Advances in Research
4(5): 279-292, 2015, Article no.AIR.2015.083
ISSN: 2348-0394

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Assessment of the Effects of a Parental Intervention with Mothers of Children with Internalizing Problems

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Authors' contributions

This work was carried out in collaboration between all authors. Author NPO managed the literature searches, performed the interventions, collected data and managed the analyses. Author ATBS designed the study and oriented author NPO during all the steps of research, parent intervention and paper writing. Author MBV performed the statistical analysis. All the authors read and approved the final manuscript.

Article Information

DOI: 10.9734/AIR/2015/16181
Editor(s):
(1) Daniel Houlihan, Distinguished Faculty Scholar, Professor of Clinical Psychology, Minnesota State University, Mankato, USA.
(2) Jinyong Peng, College of Pharmacy, Dalian Medical University, Dalian, China.
Reviewers:
(1) Deepak Kumar, Department of Psychiatry, Institute of Human Behaviour and Allied Sciences, Delhi, India.
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(3) Anonymous, Bulgaria.
(4) Anonymous, India.
(5) Anonymous, Italy.
Complete Peer review History: http://www.sciencedomain.org/review-history.php?iid=971&id=31&aid=8558

Original Research Article

Received 14th January 2015
Accepted 8th March 2015
Published 23rd March 2015

ABSTRACT

The present study assesses the effects of a semi-structured intervention held exclusively with mothers and its effects on internalizing problems, social skills of children, and positive and negative parenting practices. The single subject experimental design with three participants was adopted. The three mothers had, in baseline, children diagnosed with internalizing and externalizing problems. The instruments used were CBCL, RE-HSE-P, QRSH-Pais and PHQ-9, they were performed in baseline, pre-test, post-test, and follow-up assessments. The intervention held is characterized as semi-structured for it promotes the development of parental practices that are considered positive by the literature on behavior problems, however, contingently to the difficulties

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and demands of each case. The number of sessions performed for each case was 14, 15 and 17, which lasted about two hours each. The data were analyzed according to the instruments' norms and under the perspective of each singular case. The results found include remission of internalizing problems, increase in frequency of the children's social skills, increase in frequency of positive parental practices, and decrease in variability of negative parental practices. All the improvements were maintained on the six months follow-up, with the exception of variability on the negative parental practices of one client. Results are discussed in a context of mental health promotion and indicate the need for strategies to prevent internalizing problems in children.

Keywords: Internalizing problems; parental practices; parent training; single case design.

1. INTRODUCTION

Problems related to anxiety and depression remain unnoticed or minimized by parents and teachers, even though they are among the most common and frequent mental health problems in childhood [1,2]. Symptoms of anxiety and depression indicate exposure to different biological and psychosocial risk factors which compromise substantially the development of children in medium-term or long-term, in the sense it predisposes self esteem problems, difficulties at school and in the peer relationship, in addition to being relevant risk factors for several mental health problems [2,3]. In this sense, it is accentuated the importance of prevention on its different perspectives [4].

Anxiety and depression may be conceptually understood as part of a greater construct named internalization [5]. In addition, it is known that anxiety and depression usually happen as comorbidity, either because their etiologic mechanisms and risk factors usually override each other, relate or interact with each other, in a reciprocate, dynamic, and complex manner [3,4]. In this perspective, a consistent identification of risk factors that are common to internalizing problems facilitate the implementation of extensive intervention problems, hence supposedly more effective.

Literature has pointed out a set of risk factors for internalizing problems, among which are found: (a) parental psychopathology, mainly anxiety and depression; (b) negative parental practices; (c) stressful life events; (d) child temperament and cognitive processes; and (e) difficulties in the peer relationship [3,4,6,7]. Therefore some risk factors are directly related to parental issues: negative parental practices and psychopathology.

Negative parental practices are indicated as important focus of prevention and treatment interventions, chiefly for the fact that the family is an environment capable of selecting and maintaining interacting and confronting repertoire of children [6]. Parental psychopathology problems, in special anxiety and depression, are also important risk factors due to its mediator effect between negative parental practices and internalizing problems of children [8,9,10]. The hypothesis is that anxious or depressing parents interact with the children by stating rules, models, and differentially reinforcing internalizing behaviors. Depressing and anxious mothers have parental practices that are considered little supportive or welcoming, negative, in addition to over controlling, over monitoring, and over criticizing [11]. Besides, anxious mothers demonstrate little optimism, catastrophic thinking, and flaws in teaching autonomy, while depressive mothers demonstrate inconsistence and little sensitivity to emotions [11].

Preventive interventions emphasize the reduction of risk factors related to the emergence or complication of problems [12]. For the anxiety prevention it is recommended that parents learn how to (a) promote secure attachment relationship with their children; (b) manage and cope with their own anxiety; (c) provide support for the children, promoting confrontation of situations instead of avoiding them [1,13]; (d) give emphasis to the children's developmental needs; (e) use competent parental practices; (f) decrease parental stress; and (g) promote support network for the parents [14].

To prevent depression the recommendations include (a) early identification of vulnerability to socioeconomic and psychopathology risks; (b) teaching parents about parental role; (c) promotion of support network for family relationship; (d) developing positive parental practices, and establishing safe attachment relationship with children [15]; also developing parental abilities such as (e) confrontation and problem solving skills; (f) cognitive restructuring

of negative beliefs; (g) social skills; and (e) strategies for coping with family stress [16,17].

Most correlation studies prioritize the identification of negative parenting practices related to the internalization, to the detriment of positive parenting practices possibly related to prevention of this mental health problem. But the few interventions for internalizing problems that included parents confirm the importance of developing positive parental practices, such as communication strategies, solving problems and family conflicts skills, and managing their own and their children's emotions [18,19,20]. However, there is no conceptual model which determines the impact and prominence of family variables and parent-child relationship when referring to internalizing problems. In this context, it seems relevant every effort to describe more precisely the effects of parental practices on the maintenance or prevent of internalizing problems in children.

Another important gap regarding treatments for internalizing problems with a parental intervention consists in the absence of measures of family variables, especially including parental practices. It is more common that the children's repertoire are assessed before and after the parent intervention, however, parental practices rarely are monitored and measured even when this variables are part of the intervention target. Improving how to measure changes in the parents' repertoire may contribute to specify the change mechanism in the parent-child interaction, which may be related to the decrease of internalizing problems [18,19,20].

Even though it is a common ground that the combination of interventions (child, parents, and teachers) brings out the best results [19], there are few investigations on the potential of interventions held exclusively with parents for the prevention and/or treatment of internalizing problems, which seems relevant due to the importance of parental practices described in explanatory theories [4]. Interventions conducted exclusively with parents, with an emphasis on the development of positive parental practices, have been connected to the reduction of mixed problems (internalizing and externalizing) in children [21,22,23,24,25,26]; however, only one study found described the effects of an intervention on anxiety problems which dealt exclusively with parents [14]. This is a gap this study intends to help decreasing. In addition, the possibility of reducing or preventing internalizing problems through parent intervention only would be advisable to mental health public services regarding social and economic reasons.

In this context, the current study aims at describing the effects of an intervention exclusively with non-depressed mothers concerning internalizing problems, children social skills, positive and negative parental practices, in a context of indicative prevention. In addition, it is also an objective to describe and raise hypothetical mechanisms of clinical change through modifications in measured variables.

2. METHODS

2.1 Participants

The sample has homogeneous baseline characteristics: diagnose of exclusive internalizing problems of one child according to the mother's report; absence of behavior problems at school, or any kind of academic problems according to the teachers; mothers had no history of mental health problems and demonstrated no symptoms of depression during de assessment procedures. None of the participants or their children had any previous psychological or pharmacological intervention. Maternal depression was assessed to ensure the absence of such psychopathology in the sample, to avoid the influence of this variable in parenting and consequently the child's mental health.

The mothers that took part in the present study didn't voluntarily seek treatment; they were invited due to the results considered at clinical level found in a characterization study on behavior problems and parental practices with students from elementary school. This previous study investigated 200 children from teachers and mothers report. The data obtained from this previous study were used as baseline. The initial sample of this study consisted of 24 mothers who characterized their child by the limitrophe or clinic level by the CBCL exclusively for internalizing problems. Because of this criteria obtained in the previous study, these 24 mothers were invited to participate of a preventive intervention concerning parental practices. After the invitation, 18 out of the 24 mothers from the sample declined to participate. Only six mothers accepted at first, and then they took part of a new pre-intervention assessment. At the end of this second assessment (pre-test), three mothers affirmed they didn't need or weren't interested in the intervention on parental practices and didn't

adhere to the intervention. The three participants that committed to individual intervention agreed in voluntarily taking part of the research and signed the consent form with clarification of the research. The mothers who took part in the intervention are identified as P1, P2, and P3 in order to keep confidentiality. The socioeconomic variables are described in Table 1.

2.2 Design

The present study consists in the presentation of three clinical cases [27] conducted and assessed by single case experimental design [28]. This single case design was adopted for being the best option taking into consideration the reduced sample of three participants, due to non adherence of most mothers in the sample. The literature [29-31] has documented difficulties related to parents adherence to interventions, which was also observed in this study. Behavior problems, social skills of children, maternal depression, and parental educative practices were measured in different moments: baseline (from a previous categorization study), pre-test, post-test, and follow-up. One exception occurred with P2 which had no baseline for this participant was not part of the previous study.

The commitment of the three mothers which accepted to begin the intervention was guaranteed, for there was no abandonment of the treatment. In this context, some strategies for facilitating the commitment must be highlighted. Bearing in mind that studies have found that parents adherence is difficult to achieve [29,30,31] in the present study, each intervention was held in different conditions of clinical treatment (P1 had home care, P2 was treated in the school environment, and P3 had intervention in the school-clinic). This flexibility regarding the therapeutic setting was to facilitate the mothers' adherence, according to literature recommendation [31].

2.3 Instruments and Assessment Strategies

Children were studied through *their* mothers´ report. All measures and data were collected from parent report instruments, CBCL, RE-HSE-P and QRSH. These instruments provide information about children (i.e. behaviour problems and social skills) and also about parental practices (in case of RE-HSE-P).

a) *Child Behavior Check List - CBCL*: it was chosen for the assessment of behavior problems because it is considered gold standard in the area. It consists on an instrument that investigate the frequency of behavior problems, suggesting the diagnostic classification of normal, clinical, and limitrophe for externalizing and internalizing problems, in addition to its respective subtypes [32]. T scores are presented with a 0-100 variation; for behavior problems T scores between 60 and 70 indicate clinical level impairment, while T levels above 70 indicates severe impairment. It is not validated to the Brazilian population but preliminary results were compared to other psychiatric assessment and showed high level of correlation and internal validity [33].
b) *Roteiro de Entrevista de Habilidades Sociais Educativas Parentais* - RE-HSE-P (Parenting Social Skills Interview Guide): consists of a semi-structured interview guide through which are described behaviors, antecedents, and consequences of the interactions established between parents and children [34]. RE-HSE-P presents the classification in clinical, non clinical, and limitrophe, negative educational practices, children behavior problem and context variable. The reliability of RE-HSE-P [35] was certified by the Spearman correlation test, in which the instrument attained significant correlations for mothers (correlation equal to 0.76, significant at 5%) and for fathers (correlation equal to 0.89, significant at 1%) [36]. The instrument presented an alpha of 0.846 of internal consistency.
c) *Questionário de Respostas Socialmente Habilidosas* – QRSH- Pais (Social Socially Savvy Answers Questionnaire Version for Parents): it's an instrument where parents inform about the responses of their children in 18 social skills investigated [37]. The internal consistency was measured for the total score, with alpha at 0.82. By the total score of social skills of children it is possible to distinguish groups with indexes of behavior problems (average lower then 25.22).
d) *Patient Health Questionnaire - PHQ-9:* it's a well known module of a psychopathology diagnostic instrument composed by nine items directly based on the diagnostic criteria of Major Depressive Disorder in DSM-IV [38].

e) *JT method*: This nonparametric method aims to determine the clinical significance of interventions results (related to external validity of the intervention), in other words, check that the intervention produced a change in clinical status of the client, as well as a reliable change index (related to validity inner intervention) that checks whether an improvement or worsening of the client and this could be attributed to the intervention [39].
f) *Semi Structured Clinical Interview Guide*: it's a qualitative instrument, and it was used with the aim of welcoming the participant, informing about the treatment, collecting data about the complaint and related variables, and identifying additional demands of mothers regarding the intervention [40].

2.4 Formulation of Clinical Cases

The formulation of the clinical cases was made possible due to the semi-structured clinical interview and the results of the instruments in pre-test. The similarities and differences regarding behavior problems and respective variables linked to the acquisition and maintenance of such problems are summarized at Table 2.

It is important to state that even though externalizing problems happened in non significant frequencies for the diagnostic patters of CBCL, the mothers were frequently bothered with those behaviors and reported them to the therapist due to great difficulties in interacting with the children. In this sense, the existence of externalizing problems was described by mothers as a variable directly responsible for the adherence to the intervention, regardless of the frequency in which they were presented.

It was established as a hypothesis that the internalizing problems of children would happen in a family context in which there were previous experiences with deprivation of affection summed with the likelihood of feeling inadequate or inferior to the parental expectations modulated the reinforcing value of parental practices of demonstrating approval and acceptance, as well as the aversive effect of feeling criticized or punished for the way they behave. Hence, when facing daily situations of tasks, routine and conflicts, to which are presented rules, strict and demanding performance expectations, the children have greater possibilities of emitting internalizing behaviors, for they produce consequences reinforced by mothers.

Therefore, it was verified a continuous process of shaping internalizing patterns in the parent-child interaction, to which are added collateral effects as feelings of anxiety, sadness, and helplessness sensation. At the same time, social skills of confrontation and externalizing behaviors of children that put at risk the parental authority or don't correspond to parental expectations and rules, are punished by negative practices of invalidation, broad criticism, punishment, comparisons, demonstration of rejection or disappointment, on the other hand time they occasionally produce some reinforcements such as the relief of negative feelings, and receive more attention from parents, even though it is followed by punishments as intensification of critics and demands.

2.5 Intervention

The given procedure [41] was selected due to the emphasis in promoting social competence of parents for more positive interactions with their children [22]. Moreover, the chosen procedure produced favorable results regarding the indicated prevention and treatment of externalizing or mixed behavior problems with group or individual treatment of mothers of pre-scholars, scholars, and adolescents [21,22,23, 25].

Procedure and application recommendations are described [41] and predicts about 14 sessions based in thematic contents on positive parental practices. Table 3 shows themes in parental practices which are better described in an Informative Booklet [42], elaborated as an extra material for fathers and mothers that participated in interventions during and after the sessions.

The therapeutic process was based on the Analytical Behavioral Therapy and the main techniques used were functional analysis, role playing, modeling, differential reinforcement of target behaviors in the reports, at the home assignments**,** and in therapist-client interactions [41]. The analytical-behavioral therapist manages behaviors of showing empathy, asking questions about factors and feelings, requesting reflections, establishing explanatory relationship, providing information, recommendation, agreeing or disagreeing, and approving or disapproving [25,43].

The meetings took place weekly and lasted from 90 to 120 minutes. Each session was organized in different moments and with different aims, which included the discussion and functional analysis of the reports on the home assignments proposed in the previous session, the presentation of one or more themes on predicted positive parental practices, the presentation of the next homework and the evaluation of the session. In each session the themes on parental practices were presented and developed according to the difficulties and problems presented by mothers. The home assignments were proposed to promote the application of parental practices that were discussed in family environment to favor the generalization of positive practices with their children and relatives. Concomitantly, reporting about the homework always facilitated for the therapist to obtain specific and more realistic reports about difficulties and potentialities of mothers in the interactions with the children.

Table 1. Socioeconomic description of the participants

Participant	Age	Marital Status	Number of children and age	Level of education	Job Position
P1	33	Married	8-year-old* and 5-year-old girls	Attending college	Assistant teacher in a special education institute
P2	39	Divorced	21-year old woman and 8 year-old boy*	Secondary school	Housekeeper and elderly caretaker.
P3	30	Married	10-year-old girl* and a 6-year-old boy	High school	Manicure and craftswoman.

Legend: (*) Child with internalizing problems according to CBCL at baseline and pre-test

Table 2. Similarities among the mothers report about their children and their practices

Complaints of internalizing problems	At least three of the following internalizing symptoms: Excess of preoccupation, sadness, self negative comparison, difficulty in deny peer requests, fear of growing and aging, fear of hurting others, dependency, perfectionism, rules strictness, strictness on the evaluation of others, nail biting, difficulty in expressing feelings, feeling rejected.
Complaints of externalizing problems	Question rules, stubbornness, disobey, reject caress, refuse request, verbal aggressiveness and fights with the sibling, irritability.
Other characteristics of the children	(a) Justify the emergence of externalizing problems for feeling extremely wronged at their own emotions; (b)Protect or save the siblings to please parents and to decrease their own guilt; (c) Make comparisons establishing relationships in which are inferior; self esteem problems; (d) avoidance of confrontations in social occasions; (e)helpful, collaborative, good academic performance; (f) very observational sensitive to critics, disapproval and approval.
Parental practices	(a) High expectation and demands: serving as role model or taking care of siblings, be an excellent student, always obey and be responsible, don't show any difficulties. (b) Strictness of rules and practices, inflexibility: little variability, resistance to change; verbal punishment. (c) Little sensitivity to negative emotions of the children, lack of empathy and lack of recognition to the children's rights. (d) Frequent use of self diminishing comparison to describe children; (f) Rare use of compliments or positive feedback, when they happen are contingent to school performance, obedience, and following of rules and maternal expectations. (g) Anxious: before family conflicts, marital problems, critics or demands, frustrations, divergences.

Table 3. Description of themes about positive parental practices held in the semi-structured procedure

Session	Themes
1	Presentation. Initiate and keep conversation
2	Ask and answer questions
3	Express positive feelings, pay compliment, say thanks, provide positive feedback
4	Human rights in interpersonal relationship
5	Express and listen to opinions of agreement and disagreement
6	Differences between assertiveness, passiveness, aggressiveness
7	Express negative feelings, provide negative feedback
8	Make, receive, and refuse request
9	Make and receive critics, admit mistakes, apologize
10	Parents consistency about rules and limits
11	Parents attitudes that make difficult to establish limits
12	Ignore problem-behavior and reinforce differentially socially skillful behaviors
13	Establishing and giving consequences to rules, negotiating
14	Free theme: marital relationship, grandparents, work problems

An important characteristic of implementing this intervention procedure is its semi-structured character, so that the themes, contents, and strategies for the sessions are based on the recommendations of the literature while some malleability is preserved in relation to the individuals. Thus, it is possible the personalization of the number of sessions, sequence and repetition of themes in parental practices or in other family relations. The malleability of the intervention processes for the treatment of externalizing and internalizing problems have been recommended [44] in the sense they produce the necessary adjustments for the behavior resources, cultural issues, and parents motivational aspects, as well as the severity of the children's behavior problems. In agreement to demands and case analysis, the intervention with P1 lasted 14 sessions while P2 and P3 had 15 and 17 sessions respectively.

The intervention procedure focuses on the interaction established between mother and child, even that only the mother participates in the intervention [41]. The intervention predicts a relationship between mothers and the therapist based on the collaborative model of intervention [45] through which it is recommended the valorization of alternatives suggested by the parents for diminishing their own difficulties, which characterizes parents as co-therapist for establishing favorable conditions for changes in the family environment. The content is developed according to the constructional model of intervention [46], which presupposes the strengthening of existing behavioral resources and the amplification of repertoires that are functionally equivalent to the problems and difficulties.

The three cases had the same therapist and clinical supervisor, both with analytical-behavioral background and had experience in applying the adopted procedure.

3 RESULTS AND DISCUSSION

3.1 Effectiveness and Efficacy of the Intervention

The intervention efficacy can be assessed by comparing the results of each participant with itself through different instruments and at different points of time during the assessment. None of the participants showed at any time depressive symptoms at moderate or intense level, considering the amount and severity of the difficulties, according to the norms of correction of PHQ-9 for the Brazilian population [38].

Table 4 presents the CBCL results concerning the children´s behavior problems (internalizing, externalizing, and subtypes). The data show that in baseline (or pre-test for P2) the children presented exclusively internalizing problems. The scores ranked as limitrophes (L) and clinical (C) were considered diagnostic for internalizing problems in the present study. Baseline and pre-test results showed stability or aggravation of internalizing problems along the time for all the children. Still according to Table 4, it is possible to observe that in post-test, the three mothers reported a decrease of internalizing problems of the children, reaching non-clinical levels. In this sense, the procedure adopted might be effective to reduce internalizing problems in this sample. Additionally, it was observed the maintenance of non-clinical scores on the follow-up assessment,

which suggests some stability of the improvements in the mothers' repertoire.

Table 4 also shows the results of QRSH for children´s social skills reported by the mothers. It was observed that the non-clinical scores were maintained or increased after the intervention. In this sense, it seems possible that the intervention procedure might have contributed for the increase in the frequency of social skills of these children, even though the pre-test data show that the children already presented a good social skills repertoire before the intervention, along with internalizing problems at clinical level at that time.

Table 5 presents the results of the RE-HSE-P analysis categories about positive and negative parental practices, family context, children´s social skills and children´s behavior problems. There were found some similarities in these results among the three participants. The comparison of the results from baseline, pre-test, post-test, and follow-up demonstrated that the intervention lead to changes in the mothers´ interaction practices and in the children´s repertoire.

It was observed that since baseline and pre-test there was adequate variability of positive parental practices (POS PR) (non-clinical scores). However, the mothers showed low frequency of POS PR before the intervention (clinical scores). In post-test and follow-up there were found improvements in the frequency of POS PR (non-clinical or limitrophe scores). The same happened to the social skills of children, which were varied since baseline and pre-test, however they had low frequency (clinical scores) before the intervention. Also, regarding the frequency of SS it was noted an improvement in the post-test and follow-up (non-clinical or limitrophe scores).

Regarding negative parental practice (NEG PR) it can be observed that even thought the frequency since baseline and pre-test was low (non-clinical scores), there were inadequate variability before the intervention (clinical scores).

Table 4. Results of CBCL (T scores) for children internalizing problems and of QRSH-Pais (sum) for children social skills

CBCL	**P1**				**P2**			**P3**			
Internalizing Problems	**BL**	**PRE**	**POST**	**FOL**	**PRE**	**POST**	**FOL**	**BL**	**PRE**	**POST**	**FOL**
	L63	C68	N52	N48	C65	N45	N41	C64	C75	N43	N50
- Affective	N50	N60	N50	N50	N56	N52	N50	N60	L66	N52	N56
- Anxiety	L67	C70	N59	N54	C73	N60	N51	N64	N63	N51	N62
- Somatization	N50	N50	N50	N50	N50	N50	N50	L65	C73	N50	N50
QRSH	N31	N27	N34	N34	N36	N36	N36	N26	N31	N36	N34

BL- Baseline; ; PRE – pre-test; POST – post-test; FOL – follow-up; N – non-clinical classification; L –limitrophe. C – Clinical; Results in bold: T scores ranked as limitrophe or clinical by CBCL

Table 5. Variability and frequency results from RE-HSE-P

RE-HSE-P	**P1**				**P2**			**P3**			
Content	**BL**	**PRE**	**POST**	**FOL**	**PRE**	**POST**	**FOL**	**BL**	**PRE**	**POST**	**FOL**
POS PR	11NC	15NC	18NC	11NC	12NC	18NC	14NC	10NC	12NC	13NC	15NC
SS	17NC	16NC	23NC	17NC	13NC	23NC	16NC	12NC	12NC	12NC	20NC
CONT	14NC	9L	14NC	12NC	15NC	24NC	20NC	16NC	17NC	11NC	26NC
NEG PR	7C	10C	3NC	0NC	7C	4NC	3NC	12C	10C	6L	11C
PROBL	10C	5NC	4NC	1NC	3NC	3NC	1NC	10C	10C	2NC	7NC
Frequency	**BL**	**PRE**	**POST**	**FOL**	**PRE**	**POST**	**FOL**	**BL**	**PRE**	**POST**	**FOL**
POS PR	8C	9C	11L	12L	10C	14NC	11L	10C	8C	15NC	11L
SS	7C	9C	11L	12L	10C	16NC	13NC	7C	8C	11L	11L
CONT	0C	2C	2C	0C	1C	2C	2C	1C	2C	1C	2C
NEG PR	1NC	6NC	2NC	0NC	4NC	1NC	0NC	12C	9-NC	1NC	4NC
PROBL	0NC	0NC	0NC	1NC	0NC	1NC	0NC	0NC	0-NC	1NC	0NC

Label: BL - Baseline; PRE – pre-test; POST – post-test; FOL – follow-up; NC – non-clinical classification; L –limitrophe. C – Clinical; POS PR – positive parental practices; SS- social skills of children; CONT- interaction contexts; NEG PR- negative parental practices; PROBL- children behavior p

This means that mothers presented several negative practices in the interaction with the children, though such practices could not be ranked as clinical for its frequency. After the intervention and during the follow-up, it was seen a reduction in the variability of negative practices by mothers P1 and P2 (non-clinical scores); while for P3 the improvement in the post-test was more subtle (limitrophe score). Moreover, it was possible to observe in the follow-up a new increase in the variability of negative practices for P3 (clinical score). In regards to the behavior problems of the children, the RE-HSE-P enabled to identify that even though they occurred with low frequency (non-clinical scores) since baseline and pre-tests, their variability was considered critical for P1 and P3 (clinical scores), which presented improvements, decreasing the variability of behavior problems (non-clinical scores). It was noticed, in addition, that with the exception of P1 in pre-tests, the contexts of interaction (CONT) between mothers and children were varied even before the intervention (non-clinical scores); however the frequency of interaction in different context was low (clinical scores) which suffered alterations after the intervention.

By JT method [39] reliable clinical changes were identified in comparisons between pre and post test, and post test and follow-up. Two of the three participants (P1, P2) had reliable improvement in positive total (sum of children social skills, positive parental practices and context), even though they were already in the non-clinical population, even before the intervention. As for the negative total (sum of children problem behavior and negative parental practices), by the cut-off points of the instrument the participants left the clinical condition, but by JT analysis there were no reliable changes, even that since the pre test the scores were according to the average population. On the comparison measures between post test and follow-up, in total of positive factors two participants had reliable worsening (P1, P2) and P3 had reliable improvement, but all remained in the non-clinical population level.

3.2 Discussion

This study aimed to assess the effects of a semi-structured intervention procedure with mothers of children that had exclusively internalizing problems. The main results include the reduction of internalizing problems to non-clinical level after the intervention and at the six-month-follow-up, as well as an increase in the frequency of positive parental practices and a decrease in the variability of negative parental practices of the participant mothers. Such results obtained in the present study are consistent with the empiric literature about internalizing problems in several aspects.

The small number of participants in this sample disables conclusions about the effectiveness of the intervention, which means that the referred results cannot be predictable. Unfortunately, membership adherence problems remain huge problems in treatments for children's problems, as other studies have demonstrated [29,30,31].

The results demonstrate an initial efficacy and feasibility of a parent intervention to reduce internalizing problems. In this sense, the present study contemplates an important gap related to the lack of studies that include or give emphasis to the importance of the parents participation in the treatment of internalizing problems [47]. The focus of this intervention is the parents, their parental practices, and eventual difficulties regarding the family relationship that influence and are influenced by the parental relationship [41]. In this sense, the intervention model applied seems to attribute to parents the role of mediators of the development of their children, whose behaviors are managed through parental practices developed during the intervention [7,19,20]. A possible explanation for the results obtained by this type of intervention is supported by the constructional model of clinical therapy [46] and by the collaborative model of parenting intervention [45]. Furthermore, parents are approached as clients [7,18], so that different demands and difficulties related to the family relationship were attended while there were no direct interactions with the children.

By two different methods (the subject as its own control using the criteria of clinical and non clinical, from the cut-off points of the RE-HSE-P and CBCL instruments, and by JT method of non-parametric statistics) results were identified that indicate acquisition of positive parenting practices and children's social skills, besides the reduction of negative parenting practices and child behavior problems.

One of the highlights of this study refers to the promotion of positive parental practices with emphasis to prevention and treatment [21,22, 48], covering the variables described in the categorization literature as protective factor for

internalization; for instance, establishing positive communication (which includes the interest and needs of the child), demonstration of affection and rules that allows the child to feel safe and confident, increase the mothers' responsiveness to their children' emotion, demonstration of support and welcoming, as well as effective management of problems [4,8,49]. Negative parental practices as overprotection [50]; little welcoming, lack of support, little care, or negligence [50]; negative affection or negativity [49]; punishment or negligence to negative emotion of the children [49]; practices characterized as demanding, strict, severe, or excessively critical [51]; parental distress, parental inconsistence, and number of conflicts in the family [52] were minimized at the rate they were replaced by more effective parental practices, either for the quality of the relationship or for the reduction of problems and conflicts. Both, the protection factors that are broadened, and the risk factor that are minimized, regarding the parental practices, are in agreement with the behavior categories measured by RE-HSE-P in the categories of positive and negative parental practices.

With regards to the content of the intervention procedure adopted it is understood that important recommendations from the health promotion area, prevention of anxiety problems and depression in childhood were covered, predominantly about the emphasis on psycho-education about the children's rights and developmental needs [14,16,17]; the development of effective positive parental practices [1,13,14,15,16]; problem solving strategies [16]; promotion of confrontation with autonomy, instead of avoidance from the children [1,13] and minimization of stress and family conflicts [14,15,16].

Moreover, the discussion on the effectiveness of the intervention is relative. The implementation period can considered short [53], there was a total of 14 to 17 sessions, 2-hours each (carried out throughout 4 to 5 months), demonstrating more effective results than the parental interventions described by Herman and colleagues [19], but less effective than others parents intervention [18,20].

The improvement in social competence [54], that was seen as an increase in the frequency of positive parental practices seem to have an inverse correlation to negative parental practices that decreased, being less frequent. Likely, they were no longer necessary or sufficiently functional in the interactions with the children, in comparison to the learned social skilful alternatives. These changes in the parental repertoire of interaction might be related to the overcoming of internalizing problems and the increase in the frequency of children' social skills.

It is worth mentioning that the three children showed good repertoire of social skills, at non clinical level, since baseline. In agreement to Leme and Bolsoni-Silva [55], it was possible to observe during the interventions that the mothers used to punish the social skillful behaviors of expressing feelings and confronting in several ways, what might have unintentionally shaped internalizing problems. Additionally, due to the over demanding practices and criticism, the three mothers were always watchful and could be disproportionately bothered with the occasional emission of externalizing problems.

Taking into consideration P3's case, it is discussed that the marital problems that lead to a conflicting divorce by the end of the intervention process may have contributed for the maintenance of negative parental practices (at limitrophe level in the post-test and clinical level in the follow-up). The stress and conjugal conflict, along with the parental psychopathology, are among the main factors inversely related to the therapeutic change [31]. Nonetheless, the fact that P3's behavior problems were established at non-clinical levels in post-test and follow-up in CBCL and RE-HSE-P enables a discussion about the relevance of positive parental practices. When emerged in sufficient variability and frequency, positive parental practices might have influence on the mental health of children, in addition to prevent internalization, regardless of concomitant negative parental practices [56].

4. CONCLUSION

The results obtained in this study point to an initial feasibility of a parenting intervention program to reduce internalizing problems by promoting frequent positive parental practices and reducing negative parental practices. It has been discussed that even when parents are part of intervention for children´s anxiety, treatment effect is mainly measured by change in the child's diagnostic status rather than changes in parental or family functioning [57]. One positive aspect of this study was to evaluate the repertoires and social interactions between

mothers and children from multiple instruments, starting with baseline measures. The main hypothesis is that when mothers amplified their social competence (as the ability of contextualizing and applying their positive practices for increasing the quality of the interaction and reducing conflicts), it was followed by a decrease in the variability of the mothers´ negative practices and the children´s internalizing problems. Another important advantage of this study was to control variables for defining the sample. The intervention was tested with non-depressed mothers of children with only internalizing problems, without any behavior problems at school. The major limitation of this study is the reduced sample. The production of more precise and stronger evidences [53] for the prevention of internalizing problems is advisable. So it is recommended that future similar studies are carried out with larger samples, with experimental designs which compare independent groups to be part of the intervention and a control group randomly selected. The benefit of group intervention instead of one to one attendance should be investigated. Another limitation is the exclusive use of report instruments, having mothers as the only source of information. Future research should consider the possibility of including observation of parents-children interaction. It is also recommended that future researches are dedicated to assess other mental health conditions of the family members that are considered risk factors to internalizing problems, as parental anxiety, substance abuse and marital problems.

ACKNOWLEDGEMENTS

Fapesp and CAPES were the Brazilian funding agencies that provided sources to this research. These funding agencies have not played any role in designing, collecting, analyzing, interpreting pr writing information on the research.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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