Expert Testimony to NICE Programme Development Group on lifestyle weight management services for overweight and obese children and young people

Summary – Effective Behavioural Components for CWM programmes

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What is this evidence review about?

Despite recommendations in recent practice guidance (NICE 2006; SIGN 2010) for the inclusion of behavioural components as part of multi-component child weight management programmes, little information exists on effective behavioural techniques and approaches that should be included. This literature review was commissioned by NHS Health Scotland to review the health behaviour change models and approaches to support the development and delivery of effective child healthy weight programmes.

Secondly in light of recommendations that programmes should be delivered by appropriately trained professionals, the review aimed to interview programme providers in order to identify the skills, qualities, competencies, training needs and perceived barriers associated with the effective delivery of programmes.

How was this evidence briefing produced?

This evidence review was developed by a team from the Institute of Health and Wellbeing at Leeds Metropolitan University. It summarises the results of a literature review on effective behavioural components in CWM programmes drawn from 74 papers consisting of 12 reviews, 7 qualitative studies and 55 interventions. In addition it reports on findings from the interviews undertaken with providers/practitioners of 7 CWM programmes delivered within the UK. The detailed findings from the review and interviews, review methods including search strategy, and the list of studies included in the review can be found in the full report which can be accessed from http://www.healthscotland.com/uploads/documents/14147-Child%20Healthy%20Weight%20Literature%20Review.pdf

For the purpose of the review definitions of Behavioural Therapy and Cognitive Behavioural Therapy were agreed and are set out below.

What do Behavioural Therapy and Cognitive Behavioural Therapy involve?

Behavioural Therapy (BT)

Behavioural therapy (BT) consists of a series of techniques which can be utilised to achieve changes in behaviours relating to diet and exercise. NICE (2006) guidelines state that for a child-focused obesity treatment programme to be considered a behavioural intervention, it must incorporate the following techniques: **self-monitoring, stimulus control, goal setting, reward for reaching goals and problem solving**. Self-monitoring is used to first identify, record and monitor existing behaviours and assists in recognising the factors that influence specific behaviours. Stimulus control can then be used which involves limiting exposure to the triggering factors of such behaviours. Another characteristic technique is that of **behaviour contracts** where individuals set themselves goals. This process assists with recognising and reinforcing desirable behaviours.

Cognitive Behavioural Therapy (CBT)

Cognitive behavioural therapy (CBT) incorporates many aspects of BT but its primary focus is on **addressing faulty cognitive processes and beliefs** which perpetuate the problem in question (in this case obesity). It therefore aims to encourage individuals to identify, evaluate and then restructure their faulty reasoning using strategies including **cognitive restructuring, self-instructional training and problem solving** (Herrera et al. 2004). Patients learn to reduce their focus on weight loss and food with the help of discussions about self-esteem, body image and ways of coping with societal pressures to lose weight.

Which behavioural therapy techniques are effective?

The review found that BT techniques in effective CWM programmes are usually included as a 'package': consisting of the following techniques:-- self- monitoring, stimulus control, goal setting, reward for reaching goals and problem solving. Interviews with programme providers also indicated that a range of BT techniques were employed and they considered this "package of techniques" to be important as it allowed them to select suitable techniques that could be matched to individual needs. Interview findings indicated that practitioners considered effective techniques to be monitoring and stimulus control. They also relied greatly on goal-setting as a BT technique but all reported that families found it challenging to set SMART goals and felt that support was required for parents in developing this skill.

Too few studies utilising CBT and the lack of description and evaluation of specific CBT techniques within the current evidence-base prevents conclusions on its effectiveness to be drawn. CBT techniques that were adequately described in the few successful studies were: monitoring of negative thoughts, cognitive restructuring, problem solving and self-reinforcement. Practitioner interviews stated that almost half included CBT aspects in their programmes such as tools for cognitive restructuring and that these were integral to programme delivery, however practitioners recommended that more use should be made of these techniques in the future. It was noted that the majority of programmes delivering CBT aspects did so via experienced or trained staff.

At what age is behavioural therapy effective?

Teaching young children (8-12yrs) self-monitoring and other behavioural therapy techniques results in no significant effects on weight outcomes. It is more effective for this age-group to teach behavioural therapy techniques to parents through teaching parenting and child management skills and it appeared to be more beneficial when the parent was taught in groups separately from their child.

Stimulus control (e.g. limiting TV viewing) and positive reinforcement (e.g. reward and praise) were shown to be effective for influencing sedentary and physical activity behaviours however the role of positive reinforcement for healthy eating behaviours is unproven.

Very few studies utilised CBT techniques in younger children. However it was shown that targeting adolescents with CBT was effective in the short-term but the lack of evaluation in studies makes it unclear which specific components were responsible for the impact. However, tentative results suggest that coping skills training for adolescents was

beneficial. The evidence also indicated that whilst it was beneficial to encourage autonomy in adolescents, targeted guidance and continual support from a trained professional should be offered rather than for example using self-help programmes that rely on individual motivation.

The role of parents in behavioural programmes
Parental involvement appeared to be a key aspect in influencing effectiveness of CWM programmes for all ages and the evidence indicated that teaching parents problem-solving skills appeared beneficial.

For successful programmes aimed at children under the age of 12 years the following BT techniques targeted at parents have been shown to be effective: monitoring of their child's intake and activity, identifying their child's problem behaviours, goal setting, rewarding appropriate behaviours, praise, role modelling, positive social reinforcement, strategies to cope with resistance and contracting.

The parental behavioural components incorporated into successful adolescent focused programmes are similar to those utilised with younger children: coping skills training, emphasizing importance of parents as role models, stimulus control and reward that promoted improvements in health.

The role of parenting programmes
There was some evidence showing the potential for including general parenting and child management skills in CWM programmes. However it is currently unclear whether it is beneficial to teach general parenting skills (i.e. becoming more authoritative parents) that can be generalised to other areas of parenting or whether it is more effective to teach parenting skills tailored to lifestyle behaviours of diet and physical activity. From the practitioner interviews in recognition that parents struggled with setting goals, it is recommended that goal-setting skills should be taught to all parents.

Target parents and children together or separately?
It appears more effective to target parents and younger children separately within programmes. However from the interview findings with practitioners it was reported that they were utilising a mixture of approaches for different reasons. For exercise sessions some felt that separate sessions for parents and children should be offered because it was perceived that the child felt better able on his/her own and therefore it was more enjoyable. On the other hand practitioners felt that when parents and child exercised together, the parent was portraying themselves as a role model for their child.

It appears that including parents in adolescent programmes is beneficial to weight outcomes. However it is unclear for interventions targeting older children whether parents should be targeted together with their adolescent or seen separately. It is very likely that the level of parental involvement will vary with age and developmental stage and therefore a flexible approach is required.

Group Vs. one to one sessions?
No studies have compared group-based sessions to individual counselling sessions. However the interview findings indicated that in practice both approaches were used. It was felt the advantage of groups was that it provided peer support from participants who were experiencing a similar situation. However the advantage of one to one sessions was that it provided an additional layer of individualised support which was particularly helpful in addressing children with more complex issues rather than in a group environment.

Settings

No difference in outcomes was observed for behavioural interventions delivered across a range of settings. The review found that it is possible to deliver behavioural interventions across a range of settings (hospital, school, community) and therefore the recent growth in community-based interventions should allow for improved access to a wider target group than the existing in-patient and out-patient hospital or university–based programmes.

Interviews with CWM programme providers

Interviews with 7 UK CWM programmes providers were conducted (The Traffic Light (P1) Programme, The SCOTT programme (P2), WATCH IT (P3), MEND (P4), Carnegie Weight Management Programmes (P5), SHINE (P6), GOALS (P7)) to identify the skills, qualities, competencies, training needs and perceived barriers to the effective delivery of behavioural components with CWM programmes.

Skills and qualities of staff

The interviews highlighted a common list of essential core skills and personal qualities for those delivering CWM programmes that practitioners felt were innate and could not be developed through training. These included communication skills and ability to engage and empathise with the families and the children.

Essential interpersonal skills and qualities for those delivering CWM programmes

- communication skills
- empathy
- able to establish a rapport
- friendly, able to engage
- able to work with people
- charismatic
- non-judgemental
- have a non-pathological view of obesity
- enthusiasm for the field of obesity and obesity management

Training needs

The interviews suggested that other areas related to effective CWM delivery could be addressed through training and with the aid of appropriate resources.

Training recommended for those delivering CWM programmes

- Knowledge about obesity management;
- Experience of working with families and with groups was helpful but could be developed through training;
- Training in behaviour change models and processes so that potential for behaviour change is maximised;
- Training in BT and CBT techniques
- Ability to be flexible in programme delivery (content.) in order to meet individual needs (client centred approach)
- Identifying the appropriate pace of delivery so that sufficient time is given to embed new behaviours before introducing further change.

- Trained professionals with counselling or therapy experience should be involved in dealing with complex cases.

Type of staff

Two distinct types of programmes emerged in regards to the type of people utilised to deliver the behavioural interventions. One type (P1, P2, P6) use highly skilled staff (e.g. clinical psychologists, dietitians, family therapists or nurses). In one programme the staff were volunteers – they were employed elsewhere but worked free of charge for the CWM programme, thus keeping costs low. The other type of programme uses lay people trained specifically to deliver the programme (P3, P4, P5). These could be parents, community workers, leisure centre receptionists or graduates in a related area. One programme kept the criteria open but currently it is professionals that are involved in the delivery (P7).

The involvement of lay people in the delivery of CWM programmes was supported and it was felt that lay-people were easier to train compared to professionals because for professionals it meant potentially changing existing work practices. However due to the complexity of obesity and dealing with often complex cases, it was emphasised that in such circumstances trained professionals with counselling or therapy experience should be involved. The evidence from the literature also showed that BT and CBT components were often delivered by appropriately trained and motivated staff.

Issues for delivery of effective programmes

a) Appropriately trained staff

There appears to be a skills gap in people who deliver behavioural programmes. The interviews indicated that health professionals often were not very well equipped or lacked basic skills in addressing behaviour change including the social and emotional skills required to engage with families in this sensitive area.

A major issue is therefore around development of a skilled workforce for delivery of CWM programmes. It is apparent that training is key and particularly so for engaging with the families and then identifying and using appropriate behavioural approaches. The interview findings highlighted that staff training and support was offered by all programmes however the length, content and resources used were varied. There appears a lack of knowledge about the best people to deliver CWM services, the best training packages and resources available. One particular issue is if more lay people are going to be delivering CWM programmes, it is important to identify the best training and support which includes development of good interpersonal skills and setting clear boundaries for safe practice. It is also key that in order to develop and retain an appropriately trained workforce that training, on-going support and continued professional development are considered.

b) A range of programmes is required

It is clear from the wider evidence-base that a variety of programmes are needed to address childhood obesity and both practitioners and researchers agree that "one size will not fit all" and due to the different needs based on the level of obesity, complexity of circumstances, disadvantage, ethnicity and behavioural and learning disabilities, to opt for one programme does not make sense. The interview findings suggested that planners/commissioners of CWM services wish to deliver one service whereas a range of options are required to manage childhood obesity.

One example suggested by practitioners is a tiered approach. For more obese and or those with more complex needs, a more intense programme run by more highly trained

staff with counselling and therapy experience is offered. For less obese cases to offer a "brief intervention" style programme which maybe run largely by lay community workers. Although this model has potential it still requires skilled people to assess the appropriate level of intervention required.

Weight re-gain
The literature review indicated that most programmes showed effectiveness in child weight outcomes in the short-term however weight was often re-gained over the follow-up period. One of the barriers to effectiveness of behaviour change components highlighted in the interviews was the issue of relapse of behaviour resulting in re-gain of weight. To address this there appeared a tendency to move towards development and delivery of short courses to supplement the initial programmes. However to deal with relapse it was felt important it was identified and addressed as soon as it occurred. Furthermore practitioners felt there was a need to modify perceptions and view childhood obesity as a long-term condition.

Quality Assurance
The interviews indicated that to maintain positive outcomes staff must ensure attendance and adherence to the programme and this was found to be key as studies have shown that when this reduces, weight is re-gained in the child. From a delivery aspect, the practitioners felt confident that the behavioural techniques included in the programmes were known to work. However it was recognised that the quality of delivery was variable and in addition to offering appropriate training and support for staff, quality assurance processes to ensure programme fidelity were required to ensure that the components were delivered as intended.

Quality of the evidence base

Seventy-four papers consisting of 12 reviews, 7 qualitative studies and 55 papers from 50 intervention studies were included in this review. The evidence base is limited and the findings from many of the intervention studies have limited generalisability owing to the following: sampling and design issues: the majority of research in the field has been conducted in motivated, middle class, Caucasian populations; differences in terms of study design (particularly intervention comparisons), often BT and CBT components were included but there was lack of standardised definitions for BT and CBT in the studies reviewed which resulted in techniques being misinterpreted and misapplied; quality (particularly sample size and power) and the range of outcome measures.

Most studies reported beneficial effects of the intervention on child weight outcomes from baseline to end of intervention or follow up. However due to the lack of description of BT and CBT components and the lack of evaluation of the specific components it is difficult to state which specific techniques and strategies have an impact on effectiveness. It is also unknown whether it is the synergistic effect of a number of components together i.e. a "package" that ultimately has an effect on outcomes. However, we have tried to counter the limitations by conducting stakeholder interviews with providers of CWM programmes currently delivered within the UK. The review has also attempted to draw out implications for practice and recommendations for further research in order to strengthen the evidence-base in this area and contribute to the effective delivery of CWM programmes

Recommendations for further research
A number of recommendations to improve the quality of evidence can be made:

- Standardised definitions of BT and CBT components amongst programme developers would help in evaluation of effectiveness of behavioural components and approaches;

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- Authors of studies should provide better clarity and description of BT and CBT components incorporated in programmes.

- Evaluation of specific BT and CBT components including use of psychological health measures to assess impact on dietary restraint, self-esteem and body image should be incorporated in study designs.

- Studies with up to 2 years follow-up would help in the evaluation of long-term effectiveness.

- Researchers should include weight maintenance as an outcome measure during interventions thereby allowing the child to “grow into their weight”

- Evaluation of who the best people are to deliver behavioural CWM programmes and the best training packages available is required?

- With the potential increase in involvement of lay people in delivery of CWM programmes the role of lay people requires evaluation and identification of best practice for their training and support.

- As there is a need for a range of behavioural programmes there is a requirement to develop, implement and evaluate models for effective service delivery options to address childhood obesity across the age groups, levels of complexity, disadvantage and ethnicity.

- Due to the relapse issues highlighted the efficacy of providing short-courses at opportune times requires evaluation.

- Effective strategies to engage parents and maintenance of their on-going and motivation require exploration

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