Short Communication

Fitter, healthier, happier families: A partnership to treat childhood obesity in the West Midlands

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Background

Obesity is a significant health and social problem in the West Midlands. Recent data from the National Child Measurement Programme in schools highlighted that the percentage of obese children in Year 6 (the final year of primary school) is higher than the national average (20.5% for West Midlands vs 18.7% for England).1 Childhood obesity tracks into adulthood and is associated with several physical and psychological comorbidities.2 This suggests that the next generation is likely to experience increased rates of morbidity and mortality if the obesity problem is not addressed.3 The causes of obesity are complex and multifaceted, and require a range of different solutions. There remains a need to develop and enhance understanding regarding which interventions are effective.

The UK Department of Health in the West Midlands (DHWM) decided to take action to tackle obesity in collaboration with local partners by commissioning the MEND (Mind, Exercise, Nutrition...Do it!) 7–13 Programme.4 The aim was to provide effective and evidence-based obesity treatment programmes, training and resources, whilst working alongside partners from the private, public, voluntary and academic sectors to make services available at a community level on the widest possible scale.

MEND is a social enterprise offering healthy living programmes in the local community. MEND is dedicated to reducing global overweight and obesity levels by helping children and their families become fitter, healthier and happier. The MEND 7–13 Programme has demonstrated cost-effectiveness, and is currently the only UK community-based programme supported by a published, peer-reviewed randomized controlled trial demonstrating reductions in child obesity and improvements in health, fitness and self-esteem.5

Overview of the MEND 7–13 programme

The MEND 7–13 Programme ran after school in community venues, including schools, leisure centres and community centres. It comprised an intensive 10-week phase, consisting of 20 group sessions held twice per week, with each session lasting for 2 hours. The sessions comprised of measurements, behaviour change, nutrition and physical activity. Eligible participants were aged between 7 and 13 years, and overweight or obese as defined by a body mass index greater than the 91st centile of the UK reference growth charts.6 Parent or carer attendance was mandatory at every session and siblings were also invited to attend.

The data collected by MEND was in line with the national Standard Evaluation Framework for evaluating weight management interventions.7 Thirty-six of the 37 essential criteria and 22 of the 26 desirable criteria were collected. The
psychological measures used by MEND are a modified version of the Rosenberg Self-esteem Scale, Strengths and Difficulties Questionnaire and Body Esteem Scale.

Recruitment methods varied between programme deliverers, and included signposting from directories and websites, referrals from healthcare professionals, advertising in local papers, advertising at leisure centres and general practises, National Child Measurement Programme letters, and through local health and school events.

MEND families are supported for 2 years to make and maintain healthy lifestyle changes to help their child achieve a healthier weight. After completing the initial 10-week MEND phase of the intervention, families can continue to be motivated and supported by MEND World activities and resources. Resources and activities provided will differ depending on the programme deliverer and available local resources. Children are followed-up where possible at 6 and 12 months post intervention. Follow-up data was only available for 25 children at 6 months.

One hundred and nine frontline staff across the West Midlands completed MEND’s 1-day obesity awareness training to support referral pathways. This included 75 local staff from a wide range of backgrounds (including healthcare, physical activity and other professionals) who were trained to become certified MEND leaders by attending a further 4 days of accredited training.

Results

Two hundred and twelve families across the West Midlands participated. Mean programme attendance was 80.4%, mean drop-out rate was 12% and mean age was 10.5 (standard deviation 1.8) years. The MEND 7–13 Programme demonstrated positive and highly significant improvements in physical outcomes (anthropometry, cardiovascular fitness, physical activity habits) and psychological indices (total difficulties score) (Table 1), as well as improvements in nutritional scores and a reduction in body mass index. This was independently validated by work commissioned from the University of Worcester. $P < 0.01$ was taken to indicate statistical significance.

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<thead>
<tr>
<th>Table 1 – Summary of mean results.</th>
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<td>DHWM results</td>
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<tr>
<td>Body mass index (kg/m²)</td>
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<td>Waist circumference (cm)</td>
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<td>Days doing physical activity (/week)</td>
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<td>Physical activity (hours/week)</td>
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<td>Sedentary activities (days/week)</td>
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<td>Recovery heart rate (beats/min)</td>
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<td>Total difficulties score (0–40)</td>
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<td>Nutrition Score (0–28)</td>
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DHWM, Department of Health in the West Midlands; MEND, Mind, Exercise, Nutrition... Do it!

a $P < 0.0001$.
b MEND national results are the mean outcomes from over 6800 participants who completed the MEND 7–13 Programme in community settings across the UK between 2007 and 2009.

Discussion

These results support the positive effects for the MEND 7–13 Programme, previously reported in the region. A recent academic evaluation found that children who attended the MEND 7–13 Programme had greater reduction in body mass index compared with children who attended other child weight management interventions in the West Midlands.

A 2010 unpublished report also calculated the health and social value of the MEND 7–13 Programme. Independent research undertaken by York Health Economics Consortium and NEF (New Economics Foundation) Consulting estimated the incremental cost-effectiveness ratio of MEND to be £1671 per quality-adjusted life year gained. The report concluded that the MEND 7–13 Programme is a cost-effective and cost-saving intervention which provides returns of 967–1331% on public investment (i.e. a return on investment of between 10 and 13 times). Costs of weight management programmes across the region were compared with the benefits by independent research undertaken by the University of Worcester.

As well as demonstrating positive results, there is substantial learning from the local approaches adopted by the MEND 7–13 Programme in the West Midlands. To achieve the MEND vision of fitter, healthier and happier families, local areas worked in close partnership with other organizations that had similar aims. Learning from the MEND 7–13 Programme demonstrates that local cross-sector partnerships can lead to improved delivery. The more successful programmes worked with a local delivery partner who had existing links with local education and sports networks, and where they could tailor the MEND 7–13 Programme to suit the local population.

Working at grassroots, the local areas raised awareness of MEND, examples being school newsletters and school assemblies working with school nurses. Creative communication methods such as Facebook, local community programmes and magazines, general practitioners, computer display screen advertisements at schools and leisure centres, along with supermarket partnerships provided good ways of recruiting people to MEND. This locally tailored approach resulted in high acceptability to families, good and increasing recruitment, excellent attendance (94% in some areas) and low drop-out rates. After the programme ended, up to 60% of children remained engaged and continued the healthy lifestyle activities. In summary, the MEND 7–13 Programme in the West Midlands provided a very successful model of delivery, and produced positive outcomes built on strong local partnership working and understanding of the local population.

Conclusion

An evidence-based programme, combined with local level partnership working, had a positive impact on child obesity by supporting families from across the West Midlands to achieve highly significant health outcomes. Local authority and health sector stakeholders now have a solid foundation, including suitably trained staff, resources and levels of local awareness, to continue tackling obesity at a local level. The partnership between DHWM, MEND and local stakeholders is a proven and
successful model that can be further tailored and flexed to suit local population needs.

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Ethical approval

None required.

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Competing interests

None declared.

References