesity through training community and health practitioners to work more effectively with families with young children. Early evaluation has indicated success in improving the way practitioners work with families, with additional benefit to their own lives and work settings.[15]

Alongside practitioner training, HENRY has an eight-week programme that offers parents – as the primary agents for change – the skills and knowledge needed to provide a healthier family lifestyle. It takes a broad approach: healthy eating is considered equally important to parenting skills, physical activity and emotional wellbeing, together with developing a positive attitude to change and enhancing self-esteem[13] (Box 1). It is currently delivered in 33 Local Authorities and over 5000 parents have participated since 2009. A previous evaluation followed a cohort of 71 parents completing the programme at nine selected locations. [14] Data were collected at the beginning and end of the programme, and eight weeks after completion. Significant increases in parental self-efficacy and the ability to encourage good behaviour were found, together with positive changes in food and drink consumption, family mealtimes and reduced screen time. While the results were encouraging, the locations had been selected for their good record, both in terms of attracting and retaining participants and the quality and experience of the facilitators. We were therefore interested to examine outcomes in a larger, more representative national cohort across all Local Authorities delivering the HENRY programme between January 2012 and February 2014. Analysing data collected by HENRY for quality

assurance purposes and reporting to service commissioners, we aimed to ascertain if HENRY offers similar benefits to families when it is delivered routinely and at scale.

Methods

Intervention and procedures

The eight-week '*Right from the Start with HENRY*' programme has been described previously[14] (and its objectives are summarised in Box 2). In short, it is delivered by trained group facilitator pairs to groups of 8-10 parents; sessions last 2.5 hours and participants explore a new topic each week (such as parenting skills, portion sizes, or active play) through activities that lead to shared understanding and ideas for strategies to support changes. The majority (80-90%) of group facilitators are Children's Centre staff, typically, family outreach or health promotion workers. Others include community nursery nurses and health visitors. Ages range from 18 years to approaching retirement and experience levels vary - many have delivered a range of parent groups for a number of years, while for others it was their first programme.

Although access to the programme is open to all parents of children aged 0-5 years, the location in Children's Centres in areas of socio-economic deprivation means there is informal targeting of socially disadvantaged families. Parents may self-refer or be referred onto the programme by a health/early years professional (e.g. midwife, health visitor). Programmes are free of charge to parents and are advertised at Children's Centres; many parents join following recommendation from a friend.

Parents complete a baseline questionnaire at an introductory 'taster' session or at the start of the programme, and a second questionnaire and evaluation form at the final session or shortly thereafter. Questionnaires are returned to facilitators using a self-chosen codename, and are forwarded to HENRY central office. Codenames are removed following matching and all analysed data is anonymous and non-identifiable. The questionnaires are scanned and entered into a central HENRY database using customised software. Data are matched to programme location and the local authority commissioning the service. Regular validation of random data

occurs to ensure accuracy and missing/irregular data are obtained where possible. The principal aim of this information gathering is for ongoing quality assurance, programme review and development and to produce reports for Children's Centre coordinators and commissioners. For the purpose of this study, data on programmes delivered between January 2012 and February 2014 were extracted from the central database. Demographic data was only available for those parents completing the questionnaire, and not for the whole cohort. It should be noted that in some locations parents completed a 'taster' session prior to enrolling on the 8-week programme, while in others the first session was considered a 'taster'.

Measures

Attendance and programme satisfaction

Attendance registers are kept by facilitators. At completion, parents are asked how they felt about the programme (awful, bad, OK, good, great) and if they would recommend it to others (no, not sure, maybe, probably, definitely).

Stepping stones

During the first session, parents participate in an activity called 'stepping stones' where they consider how healthy their family's lifestyle is and how healthy they would like it to be. The scale from 1 (not very healthy) to 10 (perfectly healthy), is repeated in the fifth week and in the final session.

Questionnaires

The questionnaire reported previously[14] was reduced to make it more manageable, relevant to programme objectives and acceptable to parents.

- *Parenting & ability to set limits*

Parenting was assessed using four items with 5-point Likert scales where respondents rate their confidence and enjoyment in parenting, and their ability to act successfully in their parental role. Internal consistency in this sample was high (Cronbach's alpha 0.82 at baseline; 0.74 at completion). Ability to set limits in relation to areas such as mealtimes, screen time, play, and bedtime is assessed

using five items on a 5-point scale. Good internal consistency was demonstrated (Cronbach's alpha 0.79; 0.72).

- *Emotional wellbeing*

There is a significant focus on parental wellbeing in the HENRY approach. Five further questions using a 4-point Likert scale (Never or hardly ever/sometimes/often/always) examine parents' feelings, stress, time for themselves and support. Satisfactory internal consistency was demonstrated (0.68 at baseline, 0.68 at completion).

- *Eating behaviours*

Eating behaviours are assessed using a modified Family Eating and Activity Habits Questionnaire,[16] including six questions addressing family behaviours (consistent with the HENRY focus on family rather than parental lifestyle). Parents reported on sitting together for meals, watching television during mealtimes, consuming takeaway food and eating a home-cooked meal. Two personal eating behaviours were asked - "stopping eating when you have had enough, even if food is left", and "choosing to eat meals that are healthy". Items were analysed individually after Cronbach's alpha values suggested poor reliability as a combined scale (0.52 at baseline, 0.56 at completion).

- *Food intake, physical activity and screen time*

Habitual family food intake was assessed in relation to the parent attending the programme, and their child(ren). Respondents indicated how often they consumed each of 5 groups of foods (fruit & vegetables; bread, rice, potatoes & pasta; meat, fish, eggs & beans; milk & dairy; high fat & sugar) (number of times eaten/day on a scale of 1-8+).

Parents also reported how often they and their child/children exercise or get active each day. Adult activity specified 'brisk walking, cycling, running, swimming or any activity that means you breathe harder', ranging from none/ <1 hour/ 2 hours/ 3 hours/ >3hours. Child activity specified 'energetic play such as running, riding a bike, chasing games for children who were able to walk; and tummy time, reaching and

grasping objects, swimming, bath time for those not yet walking. The scale for children differed: none/ 5-15 mins/ 20-30 mins/ 30 mins-1 hour/ >1 hour.

Screen time per day was assessed for children alone, specifying 'TV, DVDs, computers, smart phones, etc.' Children under two and 3-5 year olds were rated separately on a scale of: none/ <1 hour / 1-2 hours /2-3 hours / >3 hours.

Statistical analyses

Analysis was run independently from HENRY, at the University of Leeds. Postcodes for the participating Children's Centres were analysed using the UK Department for Education IDACI tool[17] to provide an approximation for socioeconomic status. Changes in food frequency data and self-reported family healthy lifestyle score ('stepping stones') were analysed using repeated measures t-tests. Eating behaviour and physical items were recoded and scored in the same direction, i.e. higher scores reflect less-appropriate behaviours. Due to the level of data provided, parenting, eating behaviours, physical activity and screen time items were analysed using the non-parametric, paired-sample Wilcoxon signed rank test. Data were reanalysed for number of adults and children reaching the recommended five or more portions of fruit and vegetables per day, physical activity (exercise for at least 30mins per day [adults] and 3h per day [children under 5 years[18]] and screen time (less than 2 hours daily[19, 20] and as little as possible for children under 2 years[21]). These were analysed using McNemar's test for paired nominal level data. Due to the number of tests being conducted, a more stringent significance level of <.01 was applied throughout.

Results

Attendance, programme acceptability and stepping stones data

Data were analysed from 144 programmes delivered between January 2012 and February 2014 at 86 locations in 23 areas of the UK. The majority (83%) of programmes were delivered in the most deprived 50% of UK postcodes; 51% within

the most deprived 25% of postcodes. 1100 parents attended the first session, of whom 788 (72%) completed the programme (defined as attending 5 or more of 8 sessions). Matched pre- and post-questionnaire pairs were available for 624 (79%) of those completing the programme. Participant satisfaction was high: 596 (96%) parents reported that they felt great (71%) or good (25%) about the programme; 516 (83%) would definitely recommend the programme to others. Table 1 presents sample characteristics. Information regarding number and age of children in the home was only collected from April 2013. This showed that 183 (41%) of the reported 443 preschool children were <24 months old.

Self-rated family health data ('stepping stones') were available from 598 parents. Scores rose significantly through the middle (week 5) to the end of the programme (week 8). Mean at baseline (± SD): 4.9 (± 1.7); at week 5: 6.5 (± 1.4); and week 8: 8.1 (± 1.2). Analysis using a Friedman test and post-hoc comparisons were significant between week 1 and week 5, and week 5 to week 8 (both $p<.001$).

Parenting and ability to set limits; Emotional wellbeing (Table 2)

Parenting scores rose significantly over the duration of the programme ($Z=10.4$, $p<.001$), as did the ability to set limits in relation to different aspects of children's behaviour ($Z=12.3$, $p<.001$). Parents also reported significantly enhanced emotional wellbeing following the programme ($Z=10.1$, $p<.001$).

Eating behaviours (Table 2)

Improvement in positive eating behaviours for the family was found with a reduction in having the television on during mealtimes ($Z=10.5$, $p<.001$) and eating takeaway foods ($Z=5.1$, $p<.001$), an increase in sitting down together for a meal ($Z=7.0$, $p<.001$), and eating a home cooked meal ($Z=4.9$, $p<.001$). The two questions relating to personal eating also showed significant improvement ($Z=4.7$, $p<.001$ and $Z=7.3$, $p<.001$, respectively).

Food frequency (Table 3)

Significant changes in reported dietary intake were observed for parents and children. Frequency of consumption of fruit and vegetables increased for children (Mean1=3.4, SD=1.7; Mean2=4.2, SD=1.5; $t(600)=13.5$, $p<.001$) and adults (M1=2.9,

SD=1.6; M2=3.7, SD=1.5); t(615)=14.0, p<.001). There was also a reduction in the number of times per day that parents reported that high fat and sugar foods were consumed by children (M1=2.1, SD=1.2; M2=1.9, SD=1.1); t(593)=4.7, p<.001) and adults (M1=2.7, SD=1.6; M2=2.3, SD=1.4); t(606)=5.4, p<.001). Similar changes were reported for the other food groups too with an increase in frequency of eating bread, rice, potatoes and pasta; meat, fish, eggs and beans; and milk and dairy.

The number of parents eating fruit and vegetables at least 5 times per day rose from 86 (14%) to 201 (33%) ($X^2(1)=82.8$,p<.001); and the number of children from 131 (22%) to 267 (44%) ($X^2(1)=104.7$,p<.001).

Physical activity and screen time (see Figure 1)

Reported time spent engaged in physical activity increased for both parents and children. Parents reported increased levels (Z=6.2, p<.001), with significantly more achieving the recommended level of >30mins per day than at the start (401 (67.3%) vs. 333 (55.6%); $X^2(1)=24.1$p<.001). Moreover, the number reporting >1 hour per day was also significantly greater at the end of the programme (248 (41%) vs. 198 (33%); $X^2(1)=13.1$p<.001). Parents also reported that their children were engaged in more daily physical activity following the programme; however, this did not meet statistical significance (Z=2.4, p=.018). In terms of meeting recommendations, the number of children spending 3 hours or more in active play rose from 312 (52.2%) to 341 (57.1%) ($X^2(1)=4.5326$, p=.033).

Proportion of the day spent in front of a screen was only requested for children. Here, a reduction was seen for both age groups: 0-2 year olds (Z=-4.9, p<.001) and 3-5 year olds (Z=-6.3, p<.001). Children aged 3 to 5 years reaching the recommended levels of less than two hours daily rose from 185 (51%) to 242 (67%) (p<.001) (Table 3). Guidelines indicate that children under 2 years should watch no television and very few achieved this. However, those watching less than 2 hours rose from 302 (66%) to 368 (80%) ($X^2(1)=40.6$, p<.001).

Discussion

Analysis of routinely collected data from 144 *Right from the Start with HENRY* programmes delivered over a two-year period showed consistent evidence of positive changes in self-reported family diet, eating behaviours and parenting confidence. The programme is a community-delivered intervention designed to equip the parents/carers of preschool children with the skills and knowledge to provide a healthier family lifestyle and so prevent obesity.

The current study draws on data collected for quality assurance purposes on programmes delivered in some of the most disadvantaged areas of the UK. Positive changes were reported in the majority of lifestyle parameters: dietary intake, eating behaviours and physical activity, together with parenting confidence. The sample included programmes in new locations delivered by newly trained facilitators, as well as Centres where HENRY is more established. These results endorse prior evidence of effectiveness in a small cohort of specially selected programmes run from seasoned Children's Centres with experienced facilitators.[14] In the earlier study, a positive impact was demonstrated on parental self-efficacy and self-reported family lifestyle at a level that supports obesity prevention. In this larger evaluation, the same positive outcomes were achieved.

The centrality of parenting in the HENRY approach differentiates it from most other family lifestyle initiatives. It stems from evidence relating to parenting and lifestyle change.[2, 22, 23] The observed increase in parenting confidence and ability to set boundaries is particularly important given the association between authoritative parenting and the achievement of family change and better parent-child interaction.[24] Moreover, evidence that the relationship between parental efficacy and health is stronger in low-income groups[25, 26] has particular relevance given HENRY's delivery in disadvantaged areas. Enhanced emotional wellbeing increased too; this is known to promote self-efficacy, the likelihood of behaviour change[26] and parental modelling of healthy lifestyle, so potentially influencing what children eat[27] and their levels of physical activity.[28] The reported increase in frequency of family mealtimes is relevant as family meals are associated with greater vegetable intake,[29, 30] fewer soft drinks,[31] language development, behaviour and academic achievement.[2]

Considering physical activity, national bodies in the UK[18] and USA[19] have issued guidance regarding desirable levels. These include at least 30 minutes of moderate activity daily for adults and 3 hours for children under 5 years. Following the programme, more adults reported that they and their children were meeting these recommendations.

The present study investigated the short-term impact of the *Right from the Start with HENRY* programme. Taken alone, the findings should not be used to draw long-term implications. However, when considered in the context of previous research, the results contribute to the view that the HENRY programme can have beneficial impacts. The changes identified here are in line with those from the previous, cohort study[14] which also showed that many of the observed changes were maintained at eight-week follow-up. In addition, positive changes to Children's Centres and their staff have been reported at up to 11 months[15] and beyond[11]. Taken together, there is evidence to suggest that the impact of the programme upon participants is beneficial in the short-term, and that many of the observed changes may endure into the medium- and longer-term. Further research is necessary to more fully explore the impact of the programme beyond its immediate duration, and whether the observed changes are associated with the desired impact upon obesity prevention.

Limitations are inherent in any service evaluation using routinely collected, self-reported data without controls or additional resources to obtain data on long-term change. While the results are promising, they should be viewed with caution. First, all data was provided by self-report which is susceptible to response bias and does not measure objective behaviour change. Second, using detailed, validated lifestyle questionnaires is often unfeasible in real-life, pragmatic settings and that applies here. Appropriate, validated tools were used (following some modification and re-evaluation) where available. Third, we could be criticised for relating our food frequency data to recommended portions per day, but it seems reasonable to use the data as an approximation and indicator of clinically meaningful change. Fourth, parents were asked to report on their children's lifestyle as a unit, rather than each child individually or an 'index' child. The results need to be considered in this light, although it has to be said that it did not present a problem to parents when completing the questionnaire.

A further limitation is the lack of data on weight change. We chose not to measure or collect data on BMI as this HENRY programme is aimed at obesity prevention rather than treatment and our experience indicates that reference to weight or obesity in a lifestyle programme deters potential participants. Parents' perceptions of the healthiness of their family lifestyle was available through the 'stepping stones' activity, and this indicated even higher levels of change than previously reported. As facilitators often report greater openness and awareness of lifestyle limitations by the end of the programme, this was not necessarily anticipated.

Despite these limitations, a considerable strength of the study is its size and scope, with data drawn from 144 programmes delivered within 23 regions spread across the UK. Attrition is usually a limitation in complex interventions. That the programme was completed by over 70% of starters is respectable, particularly in light of the fact that locations were not selected. Furthermore, the completion rate may have been masked: some locations offered a pre-programme 'taster' session, while at others this doubled up as the first session proper. Post-hoc analysis of attendance data revealed that defining 'starters' as parents attending two or more sessions resulted in a completion rate of 90%. Had all programmes included a distinct 'taster', it is likely that the proportion of those enrolling for the full programme that went on to complete would have been higher.

A questionnaire response rate of almost 80% was also impressive given that resources did not permit collecting data from parents who did not attend the first or last session. While we lack data regarding the extent to which we reached our target population of families living in poor socioeconomic circumstances, this is likely as the programmes were delivered in the most deprived 25% of postcodes.

While well-designed and adequately powered randomised controlled trials are needed to ascertain the effectiveness of any complex intervention, trials in the preschool years, especially in babyhood, remain sparse.[3-6] It has been cogently argued that policy makers in the field of child obesity "cannot afford to wait for the results of lengthy trials before 'probably efficacious' interventions are made available to the public".[32] Translational approaches that create links between evidence and

practice are therefore important. This study has contributed information on a widely-commissioned intervention aiming to enhance family lifestyle and so prevent obesity. It was achieved involving large numbers of participants. It also has the advantage that recruitment bias was minimal, so the results may be more generalizable. This routine evaluation of a promising intervention lends support to the notion that rigorous collection of routine data can provide valuable information while results of trials are awaited. Such studies are important in identifying promising interventions before committing significant public funding for a trial. However, it is clear that an evidence base from a controlled trial is required and plans are in place to do this for HENRY: a pilot cluster randomised controlled trial of the *Right from the Start with HENRY* programme has been funded by the NIHR (CDF-2014-07-052) and is now underway. This will include an economic evaluation.

Conclusion

This service evaluation found evidence that a community-delivered intervention for parents/carers of preschool children was associated with several positive self-reported changes, which, if maintained, promote a healthy lifestyle and reduce the likelihood of later obesity. These included increased parenting confidence, healthier food consumption by both parents and children, changes in family eating behaviour and increased physical activity. Taken alongside previous evidence, the study endorses the view that the HENRY approach has a beneficial impact upon families which may help to prevent childhood obesity.

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Ethical approval

Data were collected as part of routine service evaluation (audit) and did not therefore require prior ethical agreement.

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Competing interests

HENRY was cofounded by MCJR; TB is Head of Development at HENRY and KR is Chief Executive of HENRY. TW has previously received payment from HENRY for consultancy work. MB has no conflicts of interest.

Authorship

TW analysed the data and generated figures; KR and TB managed collection and entry of data; MB assisted with analysis and interpretation of data; MCJR conducted the literature search and prepared the first draft of the manuscript. All authors were involved in writing the paper and had final approval of the submitted and published versions.

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Table and Figure Titles

Box 1. Information on context: HENRY commissioning, training and Children's Centres

Box 2: Key objectives of the *Right from the Start with HENRY* programme.

Table 1. Baseline demographic characteristics of those attending *Right from the Start with HENRY* programmes and providing questionnaire data (n=624)

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Table 3. Self-reported questionnaire data for parents and children (0-5 years) at start and completion of 8-week, *Right from the Start with HENRY* programme and significance of repeated measures analysis: food frequency, physical activity and screen time

Figure 1. Self-reported physical activity (parents and children) and screen time (children) at start and completion of the 8-week, *Right from the Start with HENRY* programme

Box 1. Information on context: HENRY commissioning, training and Children's Centres

HENRY is commissioned by Public Health departments in local authorities, who hold responsibility for public health, including obesity prevention. HENRY is based on a 'cascade training' model to embed the programme in local health and early years services across the UK. Local government or local health trusts fund HENRY to train local health and early years staff to deliver the group programme using a written manual and standardised resources. HENRY then provides ongoing supervision and support to these locally-based staff to ensure programme quality and fidelity.

Parent programmes are typically delivered in Children's Centres: these Centres are funded or provided by local government in areas of socio-economic deprivation. Developed through the Sure Start programme (modelled on Head Start in the US), Children's Centres offer support to parents as well as childcare and children's services. Their core purpose is to improve outcomes for young children and their families, with a particular focus on those in greatest need.

Box 2. Key objectives of the *Right from the Start with HENRY programme*

Parenting
- Increase in confidence to make changes to family lifestyle
- Development of an authoritative style of parenting
- Modelling of a healthy lifestyle

Eating patterns
- Establishment of regular family mealtimes
- Reduction in grazing behaviour

Healthy eating
- Providing appropriate child-sized portions
- Reduction in energy dense foods and sugar-sweetened beverages; increase in fruit & vegetable consumption

Physical activity
- Increase in active play
- Reduction in sedentary behaviour, especially television viewing

Emotional wellbeing
- Increase the emotional wellbeing of the child and all family members

Table 1. Baseline demographic characteristics of those attending *Right from the Start with HENRY* programmes and providing questionnaire data (n=624).

Age	
18-25 years	98 (15.7%)
25-64 years	477 (76.4%)
65+	1 (0.2%)
Missing/prefer not to say	48 (7.7%)
Gender	
Female	559 (89.6%)
Male	24 (3.8%)
Missing/prefer not to say	41 (6.6%)
Ethnicity	
White British	452 (72.4%)
British Asian	64 (10.3%)
Black	40 (6.4%
Other	17 (2.7%)
Missing/prefer not to say	51 (8.2%)
Median age of children at home*	2 years
No. aged <24 months	183 (41.3%)

Mean (SD) or frequency (%) unless otherwise indicated
*Data available only from April 2013 onwards (n=291 parents)

Table 2. Self-reported questionnaire data on 624 participants at start and completion of 8-week, *Right from the Start with HENRY* programme (Mean (SD) item/scale values) and significance of repeated measures analysis: parenting, ability to set limits, emotional wellbeing and family eating behaviours

Item/scale	*Maximum possible score*	*N*	Pre	Post	*p*[1]
Parenting confidence	16	619	12.3 (3.0)	13.4 (2.1)	**<.001**
Setting limits	20	618	13.7 (3.6)	15.6 (2.7)	**<.001**
Emotional wellbeing	20	609	8.2 (3.0)	9.4 (2.8)	**<.001**
Eating behaviours[2]					
Sat down together for a meal	3	617	2.0 (1.0)	2.3 (.8)	**<.001**
Eaten takeaway food	3	602	2.2 (.7)	2.4 (.7)	**<.001**
Had the TV on at mealtimes	3	606	1.5 (1.1)	2.0 (1.0)	**<.001**
Eaten a home-cooked meal	3	611	2.4 (.8)	2.5 (.7)	**<.001**
Stopped eating when had enough even if food is left	3	609	1.8 (1.0)	2.0 (.9)	**<.001**
Chosen to eat meals known to be healthy	3	608	2.0 (.8)	2.3 (.8)	**<.001**

[1]Values in bold significant at p<.01

[2]Items coded so that higher score = more desirable behaviours

Table 3. Self-reported questionnaire data for parents and children (0-5 years) at start and completion of 8-week, *Right from the Start with HENRY* programme and significance of repeated measures analysis: food frequency, physical activity and screen time

	On average, how many times do YOU eat the following food each day? (1–8+)				**On average, how many times do your CHILDREN eat the following food each day? (1-8+)**			
	N	**Start**	**End**	***p*[1]**	***N***	**Start**	**End**	***p*[1]**
Fruit & veg	616	2.9 (1.6)	3.7 (1.5)	**<.001**	601	3.4 (1.7)	4.2 (1.5)	**<.001**
Bread, rice, potatoes & pasta	616	2.7 (1.4)	3.2 (1.4)	**<.001**	603	2.7 (1.4)	3.2 (1.4)	**<.001**
Meat, fish, eggs & beans	611	2.3 (1.5)	2.7 (1.5)	**<.001**	588	2.3 (1.4)	2.7 (1.5)	**<.001**
Milk & dairy	612	3.1 (1.8)	3.3 (1.7)	**.002**	603	3.4 (1.7)	3.7 (1.6)	**.001**
High fat & sugar	607	2.7 (1.6)	2.3 (1.4)	**<.001**	594	2.1 (1.2)	1.9 (1.1)	**<.001**
Fruit & veg: no. of individuals consuming 5+ portions per day	616	86 (14%)	201 (33%)	**<.001**	601	131 (22%)	267 (44%)	**<.001**
Family activity								
	How often do you exercise or get active each day? (>30mins/day)[2]				**How often does your child/children exercise or get active each day? (>3h /day)[3]**			
	N	Start	End	**p[1]**	*N*	Start	End	p[1]
Number of individuals attaining recommended levels	597	333 (55.8%)	401 (67.2%)	**<.001**	599	312 (52.1%)	341 (56.90%)	.033
Screen time								
Number of 0-2 year olds attaining <2 hours/day	-				460	302 (66%)	368 (80%)	**<.01**
Number of 3-5 year olds attaining <2 hours/day	-				361	185 (51%)	242 (67%)	**<.01**

Mean (SD) or frequency (%), as appropriate

[1]Values in bold significant at p<.01

[2]Adult activity includes: *Brisk walking, cycling, dancing, running, swimming, housework, gardening, pushing a buggy or any activity that means you breathe harder.*

[3]Child activity includes: *Children who are walking* **–** Energetic play such as running, riding a bike, chasing games; *Children not yet walking* **–** Tummy time, reaching and grasping objects, swimming, bath time.