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Enhancing early attachment: Design and pilot study of an intervention for primary health care dyads

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Abstract

The attachment style of an infant with his caregiver can greatly influence his future development. Many interventions have been proposed to enhance early secure attachment styles, but few have characteristics that make them suitable for primary health care. The objective of the study wasto design a complex intervention for promoting secure attachment in dyads detected in Primary Health Care with altered patterns of attachment styles. The methodology proposed by the UK Medical Research Council was used: (1) theoretical phase: literature review; (2) modelling phase: the main components of the intervention were defined through qualitative research; and (3) exploration phase: pilot study of the preliminary intervention. The attachment style of the dyads was evaluated using the Massie-Campbell scale prior to and four months after the pilot intervention. The preliminary intervention was designed: a group workshop (five to seven dyads, with children aged between 6 and 12 months and two health care professional monitors) structured around various activities that specifically dealt with the skills associated with parental sensitivity and addressed relevant issues to child rearing. The intervention was then tested in a pilot study of 11 dyads in two primary health care centres. The analysis was done with nine dyads (two were lost in the second evaluation), and showed an improvement of 33 per cent in the secure attachment style in the dyads (not statistically significant). An original intervention is designed and proposed for dyads who have early indicators of altered styles of attachment in primary health care.

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Introduction

The attachment theory as first stated by Bowlby (1989) has evolved since the 1960s into a central model for child development, with the secure attachment style being the basis for adequate development throughout the life cycle. Stams et al. (2002) showed that the quality of attachment established in infancy predicts subsequent social, emotional and cognitive development. Attachment styles other than secure have been associated with behavioural problems in pre-school (Carlson, 1998: Shaw and Vondra, 1995) and school ages (Moss et al., 1998), psychopathology during adolescence, later anxiety disorders (Carlson, 1998; Warren et al., 1997) and higher rates of using emergency health care services (Harris et al., 1989).

In this context, as part of general health and health care evaluation, public policies in Chile have included evaluating the quality of attachment styles by applying the Massie-Campbell scale (Massie and Campbell, 1977) to all dyads (mother–infant or caregiver–infant) with infants between 4 and 12 months of age in primary health care (PHC) centres. This scale is a standardized tool for observation of mother–infant interaction, which does not require equipment or specialized procedures. It has been designed to be applied rapidly during any event that produces a small amount of stress for the infant. In Chile it is applied by Primary Health Care (PHC) providers during well-child visits. The coding consists of scoring six dimensions of the conduct of the child and the caregiver related to attachment (such as vocalization, touch, affective sharing, holding, physical proximity and gaze), with each dimension scored on a scale of 1 to 5, based on the frequency and intensity of the conduct observed during the period of observation. The lowest scores are associated with avoidant dyadic interaction, and higher scores indicate vigorous intensity and demanding dyadic interaction. This scale evaluates the interaction quality early, before the attachment type is established, near 12 months of age, and permits early orientation regarding the type of attachment being established by the dyad, in order that an early intervention may be offered. However, current standards of the Child Health Program do not provide an intervention for dyads who show altered quality of attachment, nor is any type of intervention described in the literature that could be easily applied in Chilean PHC centres.

According to preliminary Chilean data from Dr López (2008), 43 per cent of the dyads to whom the Massie-Campbell scale was applied in PHC centres in the La Pintana district of Santiago showed altered quality of attachment. This is significant given that a screening process currently underway in Chile is showing that nearly half of dyads evaluated show alterations in the quality of attachment, and there is no intervention for specifically addressing this issue. The objective of this study is to design an intervention directed at improving the style of attachment among dyads with altered quality of attachment detected in PHC centres.

Methods and patients

The type of intervention required for these dyads is considered by the literature as a ‘complex intervention’ (Campbell et al., 2007), given that it has diverse components, which makes it difficult to determine the ‘active ingredients’ of the intervention. Due to the above, the intervention should

be carefully designed and planned to facilitate subsequent implementation and replication. As a guide to researchers, the UK Medical Research Council has proposed a working framework for the development and evaluation of complex interventions (Campbell et al., 2007; Medical Research Council, 2000). This framework has been used in several studies in PHC, facilitating the subsequent implementation of the intervention developed (Byrne et al., 2006; Loeb, 2002; Paul et al., 2007; Sturt et al., 2006). The structured working framework proposes five phases: (1) analysis of the literature and relevant theory; (2) modelling the preliminary intervention based on data from the first phase and local qualitative information; (3) pilot evaluation of the preliminary intervention; (4) development of a randomised controlled trial (RCT) of the definitive intervention; and (5) long-term implementation.

In this study the first three phases described above were used to design an intervention that is applicable to PHC. The effectiveness of this intervention will be evaluated in a future RCT.

Phase 1, Literature review: an exhaustive search was undertaken using the Medline, Psychinfo, and Lilacs databases (up to May 2009) on the terms 'attachment' and 'intervention'. All relevant references were reviewed.

Phase 2, Modelling the preliminary intervention: qualitative information was obtained through semi-structured interviews with local experts on early attachment. Two Family PHC centres were chosen (CESFAM El Roble and CESFAM Juan Pablo II) in the La Pintana district, which is an area in Metropolitan Santiago with poverty indices significantly higher than the national average (17.2% versus 13.7% respectively), as specified by Donoso (2004), to obtain other qualitative information through focus groups:

- Focus groups with caregivers of children with altered quality of attachment in both centres: in order to obtain relevant information about the concept of attachment and the feasibility of the intervention.
- Focus groups with professional health care workers of both centres (nurses, social workers, and educators), who were possible future monitors of the intervention: in order to evaluate the applicability of the intervention.

The focus groups were conducted, recorded, transcribed and analysed by two psychologists who are experts in qualitative methodology employing Grounded Theory (Strauss and Corbin, 1990). The information obtained in phase 1 was analysed and evaluated in light of the qualitative information, and the preliminary intervention was designed.

Phase 3, Pilot evaluation of the preliminary intervention: the preliminary intervention was conducted in the two centres where the intervention had been modelled. The intervention consisted of a group workshop in which dyads who had been identified as having altered quality of attachment participated. The professional health care workers who conducted the intervention were suitably trained prior to the workshop. Following the preliminary intervention, qualitative information was gathered through new focus groups with both the professional health care workers and the parents or caregivers who participated in the workshop. In addition, quantitative data was collected using the Massie-Campbell scales, applied to the dyads both prior to and four months after the intervention by an external, independent blind-coder who has high reliability in the use of the instrument. This information was analysed with McNemar's test. The project was approved by the Ethics Committee of the Pontificia Universidad Católica de Chile. All participants signed an informed consent form.

Results

Phase 1: literature review

Numerous studies have been conducted on attachment, with promotional or preventive focus. Studies with the objective of early modification of the style of attachment are very heterogeneous (Cornell and Hamrin, 2008), both in terms of the population (the majority being among particularly vulnerable groups such as premature (Cornell and Hamrin, 2008; Im et al., 2009), maltreated (Toth et al., 2002), or institutionalised (Mukaddes et al., 2000) children, or children of depressed mothers (Cicchetti et al., 1999)) and the type of intervention undertaken (looking at different approaches, such as psycho-educational (Marvin et al., 2002) versus psychotherapuetical (Robert-Tissot et al., 1996), group (Niccols, 2008) or individual therapy (Carmen 1994; Niccols, 2008), home visits (Niccols, 2008), and video feedback (Cornell and Hamrin, 2008; Toth et al., 2002), among others)). Many of these types of interventions are not applicable to the PHC context in Chile, due to the duration, the need for trained professional health care workers in specific areas such as psychotherapy, or the use of materials or techniques normally not available at this level of attention. A meta-analysis by Bakermans-Kranenburg, van IJzendoorn and Juffer (2003) of 70 studies of early interventions for attachment concluded that the most effective interventions are those focused on increasing parental sensitivity, carried out after the child is 6 months old, in five or fewer sessions, and those that include both parents.

Phase 2: modelling the preliminary intervention

Interviews with local attachment experts. Four experts were interviewed: a physician expert in child development who has worked in public health, PHC and the university and who founded group workshops for children and their families with developmental problems in different health care settings and who has also worked for the Ministry of Health training health care professionals to implement such workshops across the country; a psychologist who runs the program for developmental disorders in a mental health care clinic and who is an expert in psychotherapy for children and their families with socio-emotional developmental problems; and two family physicians who worked in the validation of the Massie-Campbell scale in Chile and who have worked in PHC centres in the measurements of this scale and done some workshops in PHC to train health care professionals to screen for signs of early attachment disorders.

These experts suggested interviews should be conducted with the caregivers prior to being included in the pilot phase, in order to evaluate their capacity for working in a group. They also considered an important factor should be that the intervention consist of five or fewer sessions, and they recommended that the sessions should be held in comfortable surroundings, with educational materials being provided, that videos should be used, and that conduct modelling should be done on the basis of positive reinforcement. Based on their experience, they identified low attendance and adherence as common problems with this type of intervention.

Focus group with caregivers. This group associated the concept of attachment with daily care-giving and attention, and understood it in its literal form: 'that the (child) be well attached to someone', which leads to relationships with blurred margins and limits with their children. They highlighted having problems in establishing suitable child-rearing standards, and being influenced by other members of the family who undermine the authority of the mother in her efforts to establish limits. The maternal grandmothers were also cited as being important figures in supporting the upbringing

of the children. With regard to the role of the father, however, they noted that the participation of fathers at times has negative repercussions, since it can make it more difficult to establish guidelines in bringing up the child. They specifically requested concrete tools for improving the relationships with their children, and argued that it is important to address the question of how to interpret what the child feels or thinks, and issues related to parenting and child abuse.

Focus group with professional health care workers. This session highlighted the need for an intervention for the dyads detected in the screening. They also felt it was important to incorporate issues of child rearing, and to involve fathers and grandparents.

Design of intervention. The intervention was designed with the educational objectives of clarifying the concept of 'attachment', demystifying certain parenting guidelines, and providing tools for addressing situations that are considered stressful. It was decided that the intervention would be carried out in the form of a group workshop that favours experiential aspects. The most appropriate venue considered for the intervention was the respective Family PHC centre. The group workshop was designed for a maximum of seven dyads with children aged between 6 months and one year, with two monitors, who could be any health care professional from the respective PHC centre. There would be four sessions of two hours each, held weekly. One of the sessions would be characterised as including the fathers or other caregivers relevant to the upbringing of the children. Each session was structured around various activities that specifically dealt with the skills associated with parental sensitivity and addressed relevant issues to child rearing, based on the development of the child. For example: some of the themes discussed during the sessions were:

- First Session: Difficult experiences in child rearing and motherhood
- Second Session: Why do babies cry? Infant emotions, and myths regarding this
- Third Session: Massage and mother–infant interaction during the activity
- Fourth Session: How other family members can help at home with the child, and the child's right to be well treated.

With a view to the replicability of the intervention, a manual was also developed for the monitors as self-explanatory material regarding each training session. The manual specified the structure and content of each session, the details of the materials to be used, relevant aspects to be emphasizing during the activities, and additional information that went more deeply into the issues addressed in the workshop. In addition, educational handouts were prepared for each session, to be given to those attending. An artist and graphic designer assisted in developing the support materials for the intervention. Special emphasis was placed on using educational materials and on ensuring that these were readily available in PHC centres, in order to have attractive material that would motivate participation by caregivers. Multiple proof readings were made for corrections to spelling, writing, image and colour, in order to finally have a kit that could be used in the preliminary intervention.

Phase 3: pilot evaluation of the preliminary intervention

Two professionals were chosen in each Family PHC Centre to conduct the preliminary intervention. Mapping was conducted of dyads who had been evaluated as having non-secure styles of attachment on the Massie-Campbell Scale, and who were in the correct age range for participation

Table 1. Characteristics of the 11 dyads that participated in the pilot intervention.

	Total 11 dyads	9 evaluated dyads (pre and post pilot)	2 dyads lost to post-pilot evaluation
Average age of children (range)	7 months (5–12)	7 months (5–12)	7.5 months (6–9)
Average age of mothers (range)	23.5 years (17–37)	22.7 years (17–31)	26.5 years (16–37)
Adolescent mothers (under 19 years)	27%	22.2%	50%
Average years of schooling of the caregiver	10.8 (8–12)	10.5 (8–12)	10.6 (9–12)
First child	45%	44%	50%
Unplanned pregnancy	36.4%	33.3%	50%
Two parents at home	90.9%	100%	50%
Father absent	9%	0	50%
History of depression	27%	22.2%	50%
Suspected current depression*	36%	33.3%	50%
Use of alcohol or drugs in the family	9%	0	50%
Presence of violence in the family	0	0	0

Note: *Screening suggested by the National Program on Depression, Ministry of Health, Chile (Vega et al., 2006).

in the pilot workshop. Sixteen dyads were interviewed to evaluate their willingness to participate in the intervention. All agreed to participate, and all signed informed consent forms. The caregivers completed self-reporting forms regarding socio-demographic data (Table 1), as well as a screening tool to detect depression (Vega et al., 2006). A physical examination of the child was done during the interview, and this was filmed as the stressful event to be subsequently codified according to the Massie-Campbell scale.

Of the 16 dyads interviewed, 11 attended the first session and no withdrawals occurred during the pilot workshop.

Qualitative evaluation of the pilot workshop and redesign of the intervention. Following the preliminary intervention, a focus group was conducted at each of the Family PHC centres to analyse the evaluations that were completed by the participants regarding their experience at the workshop. The participants highlighted that the issues addressed were very interesting and that they had helped not only in connecting with their infants that were the direct subject of this intervention, but also with their other children. The material handed out was an important element in helping the participants to share what they had learned with other family members, in particular with the fathers, and in replicating some of the strategies learned in their everyday lives. The workshop was perceived positively, not only in terms of the content and the experience, but also in practical terms, such as the number of sessions and the venue. The workshops were given the maximum score. The participants also recognized that the workshop served as a place where they could share their experiences with other caregivers, representing an emotionally contentious experience in the context of fears and uncertainties about parenting.

The professionals who were interviewed noted with approval the clarity of the content presented in the sessions, and that both the activities and the materials were attractive for the group. They made pointed suggestions regarding concrete aspects of carrying out the activities.

Based on the information gathered and the suggestions from focus group participants, the preliminary intervention was redesigned in order to develop the definitive intervention.

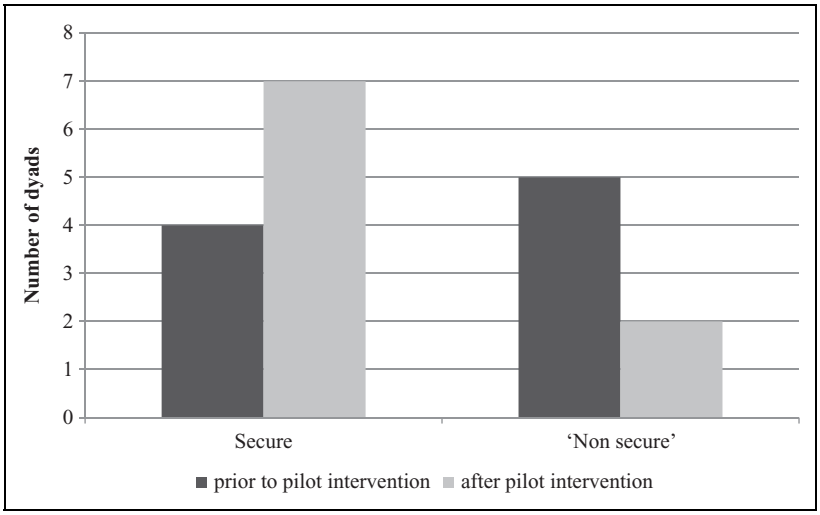

Figure 1. Frequency of styles of attachment according to Massie-Campbell scale prior to and after participation in pilot study.

Quantitative evaluation of the pilot workshop, based on the Massie-Campbell scale. Of the 16 dyads who were recruited and agreed to participate, 11 arrived at the first session, and all 11 completed all four sessions of the workshop. Nevertheless, the second measurement (post pilot intervention) and analysis were done with only nine of the 11 dyads who had participated in the workshop, as one of them did not turn up for the second evaluation session, and the other came with a different caregiver who had not attended the workshop, and was not the same person who turned up for the first evaluation.

In the evaluation that had been conducted prior to the pilot intervention (preliminary intervention), five of the nine dyads (55.6%) were noted as presenting altered quality of attachment. In contrast, in the measurement taken four months after the pilot workshop, only two of the nine dyads (22.2%) maintained this alteration, and three had changed to a secure style of attachment (Figure 1). The four dyads who were classified as having a secure style of attachment before participating in the pilot study maintained the same evaluation after it was completed. While these tendencies were observed at the descriptive level, none of the changes perceived were statistically significant, according to McNemar's test ($p = 0.125$).

Discussion

It is a challenge to design complex interventions that can be implemented easily in the context of PHC (Rowlands et al., 2005). In this sense, the methodology recommended by the UK Medical Research Council facilitated the design process and was a guide for evaluating the intervention. One of the most relevant aspects is that it allowed incorporating local qualitative information, making it possible to detect needs that emerge from our specific reality, and to consider these in the design of the intervention. For example, some experts gave examples of their clinical work with families which permitted anticipation of recurrent issues that emerge when working with young children with socio-emotional problems; practical issues regarding the place and structure of the

intervention were raised according to the experts previous clinical experiences which had or had not worked regarding patient adherence in different settings; other experiences related to attachment-based interventions brought to mind the importance of promoting awareness in health care professionals that work in PHC about early attachment problems. And all this helped during the design of the intervention and when incorporating a manual for the monitors.

We believe that this was a fundamental factor in the positive evaluation given by the monitors and users in the intervention, as well as for the excellent adherence obtained, which is one of the most common problems encountered by working groups in PHC centres.

The methodology used has some disadvantages; namely, the time and resources required to design and implement the intervention. Nevertheless, we believe that it was worthwhile, given that the qualitative information gathered also made it possible to identify the components of the intervention that needed to be changed. Changes were incorporated into the definitive intervention, which doubtlessly will facilitate the final RCT and subsequent implementation of the intervention in PHC centres. It should be considered, however, that the incorporation of local qualitative information implies that the intervention could behave differently in other contexts, and therefore results should not be generalized for other populations.

Having dyads in the group who already had a secure style of attachment prior to the pilot workshop, is explained by the fact that the coding and confirmation of the style of attachment were done after the inclusion of dyads and their participation in the workshop. This should be taken into account for the future RCT that evaluates the intervention, confirming the style of attachment prior to participation of the dyad in the study. If only dyads with an altered style of attachment are included in the sample, more changes resulting from the intervention can be detected, as described in the literature (Berlin et al., 2005). However, it has also been described that interventions in attachment can benefit from the presence of dyads who have a secure style (Robert-Tissot et al., 1996), which facilitates modelling the conduct of the group.

In relation to the socio-demographic variables of the dyads who participated in the pilot workshop, it is important to note that 36 per cent of the caregivers showed symptoms of depression, suggesting the existence of mood disorders. All of these had been referred to their Family PHC centre for confirmation of the diagnosis and treatment. It is interesting to note that all of them presented altered styles of attachment in the first evaluation. This group could benefit in particular, not only from the intervention, but also from treatment of their disorder (Cicchetti et al., 1999).

In terms of quantitative analysis, the changes registered in the second evaluation show a general trend towards achieving secure styles of attachment after participation in the workshop. Upon analysing the changes in each dyad in more detail, we observed that the only dyad who had an ambivalent style of attachment prior to the participation in the workshop was subsequently classified as 'ambivalent tendency' style (according to the Massie-Campbell scale), explaining the increase in this classification in the second evaluation.

All but one of the dyads who had been coded as having an ambivalent or avoidant tendency style of attachment prior to the workshop, showed a secure style of attachment in the second evaluation. The analysis of the one dyad who retained the altered style of attachment could be explained by the fact that the Massie-Campbell scale (pre and post intervention) was applied with a caregiver other than the one who participated in the workshop.

These results could be due to improvement in parental abilities in attachment behaviour addressed in the intervention. However, the information should be interpreted with great caution, since it originated from a pilot intervention involving a non-representative sample of the general population, and was not compared to a control group. This does not permit valid or general results to be obtained

Nevertheless, a future RCT with adequate methods and a larger group of dyads could prove benefits from participating in the workshop.

This is the first study in Chile and internationally that proposes a specific intervention for dyads with altered quality of attachment detected in PHC centres, responding to the ethical dilemma of conducting the current screening process without having an intervention for the affected dyads.

Conclusions

The final intervention proposed here is easily applied and replicable in PHC centres, since it is based on a methodology structured for this application. Considering and incorporating the reality of the local PHC centres, the intervention was designed specifically for the characteristics of these centres: an intervention that does not require much training, does not involve high costs, and uses attractive materials that can be easily accessible at this level of health care service.

In the area of current research on attachment, it seems to us that this intervention is original and incorporates our valuable local experience. Once its effectiveness has been fully evaluated through a future RCT, it can be applied in other primary health care centres, constituting an effective form for promoting mental health for children.

References

Bakermans-Kranenburg MJ, van IJzendoorn MH and Juffer F (2003) Less is more: meta-analyses of sensitivity and attachment interventions in early childhood. *Psychological Bulletin* 129(2): 195–215.

Berlin L, Ziv Y, Amaya-Jackson L and Greenberg M (2005) *Enhancing Early Attachments: Theory, Research and Policy*. Duke Series in Child Development and Public Policy. New York: The Guilford Press.

Bowlby J (1989) *A Secure Base: Clinical Applications of Attachment Theory*. London: Routledge.

Byrne M, Cupples ME, Smith SM, Leatham C, Corrigan M, Byrne MC and Murphy AW (2006) Development of a complex intervention for secondary prevention of coronary heart disease in primary care using the UK medical research council framework. *The American Journal of Managed Care* 12: 261–266.

Campbell NC, Murray E, Darbyshire J, Emery J, Farmer A, Griffiths F, Guthrie B, Lester H, Wilson P and Kinmonth AL (2007) Designing and evaluating complex interventions to improve health care. *British Medical Journal* 334(3): 455–459.

Carlson EA (1998) A prospective longitudinal study of attachment disorganization/disorientation. *Child Development* 69(4): 1107–1128.

Carmen S (1994) Attachment intervention. *Infants & Young Children* 7(1): 34–41.

Cicchetti D, Toth SL and Rogosch FA (1999) The efficacy of toddler–parent psychotherapy to increase attachment security in offspring of depressed mothers. *Attachment & Human Development* 1: 34–66.

Cornell T and Hamrin V (2008) Clinical interventions for children with attachment problems. *Journal of Child and Adolescent Psychiatric Nursing: Official Publication of the Association of Child and Adolescent Psychiatric Nurses* 21(1): 35–47.

Donoso E (2004) Inequalities in infant mortality in Santiago. *Revista Médica de Chile*. 132: 461–466.

Harris ES, Weston DR and Lieberman AF (1989) Quality of mother–infant attachment and pediatric health care use. *Pediatrics* 84: 248–254.

Im H, Kim E and Cain KC (2009) Acute effects of Yakson and Gentle Human Touch on the behavioural state of pre-term infants. *Journal of Child Health Care* 13(3): 212–226.

Infant and Juvenile County Population Diagnosis. Office of Child Protection Rights (OPD) and Infant and Juvenile Network, Municipality of La Pintana, Santiago. Chile, November 2008.

Loeb MB (2002) Application of the development stages of a cluster randomised trial to a framework for evaluating complex health interventions. *BMC Health Services Research* 2(1): 13–20.

López C (2008) Preliminary data (non published) study, Frequencies of attachment styles according to the Massie-Campbell Scale in the La Pintana district, Santiago.

Marvin R, Cooper G, Hoffman K and Powell B (2002) The circle of security project: attachment-based intervention with caregiver–pre-school child dyads. *Attachment & Human Development* 4(1): 107–124.

Massie H and Campbell K (1977) *The Massie-Campbell Scale of Mother–Infant Attachment Indicators during Stress (A-D-S Scale)*.

Medical Research Council (MRC) (2000) *A Framework for the Development and Evaluation of RCTs for Complex Interventions to Improve Health*. London: Medical Research Council.

Moss E, Rousseau D, Parent S, St-Laurent D and Saintonge J (1998) Correlates of attachment at school age: maternal reported stress, mother–child interaction, and behaviour problems. *Child Development* 69(5): 1390–1405.

Mukaddes NM, Bilge S, Alyanak B and Kora ME (2000) Clinical characteristics and treatment responses in cases diagnosed as reactive attachment disorder. *Child Psychiatry and Human Development* 30(4): 273–287.

Niccols A (2008) 'Right from the Start': randomized trial comparing an attachment group intervention to supportive home visiting. *Journal of Child Psychology and Psychiatry, and Allied Disciplines* 49(7): 754–764.

Paul G, Smith SM, Whitford D, O'Kelly F and Dowd T (2007) Development of a complex intervention to test the effectiveness of peer support in type 2 diabetes. *BMC Health Services Research* 31(7): 136.

Robert-Tissot C, Cramer B, Stern DN, Rusconi SS, Bachmann JP, Palacio-Espasa F, Knauer D, Muralt M, Berney C and Mendiguren G (1996) Outcome evaluation in brief mother–infant psychotherapies: report on 75 cases. *Infant Mental Health Journal* 17(2): 97–114.

Rowlands G, Sims J and Kerry S (2005) A lesson learnt: the importance of modelling in randomised controlled trials for complex interventions in primary care. *Family Practice* 22(1): 132–139.

Shaw DS and Vondra JI (1995) Infant attachment security and maternal predictors of early behaviour problems: a longitudinal study of low-income families. *Journal of Abnormal Child Psychology* 23(3): 335–357.

Stams GJ, Juffer F and van IJzendoorn MH (2002) Maternal sensitivity, infant attachment, and temperament in early childhood predict adjustment in middle childhood: the case of adopted children and their biologically unrelated parents. *Developmental Psychology* 38(5): 806–821.

Strauss AL and Corbin JM (1990) *Basics of Qualitative Research: Grounded Theory Procedures and Techniques*. Newbury Park, CA: Sage Publications.

Sturt J, Whitlock S and Hearnshaw H (2006) Complex intervention development for diabetes self-management. *Journal of Advanced Nursing* 54(3): 293–303.

Toth SL, Maughan A, Manly JT, Spagnola M and Cicchetti D (2002) The relative efficacy of two interventions in altering maltreated preschool children's representational models: implications for attachment theory. *Development and Psychopathology* 14: 877–908.

Vega J, George M and Monreal V (2006) *Depression: Detection, Diagnosis and Treatment: A Clinical Guide for Primary Health care*. Ministry of Health, Chile. Series of clinical guides MINSAL N°XX, 1st edition. Santiago: MINSAL.

Warren SL, Huston L, Egeland B and Sroufe LA (1997) Child and adolescent anxiety disorders and early attachment. *Journal of the American Academy of Child and Adolescent Psychiatry* 36(5): 637–644.