Behavioral Parent Training and Psychological Problems in Mothers of Children with Autism Spectrum Disorder

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Abstract

Introduction: The present study aimed to investigate the effect of parental behavior training of mothers of children with autism spectrum disorder, on reducing anxiety, depression and stress in mothers.
Methods: This research was an experimental study with a pretest, posttest, and a control group. The statistical population of this study consisted of all mothers who had children with autism disorder. The sample of the research was compromised of 30 mothers with autistic children who were selected through available sampling and were blind matched in the form of two groups based on different variables such as age, education and economic status. The research tools were Beck Depression Inventory- (BDI, II), Beck Anxiety Inventory (BAI) And Parenting Stress Index (PSI). The parents were trained during 9 sessions in the examination group, each of which lasted for 90 minutes. Finally, both groups answered to the questionnaires as posttest. The data were analyzed using ANCOVA test.
Results: Results show the impact of experimental application on reducing the level of anxiety and depression of mothers in the experimental group compared to the control group ($p<0/05$). Parents' behavioral training also led to reducing parenting stress in the examination group ($p<0/05$).
Conclusion: In general, results show that mothers' behavioral training will reduce their psychological problems and prevents parenting stress from increasing in mothers with autistic children.

Keywords: Autism Spectrum Disorder, Parents' Behavioral Training, Anxiety, Depression, Parenting Stress

Introduction

Autism Spectrum Disorder (ASD) is characterized by difficulties in social interaction and communication and by repetitive and stereotyped behaviors[1]. Further to this, the diagnostic and statistical manual of mental disorders[1] characterizes the sensual difficulties of the ASD as one of the new indices for the identification of this disorder. It is worth mentioning that difficulties such as mental disability, behavioral problems and comorbid psychological damages worsen the effects associated with this disorder[2]. The prevalence rate of this disorder is reported as 0.08 percent[3].

Impaired social skills are often the first visible and identifiable symptom of the disorder in autism. Almost all autistic people show these symptoms[4]. Impairment in social skills is the most recognizable feature of autism disorder and may be the most stable feature of this disorder from childhood until the adulthood[5]. From the social interaction point of view, these people are not able to establish friendship relationships with peers and emotional relationships with parents[6]. In addition to this, studies show that even in the

case of providing intervention programs for enhancing the social interactions, learning skills are rarely continued [7]. On the other hand, studies show that due to the communicational and behavioral problems in families with autistic children, there is an increase in the psychological difficulties of the parents and as a result their psychological well-being will be affected. One of the psychological problems occurring for these parents is the "parenting stress" [8].

Stress and mental pressures can be developed by different causes and factors. One of the factors/causes of stress in families is the birth of a child with a disability. Research findings show that accommodating families with children suffering from developmental disorders will be affected by the disabled child and his/her behavioral problems. As mentioned, the prevalence of behavioral problems and hurting is high in autistic children[9] and this factor alone can affect the parenting stress in their parents and will cause serious psychological problems for these parents such as depression[8]. These parents often experience stress and emotional responses such as depression and mental disturbances [10, 11]. These stressors and emotional responses have a direct relation with the child's mental and developmental problems. These disabilities usually impose extra demands on parents, such as allocating additional time for taking care of the children suffering from disabilities[12, 13] and also providing financial sources for occasional heavy expenses of such children [14]. It should be mentioned that child caring activities are challenging even in the best conditions and sometimes parents are faced with conditions which will add to their existing challenges. Considering the demands and limitations that the parents of autistic children are facing, these parents are prone to parenting stress and its adverse consequences including problems such as anxiety and depression, negative parent-child interactions, physical abuse and emotional and behavioral problems in children[8].

Therefore it is necessary to provide medical and psychological services to prevent mental problems and stress in the mothers with disabled children[8]. Mothers are usually the most involved and the most important caretakers of children, and show more presence and involvement in psychological educational meetings. One of the methods frequently used to reduce parenting stress is the parent's education programs. These courses in the form of early intervention can include parenting skills, behavior change techniques and stress management techniques[15].

Early psychological interventions in general will support parent and child development and psychological well-being by supporting parents against the effects of child's disability[16]. Parents education programs are focused on improving the quality of parent-child relationship and training parenting skills and a variety of skills effecting children's behavior [17]. Actually, parent education programs can reduce the parenting stress and increase their self-efficiency in parenting tasks[18].

In this regard, a research was undertaken in which parents of children recently diagnosed with developmental disorders were entered into a 20-weeks parent training program using behavior management interventions[19]. Research outcomes showed that mental health indicators of the participating parents such as insomnia, anxiety, physical problems and family system malfunctions showed greater improvements in comparison with those parents only provided with consulting services. Also, one of the other purposes of these intervention programs was to reduce parenting stress and increase parenting sense of competence in these parents and the results confirmed that early behavioral intervention training for these parents decreased the stressors and increased the sense of competence.

Another study by Keen et al. [16] was undertaken to assess the effect of early parent-oriented interventions on the reducing of the parenting stress and increasing sense of competence in the parents with autistic children. It was found that after these interventions, parenting stress was reduced and the sense of self-efficacy of parents in dealing with the parenting responsibilities were increased. However, interventions did not have a meaningful effect on the other psychological problems of these parents.

In support of the above findings Dempsey et al. [20] stated that parent-based intervention programs play a key role in dealing and adapting with the parenting stress for parents with disabled children. The main supporting and assisting factor is the prevention of the occurrence of such conditions and stabilizing the balance of the family. In most cases, this huge task is the responsibility of the parents and specifically mothers as the main pillars of the family. Therefore, we can benefit from adopting different parent education methods for encountering and interacting with children's problems, facing stress and psychological problems of dealing with the children suffering from developmental disorders. The current research therefore has been undertaken to study the effect of stress handling education method (which is a combination of the above methods) on the reduction of anxiety, depression and parenting stress in the mothers of autistic children.

Methods

This research follows the quasi-experimental method using pre-test-post-test and control group. The statistical society of this research was selected from parents of highly autistic children (boy and girl) between ages of 8 to 11 years in Zanjan in the academic year of 2017. The researchers referred to the Zanjan City Centre for Autistic Children for the selection of the sample group. According to the statistical process model and the samples being clinical, the total number of people in test and control group were 30 which were divided to 15 in each group. Sampling method was availability sampling. Assigning to the experimental and control groups was done as homogenous groups so that the test and control groups had the maximum similarity. The inclusion criteria for the participants of this study were as follows: The type of autism spectrum disorder was one of the inclusion criteria, which in this study all children with this disorder were

mainly affected by high functioning autism. Another criterion was the age of the mothers. All mothers were between 35 to 40 years old. Being a single or both parents family was also considered as another criterion. All children were selected from families with both parents. The number of autistic children in the family was also considered and all samples were selected from families with only one autistic child. The age of the child was the next criteria. The age of the samples ranged between 8 to 11 years. The education level of the mothers was also taken into consideration and all mothers in the sample group had university educations.

The exclusion criterion for the parents was not to have participated in more than two sessions of behavioral parent training sessions.

In both groups, a pre-test was performed using the parent stress index and the autistic child's mother anxiety and depression index questionnaires, to determine the parenting stress. . Then, the experimental group underwent nine sessions of education and the indices were checked again after the completion of the training. It should be mentioned that the participants were trained by a clinical phycology specialist with master's degree. Each training session lasted for approximately 90 minutes and some sessions were extended to answer the questions and uncertainties of the parents about the techniques. Several methods such as lectures, educational movies and practical training books and hand-outs were used in these sessions. The content of the training was taken from the Barkley Parent Education Program [21] for which the educational actions is described in Table 1.

The instruments used in this study are as follows:

Parenting Stress Index (PSI)

This index was developed by Abdin in 1990 and is a questionnaire by which the importance of stress can be evaluated in the parent-child system. This questionnaire consists of 101 questions, and the scoring procedure is based on a Likert-scale of 1 to 5 (completely disagree to completely agree). The total score is an estimation of stress in parents in the education of children and dealing with the requirements of parenting [22]. Internal reliability consistency coefficient was determined via calculation of Cronbach's alpha for scaling in a group of 534 parents in Virginia USA to be 0.95. This coefficient was 0.89 in siblings and 0.93 in parents' territory[23]. The Internal reliability consistency coefficient determined by its creator in a group of American mothers was 0.93 for the whole group, 0.86 for siblings and 0.83 for parents. The value of this coefficient in a research undertaken by Dadsetanet (2007) was 0.88 and the re-test coefficient in a 10 day period was 0.94. Also, in a study with the re-test coefficient[24], a Spearman correlation coefficient of 0.81 and 0.70 was achieved in siblings and parents territory which shows a strong and meaningful correlation in a period of three weeks[25]. In the present study the Cronbach's alpha was calculated to be 0/84.

Table 1. Parent education program content

First session	In this session, necessary and useful information regarding the nature, prevalence, course, prognosis, causes and efficient treatment of the behavioral problems of the autism disorder spectrum will be provided to the parents. Emphasis is given to the necessity of adopting to the problems and creating a proper home and family environment for the child rather than trying to cure the disorders. In this session some of the misunderstandings about the behavioral difficulties and problems is discussed and at the end of the session, education materials are provided to the parents to improve their level of knowledge.
Second session	In this session, the necessary background to explain the formation of the behaviors and the importance of behavior management are developed. Then, the principles of behavior management such as positive reinforcement, differential reinforcement and some other issues are explained and relevant educational materials are provided to the parents at the end of the session.
Third session	In this session emphasis is given to the role and importance of parents' attention to the child's behavior. More efficient methods of attention to the child's behavior, verbal techniques, use of positive language and principles of reinforcing positive behaviors and ignoring negative ones will be taught to the parents. Also, the necessity of allocating "special time" for improving the quantity and quality of their relations with their children is emphasized to the parents.
Fourth session	In this session, positive attention to obedience from parents and following the family rules are mentioned. To reach this goal, suitable commanding methods including decreasing arguing with the child and increasing imperative sentences and removing the situations which disrupt the child from performing the tasks are taught.
Fifth session	This session is dedicated to teaching the method of token economy. As the children with these difficulties need frequent, immediate and significant reflections in order to maintain appropriate behavior and obedience, the token economy will be very beneficial. To develop this program, parents should prepare a list of the child's tasks and responsibilities together with their associated value and score.
Sixth session	In this session the penalizing and disciplinary methods are taught.
Seventh session	Behavior management are discussed in public. In this program, parents should 1) revise their expectations of the child's good behavior in such situations 2) consider incentives to provoke the cooperation and obedience senses 3) decide in regards to disciplinary measures in case the incentives are not effective. It is better if parents inform the child about these incentives and penalties before leaving the house so that everything is clear for him/her. Some points regarding situations when parents feel embarrassed in the public and useful techniques of behavioral control are taught to the parents.
Eight session	Improvement in the child's behavior at school based on the treatments at home is discussed. The session also includes teaching how to record the child's positive behaviors at home and also shows scoring methods for those behaviors
Ninth session	In this session, the learning's are briefly reviewed and then parents' views regarding the future problems in the society and the ways to overcome those are discussed.

Beck Depression Inventory (BDI)

Beck Depression Inventory is a 21 question scale which measures depression in a 1 to 4 Likert-scale with scores from 0 to 63 considering the physical, behavioral and cognitive signs. This scale has been developed to measure the severity of anxiety symptoms and to reduce the overlap with depression symptoms[26]. This scale is considered as a valid tool for measuring the severity of depression symptoms and its reliability and validity has been confirmed through various research. Since this inventory has been established, numerous evaluations have been undertaken by researchers. Evaluation of content validity, structure and differential content and also factor analysis has generally had satisfactory results. The correlation of this inventory has been calculated to be 0.73 with Hamilton depression scaling index and 0.76 with Zung depression scale. Cronbach's alpha coefficient and internal consistency coefficients have been calculated to be 0.86 and 0.92 for the sample in USA and 0.91 and 0.94 for the sample in Iran[27]. Also, the Cronbach's alpha was calculated to be 0/87.

Beck anxiety inventory (BAI)

Beck Anxiety Inventory is a 21-item questionnaire that measures the severity of anxiety symptoms in a Likert scale of 4 to 63 points. This scale was designed to measure the severity of anxiety symptoms, and to also reduce overlapping with symptoms of depression. Its psychometric properties including reliability have been confirmed [28]. In the present study Cronbach's alpha was 0/80.

The goals of this research were mainly provided to the participants. A written consent of the subjects was obtained. Participation in all stages of the research was optional/voluntarily and they could freely continue in the research or decide to leave at any stage.

Results

The SPSS Software version 16 was used for data analysis in this research. The data used in the current study have been validated through descriptive statistical methods such as mean or standard deviation or inferential statistical methods such as Levene's test to check the variance of the research variables and univariate analyses of covariance (ANCOVA).

Table 2 presents the statistical indicators of the scores for the two groups in scales of stress, parenting, anxiety and depression.

Based on Table 2, the mean and standard deviation of the depression, anxiety and parenting stress in the pre-test have been 32/20 and 29/20, 287/34 respectively.

The covariance analysis is based on the assumptions including the homogeneity of regression slopes between the random variables (pre-test) and the dependent variable. In this study, the regression slopes in all the studied variables were parallel.

The interaction of the group and pre-test for parenting stress variables (f=0.841 and p>0.05), anxiety (f=0.271 and p>05) and depression (f=0.217 and p>0.05) was meaningless therefore, it can be said that this assumption was valid.

Another assumption of these tests is the homogeneity of variances. For the assessment of the homogeneity in the two groups in the pre-test and post-test stages, Levene's test of homogeneity of variances has been utilized. The results of Levene's test was not statistically meaningful for any of the studied variables (f=0.265 and p>0.05 for parenting stress, f=0.021 and p>0.05 for anxiety and f=0.051 and p>0.05 for depression) therefore, the assumption of homogeneity of variances were also validated. For considering the validation of all the major assumptions of this test, we were allowed to use this statistical test.

Based on the results presented in Table 3 it can be said that there is a meaningful difference in the mean scores of anxiety, depression and parenting stress between the mothers in the experimental group and the control group. In other words, the behavioural education of parents has been successful in reducing the problems of depression, anxiety and parenting stress in the experimental group mothers in comparison with the control group.

Discussion

The current research was undertaken with the aim of assessing the effectiveness of behavioral parent training on the parenting stress, anxiety and depression of the mothers of children with autism spectrum disorder. Results showed that behavior training has had a meaningful effect on the reduction of parenting stress in the mothers of children with autism spectrum disorder and trainings have significantly reduced the stresses. These findings are consistent with the findings of research on stress management trainings of parents of children with developmental disorders by Abedin & Molaie [29] and Barlow et al. [30].

Table 2. Descriptive statistics of parenting stress, depression and anxiety among two groups

Dependent variables	Experimental				Control			
	Pre-test		Post-test		Pre-test		Post-test	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Depression	32.20	4.45	27.46	4.46	31.93	4.80	32.66	4.98
Parenting stress	287.27	34.17	250.33	33.36	288.47	31.68	285.40	32.51
Anxiety	29.20	5.44	24.80	5.87	28.66	4.95	29.46	5.20

Table 3. Results of analysis of covariance of parenting stress, depression and anxiety in the experimental and control groups

Dependent Variables	Mean Square	F	Pvalue
Parenting stress	10770.44	7.54	0.011
Anxiety	151.361	26.49	0.001
Depression	195.940	33.99	0.001

The decrease in parenting stress at this scale can be due to the program, the attendance of the mothers in the workshop and communicating with other participants of the workshop. Other reasons can be due to the training content increasing the parent's sense of efficacy in dealing with their children's behavioral problems and proper management of stressful situations. Parents who have high scores in these scales are under significant stress. At the same time, these parents show deficiencies in their parenting responsibilities. Many research results have shown that high stress levels increases the possibility of abuse and mistreatment of the children.

Therefore when dealing with these parents, clinical experts should recommend them to participate in group works and social activities and reinforce the parent-child relationship. Therefore it can be said that participating in support groups such as training workshops and interacting with the other members of the workshop is an example of such social supports [31]. The intervention program has been playing an important role in this regard. On the other hand, it can be said that the mothers participating in the training workshops have observed improvements in their social isolation due to receiving social supports and this has directly affected the parenting stress of these mothers.

It can be concluded that learning these factors can indirectly affect the parenting stress through changing parents' understanding of the effects of their behavior on the child's abilities and also changing their knowledge about the subject and the fact that they can create and continue suitable behaviors in their children with a little effort and follow-up. Actually, researchers believe that the way life events are assessed by people will be an important factor in whether these events would cause illness and psychological distress or not. For example, the occurrence of various events in life can be considered as a normal challenge or as a hugely stressful event [32]. Therefore, it can be said that participating in these training programs will reduce the stress of the mothers of mentally disabled children.

Another outcome of this research was to show that behavioral techniques training has been effective in reducing the anxiety and depression problems of the mothers of children with autism spectrum disorder and this effectiveness has been statistically meaningful. Results of this research are consistent with those of Barlow et al. [30, 33], and Field [34]. Research show that there is a close relationship between the disability of the child and parents' (especially mother) psychological disorders[35]. Terms such as "caregiver responsibility" or "caregiver stress" show some of the negative consequences of adopting the role of caregiving for these children[36]. Therefore interventions in support of the family can be a very important factor in assisting the family members especially mothers to increase their understanding and realization of children's disabilities, providing good family based services and learning how to deal with the psychological stresses in life and therefore support the psychological health of these people. Considering the above points, it can be argued that the interventions made in this regard have been able to have an effect on the reduction of problems of the mothers in the mental health subject. On the other hand, it seems that through intervention programs, these mothers have been able to learn effective problem solving and conflict resolutions while facing with the inappropriate behaviors and this has reduced the psychological disorders of these parents. As these studies are quasi-experimental schemes and the possibility of random assignment is not possible as in actual experimental studies, we cannot make a deterministic rule/judgment on the problem. This research has studied the effectiveness of behavioral education of mothers on both boys and girls simultaneously. Future research can study this individually in boy and girl groups and assess the sexual differences in the effectiveness of the method. Also, only mothers were present in the current trainings. Holding sessions with other people with close relations with the children such as fathers and teachers can better identify the problems the children are facing and contribute more in the treatment of these children.

Conclusion

Parental behavioral educations could decrease the stress, and symptoms of depression and anxiety of the mothers with children suffering from autism. Other studies also emphases on the necessity of such educations. The present study showed that behavioral education on mothers, could decrease mood and emotional problems and hinder their incidence.

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References

1. Association AP. Diagnostic and statistical manual of mental disorders (DSM-5®): American Psychiatric Pub; 2013.
2. Matson JL, LoVullo SV. Trends and topics in autism spectrum disorders research. Research in Autism Spectrum Disorders. 2009;3(1):252-7.
3. Sadock BJ, Sadock VA. Kaplan and Sadock's synopsis of psychiatry: Behavioral sciences/clinical psychiatry: Lippincott Williams & Wilkins; 2011.
4. Tine MT. Uncovering a differentiated Theory of Mind in children with autism and Asperger syndrome: Boston College; 2009.
5. Beadle- Brown J, Murphy G, Wing L. The Camberwell cohort 25 years on: Characteristics and changes in skills over time. Journal of Applied Research in Intellectual Disabilities. 2006;19(4):317-29.
6. Rutter M, Schopler E. Autism and pervasive developmental disorders: Concepts and diagnostic issues. Journal of autism and developmental disorders. 1987;17(2):159-86.
7. Schlosser RW, Wendt O. Effects of augmentative and alternative communication intervention on speech production in children with autism: A systematic review. American Journal of Speech-Language Pathology. 2008;17(3):212-30.
8. Roberts J, Williams K, Carter M, Evans D, Parmenter T, Silove N, et al. A randomised controlled trial of two early intervention programs for young children with autism: Centre-based with parent program and home-based. Research in Autism Spectrum Disorders. 2011;5(4):1553-66.
9. Koning C, Magill-Evans J, Volden J, Dick B. Efficacy of cognitive behavior therapy-based social skills intervention for

school-aged boys with autism spectrum disorders. Research in Autism Spectrum Disorders. 2013;7(10):1282-90.
10. Bailey DB, Golden RN, Roberts J, Ford A. Maternal depression and developmental disability: Research critique. Developmental Disabilities Research Reviews. 2007;13(4):321-9.
11. Olsson MB, Hwang C. Depression in mothers and fathers of children with intellectual disability. Journal of intellectual disability research. 2001;45(6):535-43.
12. Hedov G, Annerén G, Wikblad K. Self-perceived health in Swedish parents of children with Down's syndrome. Quality of life research. 2000;9(4):415-22.
13. Hedov G, Wikblad K, Annerén G. Sickness absence in Swedish parents of children with Down's syndrome: relation to self-perceived health, stress and sense of coherence. Journal of Intellectual Disability Research. 2006;50(7):546-52.
14. Smith TB, Oliver MN, Innocenti MS. Parenting stress in families of children with disabilities. American journal of orthopsychiatry. 2001;71(2):257.
15. Chronis AM, Chacko A, Fabiano GA, Wymbs BT, Pelham WE. Enhancements to the behavioral parent training paradigm for families of children with ADHD: Review and future directions. Clinical child and family psychology review. 2004;7(1):1-27.
16. Keen D, Couzens D, Muspratt S, Rodger S. The effects of a parent-focused intervention for children with a recent diagnosis of autism spectrum disorder on parenting stress and competence. Research in Autism Spectrum Disorders. 2010;4(2):229-41.
17. Kaminski JW, Valle LA, Filene JH, Boyle CL. A meta-analytic review of components associated with parent training program effectiveness. Journal of abnormal child psychology. 2008;36(4):567-89.
18. Sanders MR, Woolley M. The relationship between maternal self- efficacy and parenting practices: Implications for parent training. Child: care, health and development. 2005;31(1):65-73.
19. Tonge B, Brereton A, Kiomall M, Mackinnon A, King N, Rinehart N. Effects on parental mental health of an education and skills training program for parents of young children with autism: A randomized controlled trial. Journal of the American Academy of Child & Adolescent Psychiatry. 2006;45(5):561-9.
20. Dempsey I, Keen D, Pennell D, O'Reilly J, Neilands J. Parent stress, parenting competence and family-centered support to young children with an intellectual or developmental disability. Research in developmental disabilities. 2009;30(3):558-66.
21. Barkley RA. Defiant children: A clinician's manual for assessment and parent training: Guilford press; 2013.
22. Abidin RR. Introduction to the special issue: The stresses of parenting. Journal of clinical child psychology. 1990;19(4):298-301.
23. Krulik T, Turner-Henson A, Kanematsu Y, Al-Ma'aitah R, Swan J, Holaday B. Parenting stress and mothers of young children with chronic illness: A cross-cultural study. Journal of Pediatric Nursing. 1999;14(2):130-40.
24. Dadsetan P, Azghandi A, . AHa. Parenting stress and General health, research about relationship between parenting stress with general health among mothers. Journal Iranian Psychologist. 2006;2(7):20-30.
25. Tajeri B. stress, religion attitude and awareness of mothers with mental retarded child and their relation to child acceptance. 1990Tehran: Tehran Psychiatric Inistituation. 1990.
26. Beck AT, Steer RA, Carbin MG. Psychometric properties of the Beck Depression Inventory: Twenty-five years of evaluation. Clinical psychology review. 1988;8(1):77-100.
27. Hamid N. The effect stress management training in depression, anxiety and infertility in the women. Behavi science Jol. 2012:141-51.
28. Beck A, Steer R. Beck anxiety inventory Manual. The Psychological Corporation. Harcourt Brace & company. San Antonio. 1993.
29. Abedin A, Molaie A. The effectiveness of Group Movie Therapy (GMT) on parental stress reduction in mothers of children with mild mental retardation in Tehran. Procedia-Social and Behavioral Sciences. 2010;5:988-93.
30. Barlow J, Powell L, Gilchrist M. The influence of the training and support programme on the self-efficacy and psychological well-being of parents of children with disabilities: A controlled trial. Complementary therapies in clinical practice. 2006;12(1):55-63.
31. Raikes HA, Thompson RA. Efficacy and social support as predictors of parenting stress among families in poverty. Infant mental health journal. 2005;26(3):177-90.
32. Davison G, Neule JM. Abnormal psychology (8th en). 2000.
33. Barlow JH, Powell LA, Gilchrist M, Fotiadou M. The effectiveness of the Training and Support Program for parents of children with disabilities: a randomized controlled trial. Journal of Psychosomatic Research. 2008;64(1):55-62.
34. Field TM, Hernandez-Reif M, Quintino O, Schanberg S, Kuhn C. Elder retired volunteers benefit from giving massage therapy to infants. Journal of Applied Gerontology. 1998;17(2):229-39.
35. Eisenhower AS, Baker BL, Blacher J. Children's delayed development and behavior problems: Impact on mothers' perceived physical health across early childhood. Social Science & Medicine. 2009;68(1):89-99.
36. Pinquart M, Sörensen S. Associations of stressors and uplifts of caregiving with caregiver burden and depressive mood: a meta-analysis. The Journals of Gerontology Series B: Psychological Sciences and Social Sciences. 2003;58(2):P112-P28.