ORIGINAL ARTICLE

Improving mental health through parenting programmes: block randomised controlled trial

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Aims: To assess the effectiveness of a parenting programme, delivered by health visitors in primary care, in improving the mental health of children and their parents among a representative general practice population.

Methods: Parents of children aged 2–8 years who scored in the upper 50% on a behaviour inventory were randomised to the Webster-Stratton 10 week parenting programme delivered by trained health visitors, or no intervention. Main outcome measures were the Eyberg Child Behaviour Inventory and the Goodman Strengths and Difficulties Questionnaire to measure child behaviour, and the General Health Questionnaire, Abidin's Parenting Stress Index, and Rosenberg's Self Esteem Scale to measure parents' mental health. These outcomes were measured before and immediately after the intervention, and at six months follow up.

Results: The intervention was more effective at improving some aspects of the children's mental health, notably conduct problems, than the no intervention control condition. The Goodman conduct problem score was reduced at immediate and six month follow up, and the Eyberg Child Behaviour Inventory was reduced at six months. The intervention also had a short term impact on social dysfunction among parents. These benefits were seen among families with children scoring in the clinical range for behaviour problems and also among children scoring in the non-clinical (normal) range.

Conclusion: This intervention could make a useful contribution to the prevention of child behaviour problems and to mental health promotion in primary care.

Mental health problems of clinical severity affect up to 20% of all children aged 5–15 years in Great Britain,[1] and these are now the commonest cause of severe disability in childhood.[2] Mental health promotion is a priority for public health in the UK.[3] The importance of parenting as a risk factor for mental illness, both in childhood[4 5] and in adulthood is well recognised.[6 7]

The costs to society of childhood behaviour problems (the most common form of mental illness in children) is high.[8] It has been proposed that there is an urgent priority to shift from reactive intervention to prevention, since the later the intervention, the costlier and less effective it is.[9]

Group based parenting programmes, run both by professionals and by parents, are becoming increasingly popular in the UK and a range of different programmes are available.[10] Four recent systematic reviews, one focusing entirely on group based programmes,[11] and three covering these programmes within wider reviews of mental health promotion and behaviour problem prevention[12–14] have provided evidence that group based parenting programmes are an effective and cost effective way to improve parenting, and that such changes have a beneficial effect on children's mental health and behaviour. A further systematic review has shown that group based parenting programmes can also be beneficial in improving parents' mental health.[15]

Most trials of the effectiveness of parenting programmes have been conducted in North America, and have taken a secondary preventive (indicated) approach (working with parents of children who already have behaviour problems) or a selective primary preventive approach working with parents at high risk.[11] A recent study in the UK has shown the effectiveness of the Webster-Stratton parenting programme in an indicated approach among parents of children who had been referred to child mental health services.[16]

Research into the effectiveness of group based parenting programmes in the UK is only just beginning. There are few well designed trials in diverse populations and settings,[17] and to our knowledge there are no randomised controlled trials of these interventions in UK primary care. In this study, we assessed the effectiveness of a primarily behavioural parenting programme, the Webster-Stratton Parents and Children Series,[18] of proven effectiveness in UK clinical populations, delivered by health visitors in a general practice setting, in terms of its impact on child behaviour problems and parental mental health. This sample included both parents of children with behaviour problems in the clinical range, and parents whose children scored in the normal range.

METHODS

A postal survey was administered to the parents of all the children aged 2–8 years inclusive, registered at three general practices in Oxford (n = 1788).[19] This survey comprised the Eyberg Child Behaviour Inventory (ECBI)[20] and demographic information. A total of 1105 questionnaires were returned, giving information on children in 800 families (response rate 70%). The mean score on the Eyberg Intensity Scale in this population was 102.7 and the median value was 100. A total of 193 children (17.9%) scored above the clinical cut off point of 127.

The parents of all children scoring above the median value (487 children in 391 families) were invited to participate in a randomised controlled trial of the Family Nurturing Network's parenting programme (Webster-Stratton's Parents and Children Series). The median rather than the mean was used because of the skewed distribution of behaviour scores.

Abbreviations: ECBI, Eyberg Child Behaviour Inventory; GHQ, General Health Questionnaire; PSI, Parenting Stress Index; SDQ, Strengths and Difficulties Questionnaire

Parents of either sex and any ethnic group were eligible. Children already receiving treatment for behaviour problems (27 children, 2.5%) and those with learning difficulties (78 children 7.1%) were excluded. These children were felt to be special cases warranting subgroup analysis for which the trial was not powered. A sample size calculation gave a total sample size of 100 to allow detection of an effect size of 0.6 (a moderate effect)[21] on the Eyberg Child Behaviour Inventory Intensity Score with 80% power at the $p < 0.05$ level of significance, or 120 to detect an effect size of 0.5, and 116 parents were actually recruited into the trial. (See web supplement for full description of sample size calculation.)

Parents were invited to join the trial by a letter addressed to the parent who had returned the survey questionnaire. Parents who consented to join the trial were compared with eligible parents who did not consent, with regard to the mean intensity scores of their children, whether they were defined as a "case" on the intensity score or not, and by social class based on the respondent's occupation.

We adopted a block randomisation strategy. The parents who consented to join the study (n = 116; uptake = 30%) were allocated to one of two groups with the aim of achieving groups balanced in terms of child "caseness" on the Eyberg intensity score, age, sex, social class, and ethnicity,[22] as well as preferences for attendance. These two groups were randomised, by tossing a coin in the presence of an independent witness, to treatment or control. It is particularly important to take parents' preferences into account in the implementation of health promotion interventions, and this method of randomisation allowed us to allocate parents according to the time of day and day of the week they were available to attend, as well as their need for a crèche, at the same time as producing six viable groups of 10 parents for delivery of the programme. Each consenting parent had an equal chance of being in the control or intervention group. The allocation to group was undertaken blind to general practitioner practice and area of residence, so neither of these factors influenced allocation to control or treatment group.

The intervention comprised sessions lasting about two hours each, once a week for 10 weeks. The activities included video vignettes of parent-child interactions, group discussion, role play, rehearsal of parenting techniques, and home practice. The techniques covered included play and positive interaction with the child, clear commands, limit setting, ignoring undesirable behaviour, praising and rewarding desirable behaviour, and following through on discipline. Four of the programmes were run at a health centre in the evenings between 7 30 and 9 30 pm. The other two programmes were run at a local community centre in the daytime, one between 9 30 and 11 30 am (with a crèche available) and the other between 12 noon and 2 00 pm. Each group was run by at least one health visitor with either a second health visitor or a nursery nurse as co-leader, all of whom had received three days of training from the Family Nurturing Network in Oxford, specifically to deliver this programme. The group leaders (seven in all) received weekly supervision meetings as a group during the delivery of the programmes, to provide support and ongoing training, and ensure equivalence of the six intervention programmes and integrity of programme delivery compared with the instruction manual.

The 56 control group parents received no extra intervention.

Self completion questionnaires were administered to all consenting parents prior to the intervention, immediately post-intervention, and at six months post-intervention. The primary outcome measure was the Eyberg Child Behaviour Inventory (ECBI). The ECBI was developed in the USA from parent reports of children's problems behaviour and has two scales, one which measures the intensity or frequency of the problem behaviour, and the other which measures the extent to which this behaviour is a problem for the parents. The number of items and range of responses ensure that this scale is sensitive to change, but it includes "maturational" items such as "wets the bed" which may change as the child matures. Secondary outcome measures included the Strengths and Difficulties Questionnaire (SDQ).[23] This was developed in the UK and includes prosocial as well as antisocial behaviours. This scale does not have the "maturational" items, but focuses on temper tantrums, fighting, and stealing. It also contains an "impact" measure of the effect of the child's behaviour on their friendships, learning, leisure, and family life. It is generally recommended for use in children aged 4 years and above. The General Health Questionnaire (GHQ)[24] was used to capture the parents' level of anxiety and depression; the Parenting Stress Index (PSI)[25] was used to measure changes in the specific stresses associated with the parenting role; and the Self Esteem Scale[26] was used to measure the parents' self esteem.

Table 1 Consenters are representative of all eligible families

	Consenters	Eligible non-consenters
Mean intensity score (SD)	125.3 (18.5)	121.5 (18.7)
Clinical range score	39.4%	29.5%
Social class I	13.3%	10.6%
Social class II	39.0%	32.4%
Social class III N	22.9%	28.9%
Social class III M	13.3%	13.1%
Social class IV	5.7%	10.5%
Social class V	5.7%	4.4%
Single parent	14.7%	12.7%
Asian	4.8%	5.5%
Black	1%	0.8%
Mixed race	2.9%	3.4%
White	91.4%	89.8%

None of the differences are statistically significant.

The data were analysed using SPSS version 9. All analyses were carried out on an intention to treat basis, including in the intervention group both parents who had attended the parenting programme and those who had not. The statistical significance of changes in scores from baseline to post-intervention and six month follow up, within the control and intervention groups separately, was calculated using paired *t* tests for normally distributed outcome measures (the hyperactivity subscale of the SDQ and the SDQ total score, the PSI parent and difficult child domains, and the PSI total score). The Wilcoxon matched pairs signed rank sum test was used for outcome measures which were not normally distributed (ECBI intensity and problem scores, SDQ conduct, emotional, peer problems, prosocial and impact scores, PSI parent child interaction domain, GHQ somatic symptoms, anxiety, social dysfunction, depression and total scores, and the SES). Grouped *t* tests were used to compare the mean change in scores in the control and intervention groups where the differences were normally distributed (ECBI intensity score, SDQ total score, PSI parent child interaction, and parent domains), and Mann-Whitney U tests for the mean change in scores in the two groups where the differences were not normally distributed (ECBI problem score, SDQ conduct, hyperactivity, emotional, peer and prosocial scales, GHQ somatic anxiety, social, depression and total scores, PSI difficult child domain and total score, and SES).

RESULTS

The parents who consented to join the trial were representative of all the eligible families, in terms of the behaviour scores, social class, single parents, and ethnicity, as shown in table 1. However owing to over representation of non-manual

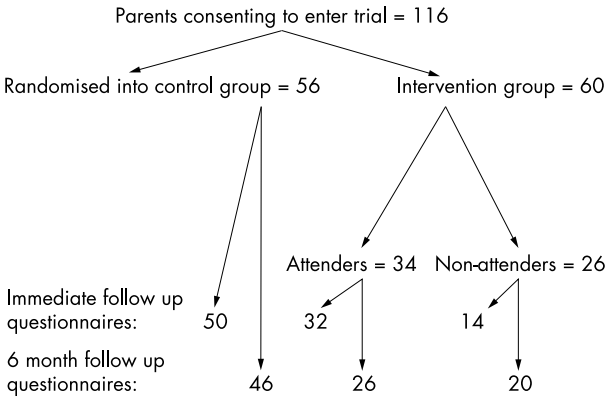

Figure 1 Attrition.

families in the survey, manual families were under represented compared with population norms. Consenting parents had slightly more children with behaviour in the clinical range, but this difference was not significant.

Thirty four of the 60 parents randomised to the intervention group attended 50% or more of the sessions (fig 1). Reasons for dropping out of the programme included increased work commitments, moved away from the area, depression, other life stress, holiday fell at start of group sessions, missed too much to begin. Only one potential participant stated that the group was not helpful as a reason for dropping out. Forty six control group and 46 intervention group participants (79% of all initial participants) returned questionnaires at the six month follow up. There was no difference in the proportion of attenders or non-attenders returning questionnaires at follow up.

Changes between baseline and follow up scores in the intervention and control groups separately

Children in the intervention and control groups showed a significant ($p < 0.05$) reduction in ECBI intensity score (the primary outcome measure) at immediate and six month follow ups (table 2). The mean ECBI problem score was also significantly reduced among both the intervention and control groups at six months.

Intervention group scores on the SDQ were reduced at both the immediate follow up and at six months. While there was no reduction in the control group score post-intervention, there was a significant reduction at six months. Intervention group SDQ conduct scores were significantly reduced at both time points whereas control group conduct scores showed no change. Changes on the emotional subscale were significant in the intervention group at the immediate follow up and in the

Table 2 Mean (SD) scores and number of respondents at each time point

	Baseline		Immediate follow up		6 month follow up	
	Control	Intervention	Control	Intervention	Control	Intervention
Eyberg						
Intensity score	126.6 (16.9)	125.8 (22.8)	117.9* (21.8)	113.3* (23.5)	118.8* (20.3)	110.2* (21.6)
	56	60	50	46	46	45
Problem score	10.2 (7.2)	9.9 (9.5)	9.4 (6.8)	8.1 (7.7)	8.8* (6.5)	6.2* (6.3)
	54	52	47	40	41	38
SDQ						
Total difficulties	12.0 (5.4)	12.4 (6.2)	11.1 (5.7)	9.4* (5.7)	10.1* (4.7)	9.5* (6.4)
	48	47	50	46	45	46
Conduct problems	2.6 (1.8)	2.8 (1.9)	2.5 (1.6)	2.0* (1.5)	2.4 (1.6)	1.9* (1.5)
	50	52	50	46	45	46
Emotional score	2.9 (2.3)	2.8 (2.1)	2.6 (2.0)	1.8* (1.8)	2.1* (1.9)	2.2 (2.3)
	50	51	50	46	45	46
Hyperactivity	4.4 (2.5)	5.1 (3.0)	4.2 (2.6)	4.1* (2.5)	3.9* (2.3)	4.0* (2.3)
	48	51	50	46	45	46
Peer problems	2.0 (1.7)	1.8 (1.9)	1.9 (1.9)	1.4 (1.7)	1.7 (1.7)	1.5 (1.9)
	50	49	50	46	45	46
Prosocial score	6.7 (1.4)	7.3 (1.7)	6.8 (1.5)	7.8* (1.7)	7.0 (2.0)	7.7* (1.6)
	50	51	50	46	45	46
Impact	1.0 (1.2)	0.9 (1.5)	0.7* (1.2)	0.7 (1.4)	0.7* (1.0)	0.7 (1.4)
	50	51	50	43	46	45
GHQ						
Total score	4.3 (4.9)	5.1 (4.9)	4.7 (5.6)	3.9 (5.3)	3.0 (4.6)	2.7* (4.2)
	49	51	49	45	46	45
Anxiety	1.5 (1.9)	1.6 (1.9)	1.8 (2.2)	1.2 (1.9)	0.9* (1.7)	1.0* (1.8)
	50	51	50	46	46	45
Somatic symptoms	1.7 (2.2)	1.7 (1.8)	1.3 (1.9)	1.7 (2.2)	1.2 (1.9)	1.2* (1.8)
	50	51	49	46	46	45
Depression	0.2 (0.6)	0.7 (1.5)	0.4 (1.1)	0.3 (0.8)	0.09 (0.4)	0.07* (0.3)
	49	51	50	45	46	45
Social dysfunction	1.0 (1.6)	1.0 (1.7)	1.2 (1.9)	0.7* (1.5)	0.8 (1.8)	0.4* (1.3)
	49	51	50	46	46	45
Parenting Stress Index						
Total	86.5 (18.4)	85.0 (20.4)	83.3 (17.5)	79.8* (18.7)	83.4 (17.0)	79.0* (20.9)
	50	51	50	46	46	46
Parent domain	29.4 (7.2)	29.5 (9.2)	28.9 (7.6)	27.9 (7.9)	29.0 (7.1)	27.7 (8.6)
	50	51	50	46	46	46
Difficult child	34.4 (8.9)	32.2 (8.3)	32.3* (8.7)	30.4 (8.4)	32.2 (8.3)	30.0* (9.1)
	50	51	50	46	46	46
Parent-child interaction	22.7 (5.9)	23.3 (6.2)	22.1 (5.7)	21.5 (5.5)	22.2 (5.4)	21.7* (6.4)
	50	51	50	46	46	46
Self Esteem Score	29.7 (4.7)	29.2 (5.0)	30.7* (5.5)	29.8 (4.7)	30.3 (4.7)	29.5 (4.4)
	50	51	50	46	46	46

For prosocial and SES scores, increase = improvement; *significant change from baseline at p<0.05.

Table 3 Results of grouped *t* tests and Mann-Whitney U tests to show *t* or z values, degrees of freedom, and p values for the significant differences in the changes in scores between the control and intervention group

	Immediate follow up	6 month follow up
Eyberg		
Intensity score	p=0.39	*t*=2.29, 89 df, p=0.024
Problem score	p=0.29	p=0.95
SDQ		
Conduct problem score	*t*=2.08, 86 df, p=0.041	*t*=2.15, 80 df, p=0.034
Emotional score	p=0.50	p=0.57
Hyperactivity	p=0.26	p=0.57
Peer problems	p=0.84	p=0.83
Prosocial score	p=0.17	p=0.14
Total difficulties	p=0.09	p=0.34
Impact	p=0.15	p=0.46
GHQ		
Total	p=0.13	p=0.24
Anxiety	p=0.18	p=0.92
Somatic symptoms	p=0.89	p=0.45
Depression	p=0.26	p=0.09
Social dysfunction	z=2.5, p=0.012	p=0.20
Parenting Stress Index		
Total	p=0.76	p=0.20
Parent domain	p=0.43	p=0.48
Difficult child domain	p=0.72	p=0.38
Parent child interaction	p=0.76	p=0.09
Self Esteem Score	p=0.52	p=0.84

p values shown for non-significant results. All differences favour the intervention group over the control group.

control group at the six month follow up only. Changes on the hyperactivity subscale were significant at both time points in the intervention group, but only at six months in the control group. On the peer relationships subscale there were no significant differences at either time point in either group. The SDQ prosocial subscale, measuring increases in the child's positive behaviours, showed a benefit in the intervention group at both immediate and six month follow ups. The control group did not show a significant difference at either time point on this subscale. The control group however did show significant improvement on the SDQ impact score at both time points.

Intervention group scores on the GHQ total scores were significantly lower than baseline at the six month follow up. This reflected significant reductions in all the subscales at six months. A reduction in the intervention group social dysfunction subscale was also observed at the immediate follow up. The control group showed a significant reduction on one measure only, the GHQ anxiety score at six months.

The intervention group showed significant improvement on the Parenting Stress Index total score at both follow ups. This reflected primarily improvements in the difficult child and parent-child interaction domains at the six month follow up. The control group improved on the difficult child domain at the immediate follow up, but this was no longer significant at six months.

The control group showed a significant improvement in the Self Esteem Scale at the immediate follow up, but this had disappeared by six months.

Differences between the intervention and control groups

The main aim of the trial was to detect a difference between the control and intervention groups in the changes observed in the Eyberg child behaviour inventory intensity score. Although the intensity scores of the intervention group fell more than the control group at the immediate follow up, this difference was initially not significant (table 3). However, by the six month follow up, grouped *t* tests to compare the mean differences in scores showed that the intervention group ECBI intensity scores had changed significantly more than the control group ($p = 0.024$).

This difference was mirrored by the significant differences favouring the intervention group on the Goodman conduct problem score at both time points.

None of the other between group comparisons reached significance, except for the social subscale of the GHQ which favoured the intervention group immediately after the intervention. This difference was no longer significant by six months.

This trial was not powered to detect a difference between subgroups in the control and intervention groups. However, it was noted that the mean Eyberg Intensity scores of the 21 intervention group children whose initial scores fell in the clinical range decreased by 26.1 points from preintervention to six month follow up ($p < 0.001$) and that those of the 39 children initially scoring in the normal range decreased by 9.2 points ($p = 0.002$) over this period. Scores of the 25 control group children with initial scores in the clinical range decreased by only 9.3 points ($p = 0.001$), and those in the normal range ($n = 31$) decreased by 5.9 points (not significant).

DISCUSSION

Our initial survey had a good response rate of 70%. While all social groups were well represented in the trial, the sample from which the study was drawn was not entirely representative. Manual class families were under represented and ethnic minority families over represented. The families who consented to enter the trial were representative of eligible families from a socioeconomic point of view and they were also more likely to have a child with clinical level behaviour problems than were those who refused. This single study cannot provide evidence about what would happen were such a programme to be offered in other areas, and the under representation of manual groups detracts from the generalisability of the results. However, the fact that parents from all social groups, including unskilled manual workers, minority ethnic groups, and single parents did attend and that the programme preferentially attracted parents of children with behaviour problems must be viewed as encouraging.

After excluding children with learning disabilities and previous treatment for behaviour problems, 30% of families consented to enter the trial, to be randomised to receive a 10 week parenting intervention or not, and to complete several questionnaires. Given the number of other commitments that families of children in the 2–8 year age range are likely to have, this represented a significant level of interest in the intervention on offer. If the intervention were to be rolled out as a universal service, uptake might be expected to be higher than the 30% achieved for a trial, since parents would not be making a commitment to filling in questionnaires or to being randomised. In addition, if parenting programmes were regularly available within general practices, uptake would be cumulative with additional chances for parents to participate later if they could not attend the first group to which they were invited. This could also reduce the dropout rate because interested parents who found one group inconvenient to attend could participate in another. Although the prevalence of unhelpful parenting practices is high,[27] some parents will not need this intervention because they have already developed the skills and attitudes required of helpful parenting. Conversely it is likely that some parents, particularly those living in the most stressful social circumstances, will never be reached by this type of intervention; and for this group, alternative, more intensive, tailored programmes may be required.

Thus a goal of 100% attendance is likely to be both unrealistic and unnecessarily high.

Allocation to group was achieved by block rather than individual randomisation. This method, although possibly inferior from a statistical point of view, was considered important from the point of view of this trial. Health promoting interventions such as this are different from clinical interventions. In the latter, parents who have consulted a doctor about their child's behaviour can be expected to accept whatever treatment is offered and to make time to attend a group. Our trial invited parents who did not necessarily recognise that they had a problem to attend a group. In this situation it is more important to ensure that invitations take their preferences for attendance (for example, time of day and day of week) into account. In addition the randomisation process needed to deliver groups of 10 –12 parents who could attend on the same day and time. The stratification process ensured an even distribution of potential confounding variables between the control and intervention groups.

Only 57% of those randomised to the intervention attended, but the trial had a good level of follow up, with responses from 79% of original participants at six months. The analyses were completed on an intention to treat basis so that responses from non-attenders were included in the intervention group, along with those of parents who attended the groups. This approach avoids bias attributable to unidentified differences between attenders and non-attenders and tends to an underestimate of the effect which would have been achieved had all those randomised into the intervention group actually attended.

The improvements we observed in control group children's scores on the main outcome measure (ECBI) are potentially attributable to regression to the mean. We selected children for invitation to the trial on the basis of their above average scores on this measure. The ECBI, however, also includes items such as "wets the bed" which tend to resolve as the child gets older. Comparison with control group changes in SDQ scores, which do not include such items, suggests that some of the control group improvement we observed is likely to be attributable to a maturation effect. Unlike the ECBI improvement, the improvement in SDQ scores in control group children did not reach significance. On the other hand the SDQ questionnaire is intended for children over the age of 4 years, and some of the children in the trial were aged 3. We ran all the analyses on the SDQ excluding children under 4 years of age at recruitment, and the results remained as reported.

Our observation that the improvement in both the ECBI intensity score, a measure based primarily on problem behaviours, and the SDQ (conduct) scores was significantly greater in the intervention than the control group provides confidence that the intervention was effective, at least as far as these aspects of children's mental health was concerned. The fact that the decline in scores on both measures in the intervention group was maintained over the six months following the intervention suggests that the intervention had an enduring effect on behaviour. It also suggests that the changes are unlikely to be caused by an immediate "feel good" factor attributable to attending a supportive group, or to the impact of lack of blinding of participants.

Although the changes shown in table 2 are suggestive of a beneficial impact on other aspects of children's mental health, the evidence here is not robust. When the small changes in the control group were taken into account there was no significant differences between groups. The Webster-Stratton Parents and Children Series is predominantly a behaviour management programme and it is therefore to some extent reassuring that it was this aspect of children's mental health which was most effected by the intervention. It would appear that there is a need to develop alternative or additional strategies or programmes to improve anxiety, hyperactivity, and prosocial behaviour.

Improvements observed in the mental health scores of mothers in the intervention group were also, with the exception of social dysfunction at immediate follow up, not statistically robust. They are reassuring to the extent that mothers' mental health did not suffer as a result of the intervention and, in terms of social dysfunction, the effect was beneficial. The latter finding could, however, be attributable, not to any specific effect of the programme, but to the "feel good" factor referred to above. The Webster-Stratton Parents and Children Series, in contrast to some other parenting programmes, does not focus on parents' mental health and ways in which it could be improved. Any effect on parents' mental health would therefore be secondary to improvements in the parent-child relationship or to the non-specific effect of group support.

The trial findings on parents' mental health contrast with those obtained in a parallel qualitative study in which participants in this trial reported feeling more in control, with greater ability to cope with their children and a better relationship with them as a result of the intervention.[28] It is possible that such changes were not detected in the trial because the instruments used are not particularly sensitive to improvement in positive mental health.

Self report measures were selected owing to the resource intensive nature of independent observations, which were not practical for the purposes of this study. Although all measures of child problem behaviour were based on parental reports, these were all valid and reliable measures, and the specificity of the beneficial results to the predicted scales argues against the results being attributed to biased positive reporting by parents with elevated mood or improved social support as a result of the programme. In addition, a number of studies have shown adequate correlation between the results from parent reports and independent observations.[16]

Parents were invited to attend this trial if their children's scores on the ECBI were above average. Although parents of children whose scores fell in the clinical range were slightly more likely to accept the invitation than parents whose children's scores were normal, both groups were well represented in the trial, and our results suggest that both groups benefited. These results lend support to the feasibility of a population approach to the promotion of mental health through parenting programmes. They are consistent with results from an observational study,[19] suggesting that the parents of children most in need are more likely to accept an invitation to a group than parents of other children, and that these two groups can derive benefit from attending the same group together. There remains a need, which this trial cannot fulfil, of showing improvements in positive mental health as a result of parenting programmes among children whose mental health is already above average. In order to establish the benefits of such a truly population approach, a much larger trial would be needed, powered to detect small changes. The conduct of such a trial would be greatly facilitated by the development of outcome measures which captured the full range of the components of positive mental health.

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Supplementary information (expanded introduction and reference list) can be viewed on the *ADC* website (www.archdischild.com)

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