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Evaluation of the Incredible Years Series – An open study of its effects when first introduced in Sweden

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Behaviour management problems (BMP) are common among children (4–12%) and the prevalence seems to be rising. Persistent antisocial behaviour often leads to poor long-term psychosocial adjustment. Structured parent-training programmes have proven to be the most effective way of treating BMP in young children. The Incredible Years Series (IYS), which is a manual-based programme, was introduced in Sweden in 2001. Its aim was to evaluate the effectiveness of IYS in diverse clinical settings in Sweden. Parents of 113 children (3–9 years), recruited through the IYS-trained group leaders' ordinary services, participated in the study. The parents answered various questionnaires regarding their children's symptoms and their own psychological well-being before and after participating in the parent-training groups. The results are very encouraging; significant reduction of BMP in the children was found on all relevant measures. A significant increase in the self-rated well-being of the mothers was also found. The IYS seems to work in Sweden, even when used by group leaders who are in training. The importance of using a well-documented manualized method when implementing new models is accentuated.

• *Behaviour management problems, Incredible Years Series, Parent training, Treatment.*

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Aggression and fighting are part of normal child development and can help children to assert and defend themselves. Persistent aggressive behaviour, however, tends to be rather stable when untreated (1), is socially restrictive and often leads to poor adjustment (2, 3). The earlier such behaviour management problems (BMP) are displayed, the greater is the risk that the problems worsen and persist even into adulthood (3, 4). Besides the suffering that BMP entails for the child itself, the family, peers and others who come in contact with the child, serious anti-social behaviour, such as truancy, stealing, robbery and drug abuse, is very costly for society. The Swedish social services' costs for residential and other care of children and adolescents (mostly children with severe BMP) alone, were calculated to be 8 billion SEK (equal €0.9 billion) for the year 2000 (5). In a British longitudinal study, the financial societal costs of 28-year-olds with a childhood diagnosis of conduct disorder were 10 times higher than for persons with no registered childhood problem (6). Children who display BMP also form a large and hard to treat subgroup within the child and adolescent psychiatric services (7, 8).

Swedish, as well as international studies, have shown BMP to occur in 4–12% of all children (7, 9), and the prevalence seems to be rising (10). Conduct problems in childhood as a whole seem to be more common among boys (7.2%) than girls (2.1%) (11). Different approaches are used to describe childhood psychopathology (12). In the DSM-IV, severe BMP are codified in two diagnoses: conduct disorder (CD), and oppositional defiant disorder (ODD). The co-morbidity between these diagnoses and attention deficit hyperactivity disorder (ADHD) combined type is high (13). The Achenbach System of Empirically Based Assessment (ASEBA) is a widely used, empirically derived, dimensional system of classification (14), in which severe BMP is indicated by summing the scale scores for "rule-breaking" and "aggressive" behaviour.

There is broad agreement that the development of BMP is best understood within a transactional model in which genetic, psychological and social factors interact

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(15) over time. According to social learning theory (16–18), aggression and antisocial behaviour is learnt from observing and imitating others and from behaviours that are environmentally reinforced. Research based on attachment theory has focused on the development of internal working models (IWMs) in the child (16). From the interaction with early care-givers, the child develops generalized expectations on how he or she will be met by others in different situations. Insecure attachment in itself does not give rise to BMP, but especially disorganized or controlling attachment significantly increases the risk for developing BMP (17). The influence of the child's temperament (18) has also been addressed. Children with a difficult temperament especially related to attention, impulsiveness and negative emotionality put higher demands on parenting skills. Other risk factors include parenting, especially harsh punishments (19), inconsistent limit-setting and poor monitoring of the child (18). Parental delinquency, antisocial behaviour, substance abuse, as well as parental psychiatric disorder and domestic violence all bring about an increased risk (20). In addition, if the child and her/his family has not bonded well at school, or if the child experiences academic failure and spends too much time in company with deviant peers, the risk also increases (18). The more risk factors that are present, the greater the additive risk for the development of BMP (21).

Patterson and colleagues have described and developed methods for working with child–parent relationships in families where children develop BMP (22), based on the concept "the coercive circle" (23). This, in short, describes a process in which a destructive interplay between the child and his/her parents escalates and is reinforced by the child being given attention when he/she shows defiance and disobedience. The parent and the child get caught in a reinforcement trap where the child's behaviour is reinforced when the parent gives in or complies, and the parents' behaviour is negatively reinforced when the child brings the aversive behaviour to an end. Parent education, focusing on changing this destructive pattern, has been developed by Patterson and colleagues (24), and meta-analyses and surveys have shown structured parent-training programmes to be the most effective way of treating young children with BMP (25).

In the last decade, several parent-training programmes, such as The International Child Development Programmes [ICDP] (26), The Community Parent Education Program [COPE] (27), Barkley's Parent Training Programme (28) and The Incredible Years Series [IYS] (29), have been introduced in Sweden. To a large extent, these are all based on the work of Gerald Patterson and co-workers. Programmes differ with regard to: influences from other theories, group size, number of sessions, the themes each method focuses most on, etc. These differences stem partly from which type of parents each programme targets. The main aim of ICDP, which is aimed at primary prevention among ordinary parents, is to strengthen the interplay between the child and parent in a way that will promote the child's development. In a controlled study in Bergen, Norway, parents who received the ICDP displayed more supportive and positive interaction than did controls (26). COPE can be characterized as secondarily preventive, in that it focuses on children who already display challenging behaviour, and aims to prevent the child from developing more severe and long-lasting problems. As a community model it is, however, also open for parents who want to develop their parenting skills even if their children do not show BMP. In one randomized controlled trial (RCT) in Hamilton, Canada, Cunningham and colleagues (27) demonstrated that parents of the community parent-training groups reported a greater decrease in children's (junior kindergarten ages) BMP compared with the parents who received clinic-based parent training and the waiting-list control group. The community-based intervention was more cost-effective than the individual clinic based programme (27). Barkley's Parent Training Programme is more clearly preventive on a secondary and tertiary level, aiming to help parents of children with ADHD, possibly in combination with CD or ODD (28). The programme has proven to be an effective treatment for ADHD in various[A1] RCTs 30.

The IYS is a manual-based model that is offered to parents whose children already display severe BMP (i.e. CD or ODD). It was developed by Carolyn Webster-Stratton in the USA, and has gained the status of "exemplary programme" from the American government, which means that it has been shown to have good effect in several RCTs (29). The programme has also shown positive results in England (31), Canada (32) and Norway (33). The IYS parent-training groups include parents of six to eight children who meet for a 2-h session weekly for 12–14 weeks. The aim is to build a more secure child–parent relationship by introducing a more positive interplay between the child and the caregivers and to help them avoid the "coercive circle". Another objective is to decrease harsh and inconsistent parenting, poor monitoring, child associating with deviant peers and child's bonding to school (18).

A number of video vignettes on a specific theme are shown and discussed in the group during sessions, and principles for how the child can best be handled, based on the specific theme, are outlined. Parents also practise how they can meet their child in accordance with these principles in several role-play sessions. Finally, homework is given, in which the parents are encouraged to try out their newly acquired skills at home.

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Despite the fact that results of the various meta-analyses of parent-training groups tested in efficacy studies are impressive, practitioners have reason to remain sceptical (34). When such models are put into practice and evaluated in clinical contexts (effectiveness studies), results sometimes decrease drastically (35), with effect sizes sometimes dropping from 0.70, to less than 0.20 (36). Interventions in clinical contexts are carried out by clinicians with a broad focus, large caseloads of clinic-referred heterogeneous groups with many different symptoms and limited resources for supervision. In research-oriented contexts, the researchers as a rule need to gain control over as many variables as possible, hence the treatment is more structured and distraction-free and often performed by therapists specially trained and supervised in only one specific method. The therapists' caseloads are often smaller and the treatment groups are homogenous. To "bridge the gap" between researchers and clinicians, an agenda has been suggested which emphasizes the need for adapting the research to the clinical context and vice versa (37).

The majority of the studies of IYS are efficacy studies although two of the independent replications are effectiveness studies where the intervention is carried out in a regular clinical practice (31, 32). When the IYS was introduced in Sweden in 2001, the importance of evaluating the model in a Swedish clinical context was emphasized. As a first step in the evaluation process, the current study measures the effectiveness of the IYS parent development programme, when used in regular clinical settings by individuals in training to become licensed IYS group leaders.

To conclude, BMP is common among children and causes large costs for society, besides the suffering it causes the child itself and her or his closer environment. The evidence is strong that structured parent-training programmes are the most effective treatment. IYS has been evaluated in various studies with impressive results. However, the majority of these studies are done in research-oriented contexts and additional studies in clinical context will contribute to the evaluation of its usefulness as a clinical tool for the treatment of young children with BMP. It is important to understand both the parental factors that affect parenting skills in a way that might lead to the development of BMP, as well as how these parental factors might predict the treatment outcome.

Aim

The object of the current study is to evaluate the IYS Basic parenting groups with regard to the effects on children's BMP and on parents, using an open trial approach. Specific aims were to evaluate the effects on: 1) children's BMP, 2) children's psychiatric symptoms more generally, and 3) participating parents' psychiatric symptoms and general well-being. Since this is the first study of IYS in Sweden, we were also especially interested in "consumer satisfaction", that is, how the programme was received by the participating parents.

Method

Procedure

After being trained by a certified IYS Basic trainer, the teams that took part in the study asked the parents of their parent-training groups if they were willing to participate in the study (i.e. to complete various measures before the onset and immediately after the completion of the programme). To secure at least a minimum level of model integrity, the group leaders' undertaking also involved that they followed the IYS Basic manual and participated in group supervision, which was led by a certified trainer. The data were sent to the research team, located at the Universities of Lund and Göteborg.

Subjects

The inclusion criteria were that 1) the parents agreed to participate in the study, 2) the children were aged 3–9 years, 3) the professionals of the various sites made a clinical judgement that the children displayed BMP, and 4) the parents understood the Swedish language enough to complete the forms. The parents were recruited to the parent training groups through the group leader's ordinary services, i.e. social welfare agencies and child and adolescent psychiatric services. This meant that some of the parents came through referrals from other professionals and some had read advertisements, or just had heard about the parent-training groups, and made contact by themselves. Ninety-two per cent of the parents who participated in the parent-training groups also participated in the study. The parents of 113 children (37 girls and 76 boys) aged 3–9 years old participated in the study. Forty-four of the children in focus were pre-schoolers aged 3–5 years (13 girls, 31 boys), 39 of the children in focus were in their early school years, aged 6–7 years (17 girls, 22 boys) and 30 of the children were in the junior stage (seven girls, 23 boys). The parent-training groups were held at 10 different sites; 157 parents participated in the study (109 mothers and 48 fathers; note: step-parents and adoptive parents are denoted as "mothers" and "fathers" in the text). One hundred and sixteen parents (84 mothers and 32 fathers) of 85 children completed the parent-training groups, and filled in the post-treatment forms. No difference was found between the completers and non-completers with regard to the gender or age groups of the children. Neither were there any differences in the parents' pre-treatment ratings of children's symptoms or whether both or only one parent had the custody of the child in question. There was, however, a

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difference between the mothers' ratings of their psychological well-being and "sense of coherence" [Symptom Check List (SCL-90) $F=4.59$, $P=0.04$; Sense of Coherence scale – short form (SoC-13) $F=11.1$, $P=0.001$). Mothers that scored higher on SCL-90 and/or lower on SoC-13 dropped out of treatment more often than mothers with lower (SCL-90) or higher (SoC-13) ratings. No such difference was found for the fathers' ratings (SCL-90, $F=0.03$, $P=0.87$; SoC, $F=0.01$, $P=0.94$).

Measures

The forms that were used to measure possible changes in the children's symptoms were:

- The *Child Behaviour Checklist* (CBCL) – probably the most widely used measure in research on children's behaviour problems and psychiatric symptoms. CBCL is a part of the ASEBA (Achenbach System of Empirically Based Assessment) family of instruments (14). The CBCL has shown excellent psychometric properties in various studies (14, 38). Beside a total score, eight narrow-band syndrome scales scores, as well as scores on internalizing and externalizing dimensions can be calculated. The 118 items are scored from 0 (not true) to 2 (very often true). A high score indicates more psychiatric problems. It has been translated into Swedish and Swedish normative data have been published (39). Even if CBCL operates in a dimensional domain, it has proven to be reliable in predicting clinical caseness. In a Danish study, a total behaviour-problem score ≥ 35 turned out to be a sensitive cut-off score for clinical caseness (40).
- *Conners' 10-item Parents Rating Scale* (CPRS-10) (41) – is also known as "The Conners Abbreviated Symptom Questionnaire" (ASQ) (42). It is an abbreviated version of the original 93-item version of Conners Parent Rating Scale that consists of the 10 most checked items by parents of hyperactive children. The 10-item version also overlaps with the 39-item teacher rating scale. Each item ranges from "Not at all true" (0) to "Very much true" (3). It has proven to be reliable in identifying hyperactive children and is sensitive to treatment effects (41). The instrument is widely used in Sweden (43, 44). Cronbach's alpha in this study was 0.88.

The forms that were used to measure the parents' experience of their psychosocial situation were:

- The SCL-90 – a self-report instrument consisting of 90 items of psychological and emotional symptoms in adults. A low score indicates a lack of psychiatric symptoms (45). SCL-90 has been translated into Swedish (46) and normative data have been published. (47). A Global Severity Index (GSI) and 10 scales of psychiatric symptoms can be calculated. Cronbach's alpha in this study was 0.97.
- The SoC-13 (48) – the 13-items version of this instrument measures salutogenic factors that influence a person's location on a health/disease continuum (49). A high score indicates the presence of more health-giving factors. Various studies have shown that the SoC-13 has good psychometric properties (50, 51), and normative scores have been published (50). Cronbach's alpha in this study was 0.83.
- The *Ladder of life* (52) – assesses an adult's ratings of his/her past, present and expected future ratings of overall life satisfaction. Ratings of life status are done on a "Ladder of Life" on a scale from "least desirable" (0) to most "desirable" (10).

The form that was used to measure how the programme was received by the participants was:

- *Incredible Years Parent Program Satisfaction Questionnaire BASIC Parent Program* (53) – the questionnaire evaluates the participants' experience of the overall programme as well as the perceived difficulties and usefulness of the teaching format and Specific Parenting Techniques. To every question, there are seven alternative answers, ranging from options such as "considerably worse" to "greatly improved" or "very negative" to "very positive". The questionnaire was distributed to the parents that participated in the group at the last session. The questionnaire was not distributed in all the parent-training groups, but in the groups where it was used all parents filled it out ($n=115$).

Data analysis

To avoid the risk of overestimating the effectiveness of the method an intent-to-treat design (ITT) was used as a complement to the calculations of the completer sample. In the ITT analysis, pre-treatment scores were carried forward and used as post-treatment data when parents had dropped-out of the treatment and/or post-data was missing.

To obtain a measure of *clinical significance*, a method was used that was suggested by Webster-Stratton et al. (54). It defines clinical significance as the proportion of subjects that has improved 30% or more above their pre-treatment scores. To calculate the effect size Cohen's d ($d=(m_A-m_B)/\sigma$) was used. Cohen has defined values operationally for small (0.20), medium (0.50) and large (0.80) effect sizes (55). The effect size is calculated in such a way that a positive figure represents a change in the positive direction.

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Results

Children's symptom scores

The parents' pre- and post-treatment ratings of children on CBCL and CPRS-10 and the ITT analysis are displayed in Table 1.

The mean of the CBCL total score for children in Sweden is 14.3 with a standard deviation (s) of 12.6 (internalizing mean = 4.0, s = 4.3; externalizing mean = 5.6, s = 5.4) (39). The pre-treatment CBCL mean total score and mean externalizing score for the children in the present study was more than 1.5 s above the normative mean total score, indicating that the children belong to a clinical group. Statistically significant changes were found on all symptom-related measures, in fathers' as well as mothers' ratings. The effect sizes ranged from 0.34 to 0.69. The clinically significant improvement ranged between 40% and 60% on the Internalizing (int), Externalizing (ext) and Total scales (tot). Eighty-two per cent scored above 1.5 s of normative mean total, 41% of internalizing normative mean and 90% of externalizing normative mean at the pre-rating, compared with 56%, 27% and 67% respectively, at the post-rating. The results on CPRS-10 were in line with the findings on CBCL, indicating statistically significant differences between pre- and post-ratings at a 0.001 level. The solid statistically significant difference remained when an ITT design was used. However, the clinically significant improvement among the children on the CBCL and the CPRS-10 was reduced, ranging from 28% to 39%. The effect sizes also decreased, ranging from 0.25 to 0.44.

There was no gender difference in outcome in terms of symptom reduction of the parents' ratings on CBCL (int., ext. and tot) and CPRS-10 (ANOVA; F ranging from 0.28 to 0.91, P ranging from 0.87 to 0.34). Nor was there any difference between the different age-groups [pre-schoolers (ps), early school years (es), junior stages (js); F ranging from 0.04 to 0.98, P ranging from 0.96 to 0.38), even though some differences in the CBCL pre-ratings were found (Tukey's HSD, P <0.05: int., ps < es <js; ext. es <js; tot: ps and es <js). Furthermore, there was no significant difference in outcome between the different sites (F ranging from 0.30 to 1.04, P ranging from 0.97 to 0.42).

Parents' psychosocial situation

The parents' pre- and post-ratings on SCL-90 GSI score, SoC-13 and Ladder-of Life are displayed in Table 2.

The Swedish normative mean of the SCL-90 (GSI) of women is =0.49 (n =707, s =0.44) and of men =0.32 (n =309, s =0. 32) (47). The parents' pre-ratings in the present study scored significantly higher on the SCL-90 than the ratings of women and men of the normative group (mothers; t =9.20, df =810, P <0.01; fathers; t = 3.25, df =353, P <0.01). There was a significant differ-

Table 1. Mean symptom scores on Child Behaviour Checklist (CBCL) and CPRS-10 (Conners' 10-Item Parents Rating Scale).

	Pre			Post			t-test†		ITT t-test§			ITT Clin.	
Scale	n	Mean	s	n	Mean	s	d	n	sign	Clin. sign‡	n	sign	sign‡§	ITT, d§
CBCL, total score, mothers' rating	107	53.8	21.7	83	39.8	23.2	0.63	83	***	40%	107	***	31%	0.44
CBCL, total score, fathers' rating	46	44.7	20.2	30	33.1	17.5	0.61	30	***	50%	46	***	33%	0.44
CBCL, internalizing mothers' rating	107	10.6	7.3	83	8.0	8.3	0.34	83	***	47%	107	***	36%	0.25
CBCL, internalizing, fathers' rating	46	7.7	6.1	30	5.6	4.0	0.40	30	**	60%	46	**	39%	0.32
CBCL, externalizing, mothers' rating	107	24.4	9.7	83	17,8	9.5	0.69	83	***	46%	107	***	36%	0.44
CBCL, externalizing, fathers' rating	46	21.3	9.2	30	16.2	8.1	0.58	30	***	43%	46	***	28%	0.39
CPRS-10, mothers' rating	109	14.1	7.2	86	10.2	7.3	0.54	86	***	50%	109	***	39%	0.38
CPRS-10, fathers' rating	47	12.0	7.0	33	8.2	6.1	0.57	32	***	50%	47	***	34%	0.38

d = effect size (Cohen) small = 0.20 – 0.49, medium = 0.50 – 0.79, large ≥0.80.
†Paired sample t-test, * P <0.05, ** P <0.01, *** P <0.001.
‡Proportion that improved >30%.
§Intent-to-treat.

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Table 2. Parents' mean scores on Symptom Check List (SCL-90), Sense of Coherence scale – short form (SoC-13) and Ladder-of-Life (L-o-L).

	Pre-ratings			Post-ratings				t-test†	
Scale	n	Mean	s	n	Mean	s	d	n	Sign
SCL-90 mothers' rating	105	0.93	0.56	85	0.64	0.52	0.53	83	***
SCL-90 fathers' rating	46	0.49	0.40	33	0.38	0.29	0.33	33	*
SoC-13 mothers' rating	104	56.8	12.2	85	62.5	14.0	0.44	82	**
SoC-13 fathers' rating	46	62.4	11.9	33	67.8	10.5	0.48	33	***
L-o-L past, mothers' rating	103	4.4	2.3	86	4.6	2.1	0.09	81	–
L-o-L past, fathers' rating	47	5.2	2.1	34	5.3	2.1	0.05	34	–
L-o-L present, mothers' rating	103	5.2	2.0	86	6.3	2.0	0.55	81	**
L-o-L present, fathers' rating	47	5.5	1.9	34	6.4	1.5	0.52	34	**
L-o-L future, mothers' rating	102	7.7	2.0	84	8.2	1.6	0.27	79	*
L-o-L future, fathers' rating	46	7.4	1.8	34	7.9	1.5	0.30	33	*

d = effect size (Cohen) small = 0.20 – 0.49, medium = 0.50–0.79, large ≥0.80.
†Paired sample t-test, *P <0.05, **P <0.01, ***P <0.001.

ence, for the better, between the pre- and post-ratings of the parents. Still, the mothers scored significantly higher than the normative group (mothers; $t = 2.90$, df = 790, $P < 0.01$), whereas there was no longer a significant difference between the post-ratings of the fathers of the present study and the fathers of the normative group (fathers; $t = 1.03$, df = 340, $P > 0.05$).

The mean scores on SoC-13 of the Swedish normative group of the mothers is 69.1 ($n = 202$, $s = 11.9$) and of the fathers 69.5 ($n = 185$, $s = 10.8$) (50). The parents in the current study scored significantly lower on their pre-ratings than the mothers and fathers of the normative group (mothers: $t = 8.49$, df = 304, $P < 0.01$; fathers: $t = 3.91$, df = 229, $P < 0.01$). There was a significant difference, for the better, between the pre- and post-ratings for the mothers as well as for the fathers. Even so, the mothers still scored significantly lower on the SoC-13, after the training groups, than the normative mean (mothers: $t = 4.06$, df = 285, $P < 0.01$). However, there was no longer a significant difference between the normative mean and the post-ratings of the fathers (fathers: $t = 0.84$, df = 216, $P > 0.05$).

There was a significant difference between the parents' ratings on the Ladder of Life, both in regards to present ratings and expected future ratings of overall life satisfaction. The changes were in the direction that the parents rated their present situation as better after participating in the parent-training groups than at the onset of the intervention. They also expressed more optimism in their ratings of expected future overall life situation after participating in the parent-training groups. There were no differences in the parents' ratings of their past overall life situation.

Correlations

There was a significant correlation between mothers' and fathers' pre-ratings on all measures related to BMP (CBCL externalizing, $n = 40$, $r = 0.65$, $P < 0.01$; CBCL total score, $n = 40$, $r = 0.59$, $P < 0.01$; CPRS-10, $n = 41$, $r = 0.59$, $P < 0.01$). The significant correlation is maintained at the post-ratings (CBCL externalizing, $n = 27$, $r = 0.78$, $P < 0.01$; CBCL total score, $n = 27$, $r = 0.80$, $P < 0.01$; CPRS-10, $n = 30$, $r = 0.50$, $P < 0.01$).

There is a significant partial correlation between the mothers' pre-ratings on SCL-90 and SoC-13 and the difference between the pre- and post-ratings on CBCL total score (correlation = −.33, $P < 0.01$; correlation = 0.27, $P < 0.05$ respectively) as well as CPRS-10 (correlation = −.32 $P < 0.01$; correlation = 0.24, $P < 0.05$), after controlling for pre-ratings on CBCL and CPRS-10 respectively. The better the mothers experienced their psychological health initially or the higher their initial sense of coherence, the better was the outcome in terms of children's symptom reduction according to ratings on CBCL and CPRS-10. No such significant correlation was found between the fathers' ratings and these outcome measures.

Consumer satisfaction

Ninety-seven per cent of the parents had "positive" (31%) or "very positive" (66%) overall ratings of the treatment programme for their child and family, and 98% would "recommend" (18%) or "strongly recommend" (80%) the programme to a friend or relative. The parents experienced that "the major problems that had prompted them to begin the treatment for their child" had "improved" (40%) or "greatly improved" (44%) and felt that the approach used to change their child's behaviour problems in the programme was "appropriate" (33%) or "very appropriate" (55%). The parents found the overall techniques "somewhat easy" (36%), "easy" (40%) or "extremely easy" (12%) to use, but nevertheless some parents found them "difficult" (1%) or "slightly difficult" (6%). The parents found the techniques "somewhat useful" (10%), "useful" (36%)

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or "extremely useful" (49%), despite them not always being so easy to use.

Discussion

The results indicate that IYS is an effective method of treating children's BMP in a Swedish clinical context. It is possible to promote sizeable changes in a group of children in which no changes, or even negative changes are to be expected when untreated (1, 56). It is also interesting to notice that there is a significant change for the better in the well-being of the parents, which is in line with the finding that the short-term psychosocial health of mothers seems to be promoted by participating in parent-training programmes (57). In addition, the parents report that they experience more health-giving factors. They are also more optimistic about the future, which is of importance, since general expectations about the future have proven to be of significance to how well people can cope with different stressors (58).

The mothers' and fathers' ratings of the children's behaviour are significantly correlated. In general, correlations between mothers' and fathers' ratings are statistically significant but moderate, frequently below 0.5 or 0.6. (10). The post-rating correlation between the parents in this sample is somewhat, although not statistically significant, higher on the CBCL (externalizing from 0.65 to 0.78 and total score from 0.59 to 0.80), which could be explained by the fact that the ratings were done by parents who both participated in the training groups. Those parents might have a more shared perspective as a result of 14 group sessions during which their child's behaviours have been in focus.

The mothers' but not the fathers' initial experiences of psychological health and Sense of Coherence predicted outcome. This is in line with the findings of various other studies, which conclude that maternal depression has been a predictor of treatment outcome (25).

There is always a risk that the effectiveness of a method will decrease when it is put into practice, because of the different threats to allegiance to the treatment protocol that are part of everyday clinical practice. The current study was carried out at various sites where the parent-training groups have been introduced as an ordinary choice amongst the services provided. In the light of this perspective, the finding of a clinically significant reduction of symptoms in between 40% and 60% of the children and an effect size ranging from 0.34 to 0.69 has to be considered as a strong result, even if the effectiveness is not as high as that reported in some meta-analyses. When considering the ITT analysis, the results are weaker. Still, there is a risk that the ITT analysis may underestimate the results, since this group of children might be even worse if untreated and in a small sample, the effectiveness of the treatment may be underestimated because of the ITT analysis. Another pitfall is that the ITT analysis only shows how the model may work in general, while the completer analysis displays how well the model might work for those that participate in the parent-training groups. If there are many non-completers, the ITT analysis may show a very small effect size, while the intervention in fact has worked well for the completers. One conclusion that can be drawn from this is that it is more important to find ingenious ways of encouraging people to remain in treatment than to dismiss the intervention (36). Thus, it is important to report the ITT analyses as well as the results of the completers.

There has been a debate about whether parent-training programmes developed in the USA would be suited for parents in Sweden (59, 60). One argument has been that the programmes were developed in a context where a more authoritarian model of parenting is more common. Certainly some adjustments to the programme have to be made when it is adapted to a Swedish cultural context. However, the parents that have participated in the parent-training groups report themselves to be very satisfied with the overall programme as well as with the usefulness of the specific parenting techniques that have been taught, even though they have not always been easy to learn. It is also interesting to note that 84% of the parents reported that the major problems (the children's BMP) had "improved" (40%) or "greatly improved" (44%), figures that correspond very well with parents' ratings on the CBCL externalizing scale, on which the parents report that 85% of the children had changed in a positive direction, 46% of whom displayed a clinically significant improvement. However, since the consumers' satisfactions forms were collected separately from the other forms it was not possible to investigate the association between the different ratings.

We can only speculate about the reasons why the IYS model seems to work so well even when the group leaders are not so experienced. A strong feature of the model is the fact that it is based on research. The various interventions in the model aim to create changes in risk factors where the evidence is strong that they are important for positive child development. Another strong feature of the model is that it has a very detailed manual that guides the group leaders through the programme and helps them to keep on track, but still allows them to be flexible enough to match the needs of the parents. The group leaders have also repeatedly been encouraged to follow the manual "by the book" as part of the assignment of participating in the study. It is also important to note that there was no difference between the various sites, which indicates the possible importance of the manual. Hence, the IYS Basic programme has proven to be an effective treatment model in the present study when put into clinical practice. Even though it is questionable if the trial should be done when the group

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leaders are not yet fully trained and certified in the model, this trial resembles the conditions in which the model probably will be used in various clinical contexts most closely. Thus this kind of study is an appropriate complement to more stringent studies conducted in an academic research environment. However, even if the IYS has shown promising results, it should not be taken as a justification for the effectiveness of parent training groups in general. There are important differences between methods with regard to training, how exhaustive the manuals are, follow-up of the intervention etc., thus it is important that each model be put under trial in clinical contexts before they are implemented on a broad basis.

Limitations and suggestion for future research

The present study is an open study of the IYS model when it was first introduced in Sweden. The results indicate that the model works as well in Sweden as it does in other countries. The comparison to other studies should, however, be made cautiously, since the children in the present study have been selected based on a clinical assessment that they display BMP and not on explicit diagnostic criteria of CD or ODD. However, 81% of the children fulfilled the criterion of clinical caseness suggested by Bilenberg et al (i.e. CBCL total score $\geq$35) (40). Other limitations of the current study are that the outcome data are based only on parents' ratings, that there is no comparison group and the lack of longitudinal data that could demonstrate if the changes will be sustained over time. Consequently, the next step in the examination of the model is to put it to the test in a randomized controlled study where the model can be compared not only to a waiting-list control group, but also against treatment-as-usual. A multi-method, multi-informant strategy should preferably be used. Besides, a categorical diagnostic approach should also be used to define children who display CD or ODD, in addition to the dimensional approaches. In order to better understand and predict which children will benefit the most from IYS parenting groups, it would also be of importance to find child and family factors that are related to treatment outcome.

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