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COMPREHENSIVE EARLY FAMILY INTERVENTION FOR CAREGIVERS OF CHILDREN WITH DEVELOPMENTAL PARENT TRAINING PROGRAM FOR ELEMENTARY SCHOOL STUDENTS WITH AUTISM SPECTRUM DISORDERS

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Abstract. The purpose of this study was to implement a psychological program based on parent training for caregivers of elementary school students with Autism spectrum disorders (ASD) and to examine the effectiveness of the program. The gender of the 22 parents was all female, with a mean age of 40.95 years (SD 5.08). The content of the program included learning how to objectively view their children's behavior in a systematic way and providing positive feedback on their children's positive behavior. Each session of the program lasted approximately two hours and was conducted a total of nine times over a period of approximately eight months. At the beginning and end of the program, parents and children were measured using three psychological scales. After the program, the parents' negative attitudes toward child-rearing tended to improve. In addition, there was a tendency for the children's communication and daily living skills to develop. Finally, with regard to the parents' mental health, there was a trend toward a reduction in depression. Finally, the participants discussed issues related to the effectiveness and evaluation of the program, as well as ways to improve the content of the program.

Keywords: psychological program, Autism Spectrum Disorders (ASD), elementary school students, behavior, parent training program, caregivers.

1. Introduction

Psychological support for families of children with developmental disabilities, especially for caregivers, has played an important role in supporting families of children with disabilities. Many practical studies have been conducted, and a number of research findings on parent training have been reported. Among the studies on the effectiveness of parent training, practical studies focusing on the relationship between the nurturing attitudes of caregivers of elementary school children and their children's adaptive behavior are of great value.

Nakajima, *et al.* (2012) reported that parents of children with developmental disabilities are less positively involved and more negatively involved than other parents of typically developing children [1][2]. It has also been reported that children with ASD show difficulties during childhood in terms of adaptation to their environment and social development compared to their peers (McStay, *et al.* 2014) [3]. Although parent training offers an effective solution to these issues, there are reports that parental depression affects the effectiveness of parent training (Menta, 2011) [4]. As described above, few studies have examined in detail how the knowledge and skills gained through parent training affect the adaptive behavior of elementary school

students through their parents' nurturing behavior. This study aims to examine the effects of a parent training-based program for caregivers of elementary school children through the analysis of changes in caregivers' nurturing attitudes, children's adaptive behavior, and caregivers' mental health [5], [6].

2. Content

2.1. Research period

The study was conducted from April 2020 to March 2023.

2.2. Participants

A total of 22 caregivers of children with ASD participated in the program from FY2020 to FY2023. All participant children were diagnosed at a medical facility and then referred to the program. All caregivers signed a consent form to participate in the study after the program was explained to them. All participants were female. Table 1 shows the age of the participants and the age of their children in months. The age of the participants was 40.95 years with 5.08 of standard deviation. The age of their children was 85.59 months with 15.04 of standard deviation.

Table 1. Age of the participants/the children

	Average	**SD**
Age of the Participants	40,95	5,08
Age in Month in the Children	89,59	15,04

Figure 1 shows the gender of the children. 86.36% were male and 13.64% were female.

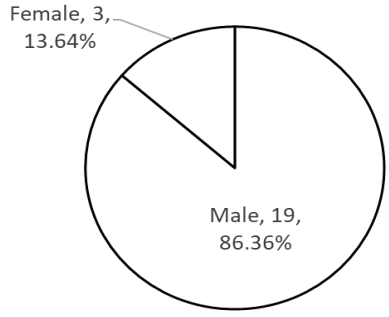


Figure 1. Gender of children

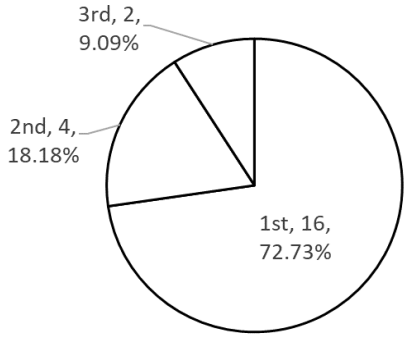


Figure 2. Birth order of children

Figure 2 shows the birth order of the children. Among the children the first child was 48.50%, the second child was 12.10%, and the third child was 6.10%. Figure 2. Birth order of children

2.3. Measurements

2.3.1. Positive and Negative Nurturing Behavior Scale

The Positive and Negative Parenting Behavior Scale (PNPS) is a questionnaire that comprehensively assesses parenting behavior, both positive and negative aspects of parenting (hereafter referred to as PNPS). Participants were asked to complete the PNPS at the beginning and end of the program.

2.3.2. Vineland Adaptive Behavior Scale

The Vineland Adaptive Behavior Scale assesses the ability to perform daily activities necessary for personal and social fulfillment (hereafter referred to as Vineland-II). The Vineland-II was administered to participants at the beginning and end of the program through interviews.

2.3.3. General Health Questionnaire

The General Health Questionnaire is a screening test for psychological assessment and detection of persons with neurological disorders (hereafter referred to as GHQ). Participants were asked to complete the GHQ at the beginning and end of the program.

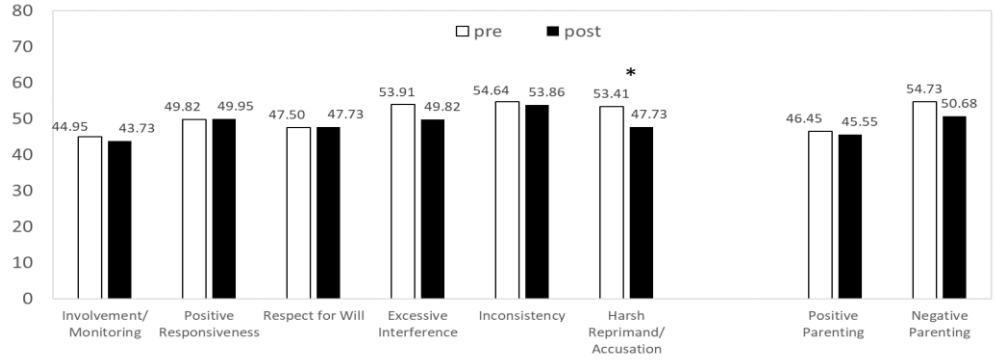
2.3.4. Programs

A total of 9 sessions were implemented by two specialists for approximately 8 months. Each session of the program lasted approximately two hours with four to six participants. The themes of each session included understanding the characteristics of children, basic responses to children, and specific behavioral analysis. The participants had opportunities to learn how to objectively view child's behavior in a systematic way, as well as providing positive feedback on a child's positive behavior. Table 1 shows the themes of each session.

Table 2. Thems of each session

1	Learning about the characteristics of children
2	How to effectively communicate with your Child
3	Creating a support book
4	How to praise your child effectively
5	How to give your child effective instruction
6	How to recognize a child's challenging behavior
7	How to respond to a child's challenging behavior
8	Roundtable discussion and information exchange
9	Special lectures by parent mentors

2.4. Results



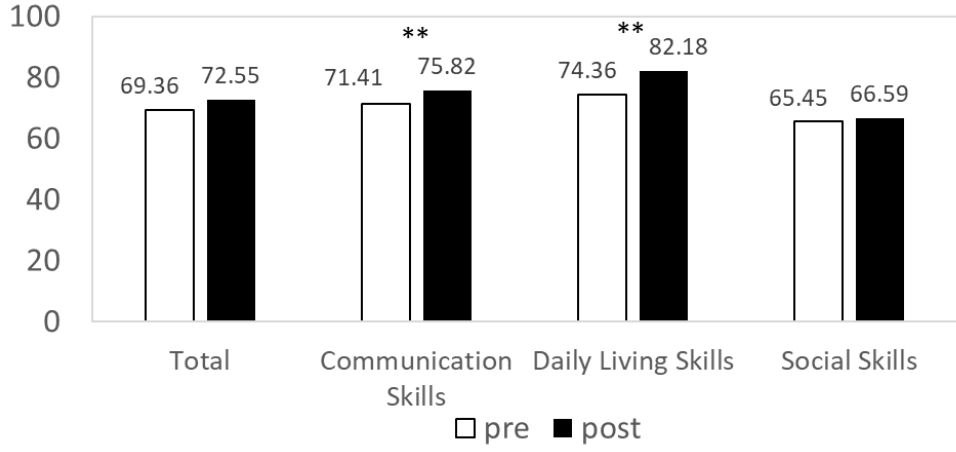
***p<0.1, *p<0.05*

Figure 3. Subscale scores of the PNPS

The PNPS scores

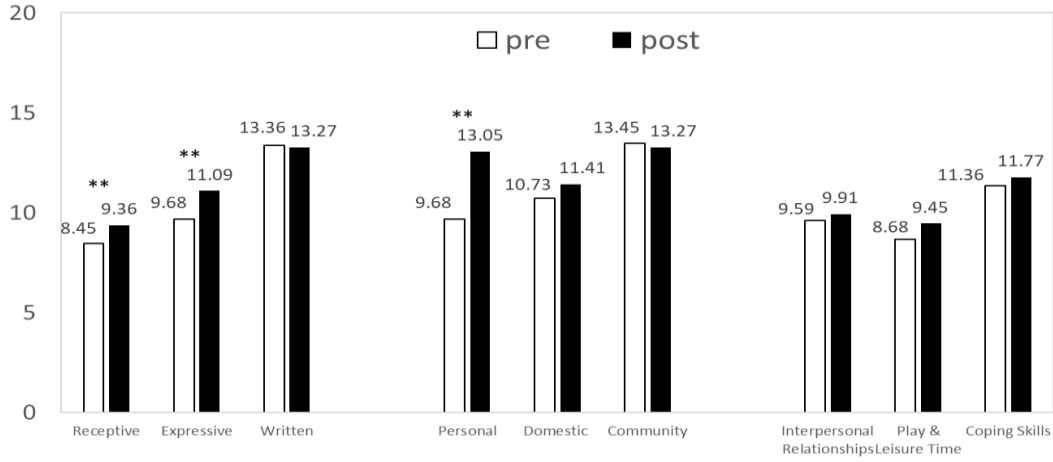
Figure 3 shows the PNPS scores of the participants at the beginning and end of the program. Comparing the scores before and after the program, the scores at the end of the program decreased in "severe reprimand and corporal punishment," which were statistically significant ($t = 2.22$, $p < 0.05$).*The Vineland-II scores*

Figure 4 shows the participants' Vineland-II total scores and scores on the three subscales at the beginning and end of the program. Comparing the scores before and after program implementation, the scores at the end of the program were significantly higher for "communication" and "daily living skills" ($t = 3{,}16$, $p < 0.05$; $t = 3{,}20$, $p < 0.05$, respectively).



**p<0.1, *p<0.05

Figure 4. Total and Subscale scores of Vinland-II

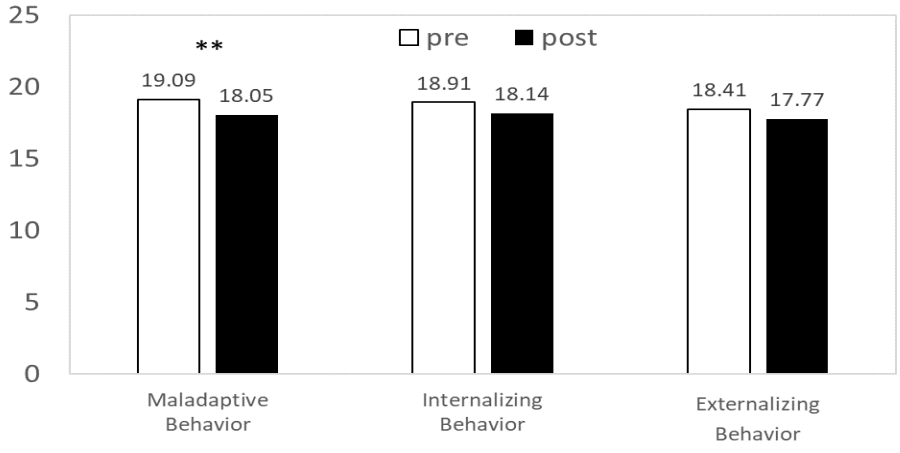


**p<0.1, *p<0.05

Figure 5. Scores of sub-domains in Vinland-II

Figure 5 shows the participants' scores in the nine Vineland-II subdomains at the beginning and end of the program. Scores at the end of the program were significantly higher in the receptive language, expressive language, and personal independence domains ($t = 2.66$, $p < 0.05$; $t = 4.15$, $p < 0.05$; $t = 4.34$, $p < 0.05$, respectively).

Figure 6 shows the participants' Vineland-II maladaptive behavior scores at the beginning and the end of the program. In the "Maladaptive Behaviors" domain, scores increased at the end of program, which was significantly significant ($t = 3.09$, $p < 0.05$).

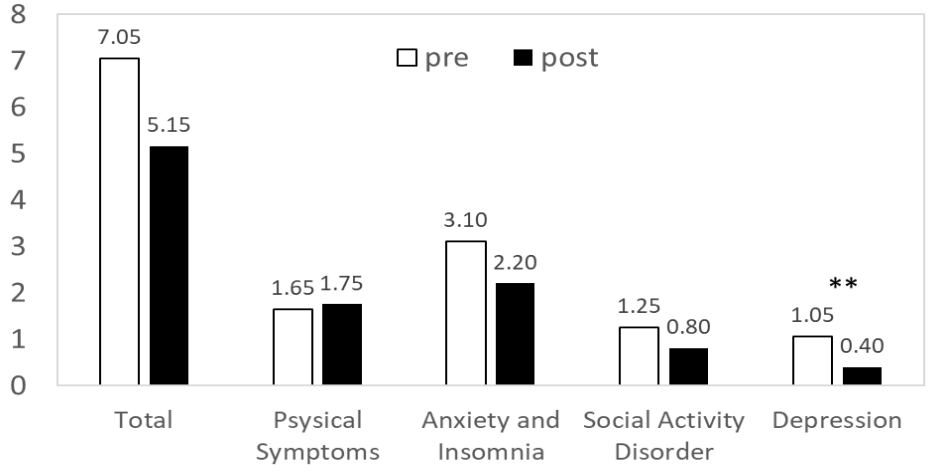


**p<0.1, *p<0.05

Figure 6. Scores of maladaptive behaviors in Vineland-II

The GHQ scores

Figure 7 shows the participants' overall GHQ scores and scores on the four subscales at the beginning and end of the program. Comparing the scores before and after the program implementation, the scores at the end of the program were significantly decreased in "depression." (t = 2.94, p < 0.05).



**p < 0.1, *p < 0.05

Figure 7. GHQ scores

2.5. Discussion

In this study, a family support program based on parent training ideas was implemented and its effectiveness was examined. At the end of the program, among the negative nurturing attitudes toward children among caregivers, "reprimand and corporal punishment" in particular showed a tendency to improve. On the other hand, no significant changes were observed in other negative and positive child-rearing attitudes. It was expected that the negative nurturing attitudes of the caregivers would improve and positive nurturing attitudes would increase through participation in the program, but such results were not obtained. It is suggested that the content of the parent training-based program may not have contributed to improving caregivers' negative nurturing

behaviors and encouraging positive nurturing behaviors. On the other hand, it has been reported that caregivers of children with developmental disabilities, including ASD, have more negative nurturing attitudes and fewer positive nurturing attitudes (Nakashima, et al., 2012). In this study, a similar trend was observed at the beginning of the program, but at the end of the program, there was a trend toward improvement with regard to reprimand and corporal punishment. In this respect, it can be said that the program in this study was partially effective.

With regard to the participants' children's adaptive behavior, at the end of the program, there was general improvement, especially in the children's communication and daily living skills. Among these, particular growth was seen in the children's receptive and expressive language and personal independence skills. In terms of the children's language skills, the program's content, which encouraged caregivers to approach the children in an easy-to-understand manner and to respond positively to what the children had to say, was considered to have been successful. With regard to the children's personal independence skills, the caregivers' positive responses to the children's spontaneous behavior ensured that the children acquired these skills. In addition, an overall trend toward a reduction in the children's maladaptive behaviors was observed. This may be because the children's maladaptive behaviors improved or became less noticeable as they acquired communication and daily living skills.

At the end of the program, there was a trend toward improvement in caregivers' mental health, particularly in depression. Studies have reported that caregivers of children with ASD are more depressed than caregivers of other children. Therefore, the reduction in depression among caregivers who learned how to respond to their children's specific behaviors is highly significant.

3. Conclusions

No statistically significant changes were observed in positive parenting attitudes of the participants, such as appropriate involvement, response, and respect for intentions. On the other hand, some improvement was found in negative attitudes such as reprimand, and corporal punishment.

In terms of participants' children's adaptive behavior, scores in the areas of communication and daily living skills increased at the end of the program. In the area of communication, improvement was observed especially in receptive and expressive language. In the area of daily living skills, improvement was observed especially in the area of personal independence. Improvements were also observed in the area of maladaptive behavior in children. Improvement was observed in the mental health of the participants, particularly in depressive tendencies.

In summary, the above results suggest that the support program for caregivers based on parent training has the effect of improving caregivers' negative nurturing attitudes and depression to some extent, and indirectly improving children's communication skills and daily life skills. With regard to the mental health of the caregivers, a trend toward reduced feelings of depression was observed.

On the other hand, even after the program, there was no trend toward improvement in the positive nurturing attitudes of the caregivers. As an indirect effect, there was no improvement in the children's social skills. It is suggested that although the program encouraged positive responses by caregivers toward their children, this may not have directly affected the knowledge and skills of the caregivers. In addition, although the program content was designed to encourage caregiver responses that would promote the child's social behaviors, the program may not have been fully effective as an indirect effect in the current program because this is an innate area of difficulty for children with ASD.

Furthermore, the program did not sufficiently improve the caregivers' mental health in any aspect other than depression. The program content was considered inadequate with respect to

improving caregivers' physical symptoms, anxiety and insomnia issues, and barriers to social activities. In this program, knowledge and skills were learned through group activities with a small number of participants. In this context, it is expected that the caregivers' mental health will be improved and enhanced by the peer support in the group, and therefore, the content of the program needs to be carefully examined and reviewed in the future. Ito, *et al.* (2014) reported that the problems of children with developmental disabilities may influence parental nurturing behaviors and stated that it is important to examine whether, reciprocally, inappropriate parental nurturing behaviors can exacerbate children's problem behaviors.

In the future, the content of the program will be examined in order to promote the improvement of positive nurturing attitudes of caregivers and to sufficiently improve their mental health.

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