Experiences of those Taking Part in the BeeZee Bodies Family-Based Weight Management Intervention: A Qualitative Evaluation

Laurel D. Edmunds[1,*], Kirsten L. Rennie[2], Stuart King[3] and Helen Mayhew[3]

[1]*Medical Sciences Division, University of Oxford, John Radcliffe Hospital, Headington, Oxford, OX3 9DU, UK*

[2]*School of Life and Medical Sciences, University of Hertfordshire, Hatfield AL10 9AB, UK*

[3]*BeeZee Bodies Community Interest Company, 27 Mill Street, Bedford MK40 3EU, UK*

Abstract: The need for effective community, child weight management interventions continues. The BeeZee Bodies (BZB) family-based child weight management programme for 7-11-year-olds and 12-15–year-olds has been developed iteratively over five years, with quantitative and qualitative evaluations refining the programmes. The aim of this study was to present the experiences and opinions of those taking part in BZB programmes as part of a real world evaluation. Three focus groups, following a semi-structured protocol, were conducted with 20 participants (15 parents, 5 adolescents) 3 months post-intervention. Analyses were thematic, iterative and underpinned by Grounded Theory. Two themes emerged; (1) programme contents, (2) social interactions, with each sub-divided. Parents described increased appreciation of physical activity and dietary components, improvements in parenting and good relationships with personnel. A wide range of positive personal outcomes and changes within the family were perceived by parents and adolescents including: changes in physical activity take-up, eating habits, portion sizes, and an improved understanding of parenting an overweight child. The parenting skills element further enhanced the social cohesion fostered through attendance. There were opportunities to build new friendships for both parents and adolescents, and for parents to interact with their offspring in a different context, all of which supported behaviour change. The BZB programme was viewed by participants as successful and delivered by engaging personnel. Key strengths were social cohesion generated by including parenting sessions and inclusiveness of the physical activities on offer. BZB has been refined in response to qualitative evaluations and reviews and this process continues.

Keywords: Child obesity, evaluation, qualitative, focus groups, social impact.

INTRODUCTION

The prevalence of childhood obesity continues to cause concern [1, 2]. There is an increasing body of qualitative research attempting to improve understanding between overweight children, their parents and health care professionals, but a gap remains [3]. Although more family-based interventions have been developed, many have not reported qualitative evaluations as recommended in the Cochrane review of child obesity treatment interventions [4]. This evidence would help practitioners understand the perspectives of parents and adolescents who took part, and identify the programme elements which enabled participants to experience success.

BeeZee Bodies (BZB; www.beezeebodies.co.uk) is a family-based weight management intervention for children aged 5-15years in Bedfordshire (see Box **1**). Programmes were funded and developed by Bedford Borough Council and Bedford NHS. Children were referred by health professionals into the BZB programme if they had a BMI≥95th centile for age. The programme required the attendance of at least one parent/guardian and child for each session over the 17-week course. The most commonly reported ethnicities of families were White British (65%), Black British (12%) and Asian (12%). These proportions were significantly higher than the area population averages. The mean IMD score of the participant's home address were not significantly different from the community average.

17-week weight management programme for children aged 5-15yrs and their families tomaintain weight or gradual sustained weight loss and prevent further weight gain.

Aims of programme are to increase parenting efficacy, strengthen family bonds, increase self-efficacy and create sustainable family healthy lifestyles.

Weekly 2-hour sessions including interactive nutrition education, physical activity, cooking and behaviour change sessions.

After graduation from the programme, families supported *via* BZ social media networks and receive follow-up appointments

Box 1: The BeeZee Bodies Programme.

In 2010, a practical evaluation of the BZB programmes (7-11- and 12-15-years) was undertaken. As part of this applied research, we present findings from focus groups of these programmes to explore the views and experiences of those who took part.

METHODS

Focus groups were chosen as they enhance recall and overcome limitations of pre-determined closed

*Address correspondence to this author at the Medical Sciences Division, University of Oxford, Level 5, John Radcliffe Hospital, Headington, Oxford, OX3 9DU, UK; Tel: +44 (0) 7792 514830; Fax: +44 (0) 1865 221354;
E-mail: laurel.edmunds@rdm.ox.ac.uk

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Table 1: The Sample

Focus Group	Age (Years)	No. of Families	Sample Size	Details
Group 1 (G1, 12-15)	12-15 adolescents	5	5 parents and 5 adolescents	4 mothers and 1 father (Asian); 3 girls (1 Asian) and 2 boys
Group 2 (G2, 7-11)	7-11 children	4	4 parents	4 mothers (2 daughters, 2 sons)
Group 3 (G3, 7-11)		5	6 parents	5 mothers and 1 father (3 daughters, 2 sons)

questions [5]. They allowed investigation of the needs, perceptions, satisfaction, and user expectations, maximising the potential number of attendees in the most convenient manner. To give time for reflection and integrate experiences, BZB participants (all parents and adolescents) were invited to attend one of three focus groups, three months post-programme [6]. Focus groups were arranged to take place in the locations and equivalent time slots as the sessions were delivered, strategies designed to maximise participation and aid their recall of programme experiences. The convenience sampling approach resulted in sample detailed in Table **1**. Adolescent were offered the chance to leave their focus group (and join in BZB activities) giving their parents the opportunity to speak candidly. Unfortunately separate focus groups with adolescents or children were not practicable due to lack of resources, and parents not wanting to bring their children in when they were not involved. The three focus groups (see Table **1**) took an average time of 1.5 hours and represented 25% of the recruited families.

A schedule of topics/semi-structured questions was based on previous topic guides used for qualitative studies with overweight children and parents of overweight offspring [7, 8, 9] in preparation for the focus groups. This included an opening question about gender and age of their child taking part in BZB followed by topics such as how they got involved, their expectations, the programme components, BZB personnel, information and feedback, and what changes had been made as well as why they thought these changes were sustained. Parents were invited to voice the views of their children and adolescents in their absence. Focus groups were conducted by an external researcher unknown to parents and adolescents beforehand, so that participants could express their opinions without BZB personnel present.

Ethics approval was granted by the Cambridgeshire 1 Research Ethics Committee 10/HO0304/2.

Analyses

Analyses were conducted using constant comparison to refine and revise themes. This approach is iterative and underpinned by Grounded Theory, providing a framework to explore participants' experiences. Data were collected and analysed concurrently by the researcher and findings were discussed with interventionists to assess veracity when compared with their experiences of running many programmes. Within a relatively homogenous group (i.e. families completing the BZB programme), data saturation was endeavoured [10] and so all completers were invited to be part of our purposive sample in an effort to meet this criterion.

RESULTS

Discussing the programme sessions naturally categorised into the sub-themes of physical activities, dietary input, the parenting element and the BZB personnel (comments are presented in Table **2**). The similarity of sentiments may indicate data saturation.

All participants were very enthusiastic about the physical activities and adolescents considered them the 'best thing' about the programme. Importantly, children pursued them without feeling judged or incompetent. It also provided children and adolescents with opportunities to bond with other children, to have fun and enjoy being active. This was particularly true for adolescents for whom physical activity was tainted by the negative experiences of PE at school. Parents enjoyed the activities too, providing them with opportunities to spend time with their children in a totally different and positive way. However, some parents would have liked more time to share the activities with their children, but had to attend the parent-only sessions.

Parents and adolescents all spoke positively about the dietary component. The most memorable topics

Table 2: Programme Comments

Programme Contents	Comments
Physical Activities	
Adolescents (G1, 12-15)	"I was fine in the holidays... I could wear my own clothes, but when you are all wearing the same at school people can pick you out and it's really rubbish" "The last time I went to badminton everyone was like why is she here she can't be very good" "They (BZB) make it more fun"; "They understand you they don't judge you" "They're encouraging"
Parents	"They loved it, every time it was different, never boring' (G2). "We loved them too" (G3) "We didn't have enough time to go out with them (doing activities)... sharing our solidarity with them" (G1); "We sometimes felt deprived when we only 'caught' the last half hour of an activity" (G3) "You miss seeing the kids doing them (activities) because you want to be encouraging them" (G2) "... and it's good for the kids to see us meeting challenges as well not just them. They can see that we can be challenged and that we can choose what whether we face up to the challenge or not" (G3) (canoeing) "It was such fun. We laughed for two and a half hours" (G3) "the kids are still talking about it" (G2)
Dietary component	
Adolescents (12-15 years)	"I've started looking at packets. I'm drinking skimmed milk and the little things that start to add up; can we change our bread, not have sugar in our tea" "My brother would have been can we have pizza and now he's like can we have salad" "They (school teachers) don't make it fun" "I remember the plate and carbohydrates (at school), but here they show you things" "At older ages they think yeah I know I know but no-one actually does it"
Parents	"The nutritionists were fantastic" (G2) "I was surprised at how small the portions should be" (G3) "they can see it (being healthy) can be really nice" (G2) "If you're eating that amount you've got to be active and get rid of it and now he understands ... he'd say is that all (food) and I'll tell him well you're not doing enough to get rid of it and he accepts it. He knows he's not doing enough now" (G2) food labels: "It's not just the fat we have to look at" (G3) "Get kids to appreciate they have to make decisions too (about food intake)" (G3) "My 8-year-old nags me now (about unhealthy eating)" (G2)
Parenting skills (delivered by a sociologist specialised in physical activity)	
Parents of 12-15 year-olds	"We all love them the way they are. We're never going to say do this and that because we love them" (G1) "As a parent you feel absolutely riddled with guilt and you have all that in you, so it's very easy for someone to make you feel it's your fault" (G1) "That was the best bit when we spoke to each other about our problems" and "Do you remember that first night when all the mothers were just pouring out..." (G1) "That's when it came alive, that's when people said they liked it" (G1) "I think the success of it was getting them (adolescents) to take ownership ... she's really serious about it now" (G1)
Parents of 7-11 year-olds	"He was great that was amazing" (G2) "He shook us up a bit" (G3) "He broke things down and you could relate to it" (G2) "He was friendly, approachable and you could relate to him" (G2) "It was good to have him near the start people opened up more" (G2) "he said: What would frighten you the most is you didn't achieve it" (G3) "They are beginning to take responsibility for themselves" (G3)
Delivery	
Parents	"You can talk to them they don't look down their noses at you" (G2) "They're great. They are not old like us (laughs) but they are old enough for the kids to respect them and do what they say" (G2) "Yeah they have authority over them in really nice way" (G3) "Carry it on for longer" (G1) "We could do with something every week" (G2) "It's not just a question of 17 weeks cut off and then we live happily ever after. We've done the weeks and it's fine but we do still need it to reassert it all and the awareness ... We panicked a bit at the end didn't we" (G3)

were portion size, amounts of sugar in foods and drinks and thinking about food composition beyond fat content. Adolescents commented upon how their understanding had been improved and how they had changed their behaviour as a result. Parents appreciated how awareness of food and drink composition had been raised for all, and giving everyone a better understanding of food labels. Parents of the younger children were surprised by the smallness of portions sizes and how they needed their children to accept less and healthier food.

The parenting skills sessions were singled out as being most helpful despite being challenging. The direct approach may have been harder for parents of adolescents to accept as they were facing more complex circumstances e.g. ex-partners not being sympathetic to their child's weight management or unhappy adolescents wanting to comfort eat. However, this component allowed all parents to realise they shared similar problems and discuss them openly. This camaraderie fostered their 'gelling' to a greater extent and improved the social cohesion of the group.

Staff delivery was perceived extremely positively, but there were negative comments about the sessions being too long, or too complicated: "Sometimes you just thought oh God another two hours of being talked at" (G1, 12-15). The weekly information sessions were interactive and lasted about 90 minutes. Two of the parents of adolescents thought the delivery of the parenting sessions was "patronising" (G1, 12-15). Parents also questioned their having to attend all the information sessions and so missed some of the physical activities with their offspring. In general parents and adolescents thought the BZB personnel "Were all brilliant" (G3, 7-11; G1, 12-15). Their key attributes were being friendly, non-judgemental approachable and accessible. Parents also thought age of the staff was important; they were old enough to have authority, but still young enough to relate to the children and adolescents in a meaningful way. Parents particularly appreciated having the staff support in bringing about healthy changes. "It's not just me nagging" (G2, 7-11).

Social Interactions

This theme was concerned with the broader experiences of participants and the impacts on themselves and other family members (comments shown in Table **3**).

Table 3: Social Interaction Comments

Social Interactions (All Comments are from Parents)
Gelling
"The social aspect was a big plus" (G2)
"We've had a really good group" (G3)
"Meeting some fantastic friends" (G3)
"... and just all getting together and supporting each other. We really gelled" (G2)
"I've missed the support" (G3)
"We've all got on... we've met up since. We've had a barbeque. We're going to do a Halloween party" (G3)
"We had to gel" and "We're all here for the same reason" (G1)
"We don't mind talking to each other" (G1)
"It was the best bit when we spoke to each other about our problems" (G1)
Partners
"He'll buy junk... He'll say I don't see why I should have to go on a diet just because M (son) is" (G1)
"Granny kept feeding him rubbish while I was at work and my husband wasn't doing anything about it either" (G3)
"He's not changing his lifestyle so why should she change hers. He did come to her graduation. It would have been good if he's got more involved because he needs education too" (G1)
"My partner is very fit and active and he's really helped her" (G1)
"Mine's alright he does say don't eat that" (G1)
"My partner's gone from one extreme to the other – McDonalds to salads"(G1)
Grandmothers
"I had a great piece of advice from the nutrition lady because of S' Nan (father's mother who provided unhealthy treats during childcare). ... I was sitting there nearly crying saying I don't know what to do to sort this out. I've asked her three times. She (nutritionist) said perhaps you can get S to say to Nan can you help me and she did and it worked. Nan I really want to do this. I know you really love me and you want to give me treats. Perhaps I could have a treat from you once a week at the end of the week but not the sausages, something like a fruit smoothie. That was brilliant." (G2)

The social cohesiveness ('gelling') built up among parents was perceived as one of the most positive aspects of the programmes, resulting in some firm friendships. Parents of younger children thought it was the most valuable aspect of the programme. These parents attempted to maintain contact post-programme *via* a Facebook page as they missed the support they received from the programme and from each other. Parent thought the social cohesiveness expedited talking through the issues they faced as parents of overweight children. This also provided a suitable atmosphere for their children being able to mix with peers and not feel judged: “The kids all got on” (G3, 7-11). Parents felt the programme provided an opportunity for their children to socialise in a way that was not possible at school.

The social cohesiveness was also a likely support which enabled parents to change the attitudes of other family members as this was often stressful. Partners’ attitudes and behaviours were not always helpful, either not wanting to make lifestyle changes for themselves or being willing to intervene with their own mothers. Grandmothers in particular found changing established habits challenging as the quote in Table **3** illustrates. However, those with grandchildren in the younger age groups could be persuaded to become more involved after mothers had explained the programme goals, and so grandchildren were fed with healthy foods rather than treats.

Table 4: How Practitioners can Work more Effectively with Families

This study suggests that in family weight management programmes	
1.	Social cohesion may be a key output of attending a programme for families and needs to be considered in the programme design
2.	Parenting skills are important across all age groups including adolescents.
3.	Consider the role of the wider family members in changing attitudes and practices in the family
4.	Acknowledge and address some of the negative experiences young people may have experienced before the programme as a result of being overweight/obese
5.	The importance of the delivery team being non-judgmental, approachable and accessible as well as knowledgeable.
6.	Longer term social support to participating families beyond the end of the programme is important to families to build on the relationships and sustain their engagement in behavior changes.

DISCUSSION

This evaluation has provided a number of insights into the experiences of parents and adolescents taking part in BZB. The views presented here are from participants interested enough to complete the programme, who responded to invitations from the interventionists and attended the focus groups. As such, these views may or may not be representative of all parents, adolescents and children who engaged with BZB. These findings reflect the interventionists’ similar experiences over a period of five years and we acknowledge that the recruitment method may have skewed our findings. The lack of children’s voices and few adolescents was also a limitation, but funding for such community-based programmes by the NHS or Local Authorities tends not to include research.

The main findings were that change was facilitated by the programme contents and the likely sense of confidence and self-competency derived from them, and the social interactions engendered by BZB. Obese parents and adolescents typically have their confidence undermined by societal attitudes and parents feel blameworthy [7, 11]. The knowledge and sense of self-competency imparted by understanding what and how much to eat, being physically active can be enjoyable and that others are facing similar parenting issues can be beneficial in the long term [12]. The parenting sessions in particular, presented opportunities to recall and share experiences and to express feelings, which were likely to be a key element in the groups ‘gelling’. The approach taken may have been perceived as brusque by some, indicating the sensitivity mothers feel, as they see themselves as primarily responsible for their children’s weight/health [13]. However, it was also seen as being effective on reflection as it may have been addressing some complexities of family systems [14]. Since then BZB has undergone extensive staff training on the parenting skills sessions and these have been altered to take account of feedback so that the sessions are now more parent-led, especially the initial sessions. Parents of 7-11-year-olds did not make any adverse comments about these sessions, whereas the parents of adolescents commented on how much (or little) control they had over their children [15]. Parents of adolescents are likely to be facing a dilemma. The adolescents were being encouraged to take responsibility for their actions, and yet parents perceived they were advised to be controlling, which was not the intention as this is contrary to the developing independence of adolescents which happens around puberty [16]. BZB targets deprived

areas, therefore the need to ensure that messages are fully understood and not misinterpreted *via* pre-conceived ideas of weight management remains necessary.

Parents of overweight children often feel isolated before attending similar interventions [17], slimming groups [18] and weight loss camps [19]. Given how stigmatised parents of overweight offspring are, it is not surprising that social interaction/support was a key to parents' positive responses. BZB provided the opportunity for participants to socialise in a way that would otherwise be unlikely [3]. The non-judgemental attitudes of the personnel and the inclusiveness of activities enabled parents to discuss the issues they faced. Additionally, the parenting sessions enhanced this cohesiveness and parents' descriptions of 'fantastic friends', setting up a Facebook page and their children wanting the groups to continue are testament to BZB's strength. The emergent theory was the programmes' success being based on the quality of relationships, particularly the 'gelling opportunities', created by the social support and enjoyment from activities. The new friendship aspect of BZB may not only have sustained their engagement and ability to make changes during the programme, but also with others in their family circle and afterwards.

Parents may lack social support from other family members. Partners and grandparents are known to create barriers to mothers' efforts to manage their family's weight [20-22]. Other family members often remain unsympathetic, but some participants talked about changing attitudes and practices in these significant others. The confidence, knowledge and skills given to participants, together with support from their group, may have provided them with the empowerment and motivation necessary to achieve this. Managing the attitudes and unhelpful behaviours of other family members is another marker for success of interventions which may be underestimated or overlooked.

Overweight children and their parents do not come to physical activity as blank slates i.e. they bring a variety of negative experiences which they have to overcome [9]. PE lessons at school are known to initiate the onset of name-calling teasing and bullying for overweight primary [20] and secondary aged children who may start truanting on PE days [23]. The activities were very highly thought of and crucial to the success of the programme. Overweight children and adolescents learned to enjoy physical activity, became enthusiastic about pursuing different activities and potentially benefitting their future weight management efforts. Some of the most effective programmes have achieved this with girls [4], this evaluation suggests BZB has also achieved this with boys and parents.

Typically the dietary component was well received and all participants could recall information which they had found useful [22]. The BZB personnel had conveyed information and raised awareness such that parents, adolescents and children were able to understand, engage with it and to put it into practice.

In conclusion, participants perceived that BZB had enabled them to make changes to their lifestyles, manage their weight more effectively, and generate support from other family members. The programme contents were well received and the key aspects of the programme's success were underpinned by the emotional and social competencies of the personnel and the social cohesion which arose during the intervention. Points which may help parents, their offspring and practitioners have been included in Table **4**. In response to its constant evaluation and review, BZB has built in social support and now uses social media post-programme. Support post-programme is an issue for many who have taken part in interventions [24]. The programmes' development process may have contributed to the successful outcomes, which in turn, may have had a significant impact on many of those taking part: "Its life changing" (G2, 7-11).

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SK and HM conceived and carried out the intervention, LE and KR collected, analysed and interpreted data. All authors were involved in writing the paper and had final approval of the submitted and published versions.

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CONFLICT OF INTEREST

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