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Family Intervention Services program evaluation: A brief report on initial outcomes for families

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Abstract

This is a brief report on a preliminary evaluation of the Metropolitan Family Intervention Service at the Victorian Parenting Centre, Melbourne, Australia. It presents an analysis of pre-post data collected from 589 mothers who commenced and completed Triple P programs between 1999 and early 2003. Forty five percent of children were found to be in the clinical range for child behaviour problems before intervention. Following the parenting program only twelve percent of children were reported by their parents to be in the clinical range. Significant improvements were also noted in measures of parental style, sense of competence, depression, anxiety, stress, and couple conflict.

Keywords
parenting, family intervention, Triple P, evaluation

Background

The Family Intervention Service (FIS) Metropolitan Project was one of three FIS projects tendered by the Victorian Government Department of Human Services in 1998. The FIS initiative was designed to extend and augment the Positive Parenting Program's (Triple P) primary care strategy in selected regions in Victoria by enhancing the existing service system's capacity to provide Level 4 and 5 interventions for families with multiple difficulties, and children exhibiting signs of social, emotional, or behavioural problems.

Triple P aims to: (a) enhance the knowledge, skills, confidence, self sufficiency, and resourcefulness of parents of pre-adolescent children; (b) promote the development of nurturing, safe, engaging, nonviolent and low conflict environments for children; and (c) enhance children's social, emotional, language, intellectual and behavioural competencies through positive parenting practices (Sanders, 1999 p.72). Triple P is based on a social learning model of parent-child interaction and research that has focussed on the development of social competencies in children and risk factors for the development of behavioural problems. Strong empirical evidence exists for the effectiveness of parent training programs based on a social learning approach in the treatment of children with disruptive behavioural disorders (see Kazdin, 1998), and this is substantial empirical support for the efficacy of the Triple P program in particular (see Sanders, 1999 for a review).

The FIS Metropolitan project and the service was established in February 1999. The program operated in the Northern Metropolitan region of Victoria and attempted to engage families in a

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parenting program before parent-child relationship difficulties placed their children at risk for more serious problems. The specific aims of the parenting program were to:

a) Assist parents from high-risk groups, or families exhibiting early indications of difficulties in their relationships with their children, to acquire skills known to promote the development, health, safety, and emotional wellbeing of children.
b) Promote the independence of families and satisfaction with the parenting role.
c) Improve early detection and early intervention for children with more severe behavioural problems.
d) Improve detection and early intervention of families whose children are at risk of being abused.
e) Divert families from the child protection and mental health systems by developing parenting skills and positive parent-child interaction patterns.

This report addresses the first two of these aims. The service targeted areas in the region likely to contain large numbers of at risk families as potential participants for group parent training programs or individual higher level interventions for families with more complex needs. The parenting groups provided a generic, non-threatening entry point for parents. The aim was to achieve a high community profile and high participation rates in parenting groups to normalise parental help seeking in the targeted community.

The project provided Triple P programs in group and individual modes of delivery. Group Triple P was presented as a brief, preventative intervention appropriate for all families, and specifically helpful to families experiencing early difficulties with their child's behaviour or development, or families seeking assistance with a broad range of parenting skills. Group Triple P was implemented as an eight session (at weekly intervals) training program involving four, two-hour group sessions and three, 15-30 minute follow-up telephone sessions for each participant, then a final group session (although until October 2002, the final session was also run by the FIS as a telephone session). The program, which was conducted in a range of community locations, typically involved groups of 10 to 12 parents of children aged between 2 and 12 years, although there were some families with younger children. The content covered areas such as the causes of childhood behaviour problems, strategies for building strong relationships with children, encouraging desirable child behaviour, teaching children new skills and managing misbehaviour.

The program was built on a self-regulatory model that places emphasis on parents selecting personal goals for themselves, choosing strategies appropriate to their family and circumstances, developing independent problem solving skills, and monitoring their own progress. Active teaching strategies including oral instruction, video-taped and live modelling, small group problem solving exercises, and rehearsal of parenting skills in group sessions. Tailored home assignments were employed throughout the group program. The telephone consultations were designed to address the individual needs of participants and promote generalisation and maintenance of learning.

If needed, families were offered a Standard or Enhanced individual Triple P program, instead of, or subsequent to a group program. Standard programs were offered to families unable to attend group sessions and enhanced programs were offered to parents still recording critical levels of child or parent problems following the group program. These 10-16 week programs were delivered to parents of children with more severe behaviour problems or parents needing more intensive individualised training. Standard Triple P focused on child management skills and included a home visiting component providing in vivo parenting support and coaching. Enhanced Triple P was offered to parents who were experiencing concurrent problems in personal adjustment (e.g., depression or stress) or family dysfunction (e.g., marital conflict). The enhanced program specifically addresses personal coping skills, partner support and applying Triple P in their own home. The individual programs followed the same self-regulatory model outlined for the group program.

Method

Participants

Since commencement of the project, and until the beginning of 2003, 1014 families have enrolled in the FIS program. Of these families, 964 participated in Group Triple P programs, 42 started Standard Triple P (Level 4) individual interventions and 53 received Enhanced Triple P (Level 5). Several families were involved in both group and individual programs. In 269 families, both the mother and father commenced the programs, for 699 families only the mothers enrolled, and in 46 only fathers enrolled.

In total, 968 mothers registered for the FIS program. Of these, 149 dropped out prior to completion and did not return the post-test questionnaires. Of the remainder, 42 have not yet completed the program and 188 completed the program but, to date, have not returned the post intervention measures. This paper reports on data obtained from the 589 mothers who commenced and completed a program and for whom there are pre and post measures available. Five hundred and seventy two of these mothers received the group program, 16 the standard program, 44 the enhanced program, and two parents had a self-directed version (written version to work through themselves with minimal assistance). Forty-five mothers completed both group and individual programs. Pre questionnaires were completed immediately prior to the first session. Post questionnaires were sent to participants immediately following the final session in week eight. Most participants completed them fairly quickly, although for some a reminder call was needed after a month.

Target children (as designated by the parent) ranged in age from less than one year to 15 years with a mean of 4.5 years (*SD* = 2.5 years). The majority of children (61%) were boys. Compared with Australian Bureau of Statistics census data, the distribution of family types in participating families is not substantially different from that found in the general population. Two parent families made up 83% of the sample and single parent families 12% of the total client base, only slightly lower than the proportion of single families in the whole population according to this most recent census information (Australian Bureau of Statistics, 2001). Step families constituted 5% of the families and extended and foster families made up the remaining 5%. Of the 529 families who reported their income, 41% of the families involved in the project earned $45,000 a year or less, and 20% earned $30,000 or less per year.

Measures

Disruptive child behaviour was measured using the Eyberg Child Behavior Inventory (ECBI) (Eyberg & Pincus, 1999). The ECBI is a parent report measure of child disruptive behaviour designed for use with children between the ages of 2 and 16 years. It consists of 36 items that parents rate on a five-point scale according to the intensity of difficult child behaviours. After rating the intensity of the difficult behaviour, parents are asked to indicate whether the behaviour is a problem or not. The item ratings are summed to produce an Intensity score and the number of problem behaviours indicated is the Problem score. High scores represent higher degrees of child behaviour disturbances. The inventory is reported to have acceptable reliability, with test-retest coefficients of .86 for Intensity and .88 for Problem scores. Split-half reliability coefficients are reported as .95 for Intensity and .94 for Problem (Robinson, Eyberg & Ross, 1980). Evidence for concurrent validity is reported by Boggs, Eyberg & Reynolds (1990).

Three dysfunctional parenting styles were measured using the Parenting Scale (PS) (Arnold, O'Leary, Wolff & Acker, 1993). The PS is a 30 item self report measure designed to measure dysfunctional discipline practices in parents of young children. The scale has three subscales: Laxness, Over-reactivity and Verbosity. Subscale scores are calculated by summing the item ratings and dividing by the number of items in the scale. Higher scores represent elevated levels of dysfunctional parenting. Internal consistency alpha coefficients of .83, .82 and .63 were reported for the Laxness, Over-reactivity and Verbosity subscales by Arnold et al (1993). Test-retest statistics for Laxness, Over-reactivity and Verbosity were .83, .82 and .79 respectively. The authors also

presented evidence that scores on the three factors were positively correlated with objective measures of dysfunctional discipline and poor child behaviour.

Parental efficacy and satisfaction with the parenting role was measured by the Parenting Sense of Competence scale (PSOC) (Johnston & Mash, 1989). The PSOC is a 16-item self-report questionnaire designed to measure parents' Satisfaction and Efficacy in their parenting role. Items are rated on a 6-point Likert scale. The nine items in the Satisfaction scale are forward scored and the seven items in the Efficacy scale are scored in the reverse direction. The Satisfaction scale reflects parenting frustration, anxiety, and motivation, while Efficacy assesses capability, problem solving ability, and competence. High scores represent high degrees of Satisfaction and Efficacy. Following the recommendation of Johnston and Mash (1989), who found item 17 did not load onto either factor, the item was omitted from the scale in the present study. They reported internal consistency alpha coefficients of .75 for the Satisfaction factor and .76 for the Efficacy factor.

The Depression, Anxiety, Stress Scale (DASS) (Lovibond & Lovibond, 1995a, 1995b) was used to assess parent emotional state. The DASS is a 42-item questionnaire assessing the negative emotional states of depression, anxiety, and stress. Every item is rated on a 4-point Likert scale from 0 to 3. Factor scores are calculated by summing the ratings of the 14 items in each scale. Higher scores indicate more severe depression, anxiety, or stress. Reported alpha coefficients for internal consistency were .91 for depression, .84 for anxiety and .90 for stress. Reasonable concurrent validity with other anxiety, stress, and depression inventories has also been shown (Antony, Bieling, Cox, Enns, & Swinson, 1998; Lovibond & Lovibond, 1995a).

Conflict over parenting was measured by the Parent Problem Checklist (PPC) (Dadds, & Powell, 1991). The PPC contains 16 items that parents check if they have caused problems and give an indication of the level of intensity of the problem. Dadds and Powell (1991) reported that the problem scale is unidimensional with an internal consistency of .70 and a test-retest reliability of .90.

Consumer satisfaction with the program was assessed using a 15-item questionnaire answered on a 5-point Likert scale, with scores ranging from 15 (low satisfaction) to 75 (high satisfaction). Questions included 'I am satisfied with the quality of service I received', 'My clinician listened to what I was trying to get across', and 'My clinician seemed to know what he/she was talking about'.

Results and discussion

Child outcomes

The mean pre- and post-intervention Problem and Intensity scores for the ECBI are presented in Table 1. Complete data sets were available for 570 mothers. Analyses of change in pre to post ECBI scores for mothers was conducted using repeated measures MANOVAs with the sub-scales (Intensity and Problem) as the two dependent measures. There was a significant effect for time, $F(2, 568) = 294.70$, $p < .001$, indicating that scores on the ECBI decreased significantly following intervention. Univariate tests showed the decrease in ECBI Problem scores was significant, $F(1, 569) = 487.3$, $p < .001$, partial $\eta^2 = 0.461$. The decrease in ECBI Intensity scores was also significant, $F(1, 569) = 437$, $p < .001$, partial $\eta^2 = 0.434$.

Table 1. Pre and post intervention scores on the Eyberg Child Behavior Checklist (ECBI) reported by mothers

ECBI score	Pre		Post	
	Mean	**(SD)**	**Mean**	**(SD)**
Problem	14.0	(7.4)	7.6	(6.6)
Intensity	131.6	(28.4)	110.1	(27.4)

A second way to consider the impact of the program on problematic childhood behaviour is to examine movement into and out of the clinical range of the measure used. Table 2 records the number of participants according to child's clinical status on the ECBI (and other measures) pre and post-program implementation as well as

Table 2. Clinical change in child or parent as measured by the Eyberg Child Behavior Inventory (ECBI), Parenting Scale (PS), Parenting Sense of Competence scale (PSOC), Depression, Anxiety, Stress Scale (DASS) and Parent Problem Checklist (PPC).

Instrument	Pre clinical to Post non-clinical	Pre clinical to post clinical	Pre non-clinical to post non-clinical	Pre non-clinical to post clinical	McNemar χ^2	Sig
ECBI						
Problem	192	70	308	16	147.2	.000
Intensity	183	100	274	13	145.7	.000
PS						
Laxness	95	41	431	10	67.2	.000
Over-reactivity	181	88	296	13	143.8	.000
Verbosity	114	11	440	11	83.2	.000
PSOC						
Satisfaction	119	68	362	16	77.1	.000
Efficacy	41	10	504	6	24.6	.000
DASS						
Depression	49	23	484	19	12.4	.000
Anxiety	37	16	509	12	11.8	.001
Stress	70	22	467	17	31.1	.000
PPC Problem	99	95	291	28	38.6	.000

the McNemar matched pair chi square value and significance level. For mother-reported Problem scores on the ECBI, 192 of the 262 children (73%) who were in the clinical range on this measure prior to intervention were no longer in the clinical range following intervention. On the mother reported Intensity score, 183 of the 283 children (65%) who were in the clinical range prior to intervention were no longer in the clinical range after intervention. Both of these results were significant at the .001 level.

Parent outcomes

Mean pre-program and post-program scores for mothers' reported parenting styles are shown in Figure 1. Clinical scores on the Parenting Scale are considered to be above 3.2 on Laxness, 4.0 on Over-reactivity and 3.4 on Verbosity.

There were reductions in mothers' scores on this measure of dysfunctional parental styles following the FIS intervention. To analyse the significance of the pre-post differences, a repeated measures MANOVA was conducted with the three sub-scales as the dependent variables. Complete pre and post data sets for all three sub-scales of the Parenting Scale were available for 575 mothers. There was a significant decrease in scores across time, F (3, 572) = 224.1, $p < .001$. Univariate analyses indicated that the difference in pre-post scores was significant for all three sub-scales: Laxness, F (1, 574) = 294.6, $p < .001$, partial $\eta^2 = 0.339$, Over-reactivity, F (1, 574) = 426.1, $p < .001$, partial $\eta^2 = 0.426$, and Verbosity, F (1, 574) = 451.3, $p < .001$, partial $\eta^2 = 0.440$.

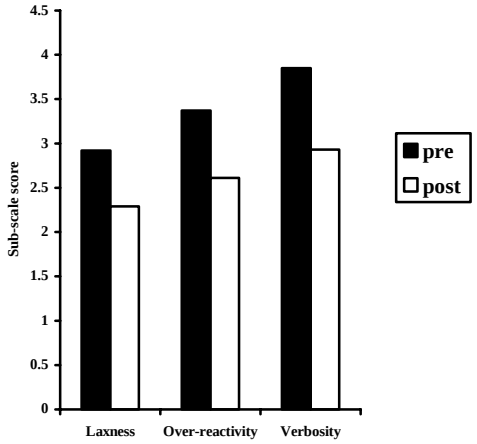

Figure 1: Mean scores for dysfunctional parenting practices (Parenting Scale) reported by mothers

Table 2 shows the clinical status of participant mothers on the Parenting Scale before and after intervention. Seventy percent, 67% and 91% of mothers in the clinical range on the dysfunctional parental practices of Laxness, Over-reactivity, and Verbosity, respectively were no longer in the clinical range following intervention. McNemar's chi square tests found these results were all significant at the .001 level.

Mothers' mean pre-program and post-program scores on the two sub-scales of the PSOC are shown in Figure 2. Based on the results of Johnston and Mash (1989), total scores below 30 for satisfaction and 19 for efficacy would be considered to be clinically significant. The significance of pre to post changes on the PSOC was analysed using a repeated measures MANOVA with the sub-scales as the dependent variables. There was a significant effect for time, with PSOC scores increasing from pre to post intervention $F(2, 558) = 256.83$, $p < .001$. Significant increases were found in Satisfaction $F(1, 559) = 346.3$, $p < .001$, partial $\eta^2 = 0.383$ and Efficacy $F(2, 559) = 370.8$, $p < .001$, partial $\eta^2 = 0.399$.

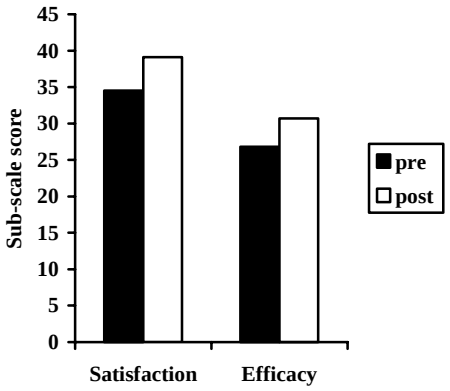

Figure 2. Mean scores for maternal Satisfaction and Efficacy (PSOC)

The clinical status of participant mothers on the Parent Sense of Competence Scale prior to and following intervention is included in Table 2. Eighty percent of mothers in the clinical range on the Efficacy sub-scale and 64% of mothers in the clinical range on the Satisfaction subscale before intervention were no longer in the clinical range following intervention. McNemars chi square tests showed these values were significant at the .001 level.

Figure 3 presents data collected on the DASS. Lovibond and Lovibond (1995a) considered Depression scores above 13 to be moderate depression and above 20 to be severe. Anxiety scores above 9 were moderate and those above 14 severe. Stress scores above 18 were labelled moderate and those above 25 severe. The significance of pre-post changes in DASS sub-scale scores was analysed using a repeated measures MANOVA in a similar way to the other variables. There was a significant decrease in scores on the DASS from pre to post-intervention, $F(3, 570) = 46.1$, $p < .001$. The difference in scores from pre to post-intervention was significant for Depression, $F(1, 572) = 59.6$, $p = .000$, partial $\eta^2 = 0.094$, Anxiety, $F(1, 572) = 42.09$, $p = 0.000$, partial $\eta^2 = 0.069$, and Stress, $F(1, 572) = 135.03$, $p = 0.000$, partial $\eta^2 = 0.191$.

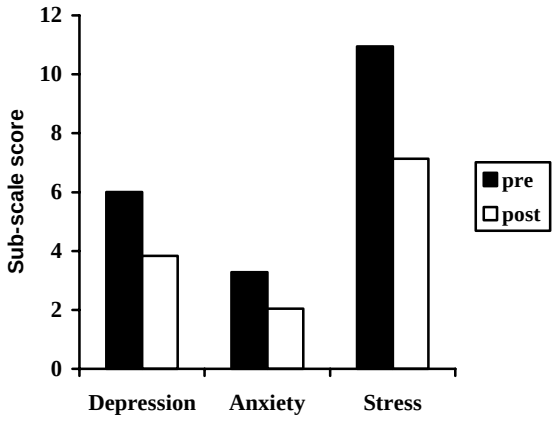

Figure 3. Mean maternal Depression, Anxiety and Stress (DASS) scores

The clinical status of participant parents on the DASS before and after intervention is included in Table 2. Sixty eight per cent, 70%, and 76% of mothers who were in the clinical range on Depression, Anxiety, and Stress scales, respectively, before intervention were no longer in the clinical range following intervention. McNemar's chi square tests found these results were significant at the .001 level.

Outcomes for couples

Figure 4 presents the mean scores for mother reports on the Parent Problem Checklist (PPC) about the number of issues related to raising children that cause conflict in their family, ie between parents. The number of responses is lower than for other variables because data were obtained from two parent families only (n = 459). From this figure, it can be seen that the mean level of disagreement over parenting issues within couples, as reported by mothers, reduced following participation in the FIS program. A problem score greater than 5 is considered to be in the clinical range.

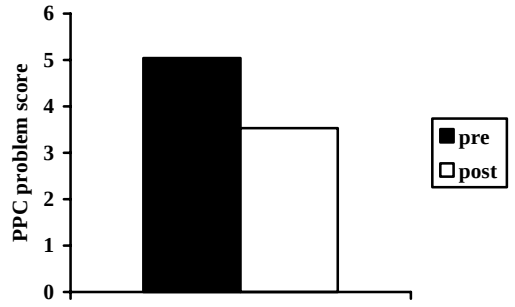

Figure 4. Mean number of problem issues in parenting (Parent Problem Checklist)

Data on the PPC were analysed using repeated measures MANOVAs. Overall, there was a significant decrease in Problem scores from pre to post-intervention $F(2, 457) = 51.75$, $p < 0.001$, partial $\eta^2 = 0.185$. Significant decreases in the PPC Intensity score were also observed, $F(1, 458) = 50.2$, $p < .001$, partial $\eta^2 = 0.099$.

Table 2 details mothers' clinical status on the Parent Problem Checklist Problem score prior to and following intervention and the chi square values measuring the significance of the observed change. A score of six or more problems is considered a higher than average level of conflict in a relationship. There was a significant decrease in number of mothers reporting in the clinical range, with 51% of mothers in the higher than average range on this measure at pre-intervention no longer in the clinical range by post intervention.

Consumer satisfaction

Consumer satisfaction responses were available for all of the mothers, with a mean satisfaction score of 61 (SD = 7.5) indicating generally high levels of satisfaction. Participants indicted satisfaction with the quality of the service and the ability of the program to address the parent's needs, as well as a high liklihood of recommending the program to someone else.

Conclusion

The preliminary data presented here suggest that the FIS (Metropolitan Project) was successful in engaging a significant proportion of families whose children were at risk of long-term adjustment difficulties. Nearly half of the children nominated by their parents as the target child had behavioural problems in the clinical range according to the ECBI. Analysis of pre and post-intervention data indicates that the program was associated with significant reductions in disruptive behaviour in children, reductions in dysfunctional parenting practices, increased confidence and self-efficacy in parenting, reductions in levels of stress, anxiety and depression, and less parental conflict over parenting issues. Analysis of six-month follow-up data will indicate whether these beneficial effects are maintained in the longer term.

Because the Metropolitan FIS project was unable to employ an experimental design, the positive results apparent in this evaluation cannot confidently be attributed to the parenting program that was implemented by FIS. The limitation may be able to be addressed by further research of a qualitative nature to ascertain the extent to which participants attribute change to the program they received. Nevertheless, the outcomes reported are promising and should not be readily discounted. When data for parents who completed the program were considered as a group, there were improvements evident for all the dependent measures. Furthermore, there were socially valid findings for all dependent measures and for a substantial number of participants. That is, there was movement from a reported level of clinical distress to a level of functioning that was more typical of the population. In addition, the outcomes of this

evaluation are consistent with previous well-controlled research on group and individual Triple P program implementation (Sanders, 1999; Sanders, Markie-Dadds, Tully & Bor 2000).

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