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Title:

The online cognitive behavioral therapy (CBT-PAC) for dealing with parenting stress with autism spectrum tendencies: One-year evaluation of a single arm study.

Introduction:

Parents who raise children with autism spectrum disorder (ASD), compared with those without ASD, experience more difficulties in raising children and have higher parenting stress, which leads to development of depressive symptoms. Cognitive-behavioral therapy (CBT) has been used in many countries to reduce parenting stress among parents of children with ASD. On the other hand, there are no CBT programs in Japan to target stress reduction or promotion of parenting resilience in parents raising children with ASD. In addition, although CBT has been reported to be effective for depression and anxiety disorders as well as for long-term effects, few studies have examined the long-term effects of CBT on parents of children with ASD. In our prior study, a significant increase in parenting resilience (PREQ total=+15.5 (SD=9.70); Cohen d=1.38, P<.0001) was observed in the post-test compared to the pre-test. In the present study, we investigate whether this significant result is maintained in the study participants following a further one year.

Method: This single-arm phase-2 trial study aims to examine the long-term effects of a video conference health guidance CBT program on the parenting resilience of twenty-six parents with suspected autism spectrum children aged 2 to under 7. Participants were assessed at pre-, 6-weeks-post-, and 10-weeks-post follow-up, with the addition of a 1-year post-assessment examined in this report. The CBT-PAC program (CBT for Parents to Support Accepting Children's Uniqueness) consists of a 6-week intervention (6 sessions of online health guidance based on CBT, 50 minutes per session) and one follow-up session. The primary outcome is the amount of change in the Parenting Resilience Element Questionnaire (PREQ) score from week 0 (baseline) to 1 year. Secondary outcomes include the Japanese version of Parenting Stress Index (PSI), the General Health Questionnaire (GHQ-28), State-Trait Anxiety Inventory-JYZ (STAI), and Eyberg Child Behavior Inventory (ECBI). For primary and secondary outcomes, paired t-test was used to compare the scores before and 1-year after the program.

Results: A significant increase in parenting resilience (PREQ total=+15.8 (SD=11.74); Cohen d=1.50, P<.0001) was observed in the 1-year post-assessment compared to the pre-test. In addition to the

analysis results for the secondary outcomes, significant increases were seen in all subscales of the PREQ score (knowledge of the child's characteristics, perceived social supports, and positive perception of parenting). Moreover, PSI score, GHQ-28 score, STAI-state, STAI-trait score, and EBCL (problem) score were significantly decreased.

Conclusions: Compared to before the program began, parents after one year of program participation showed a significant increase in resilience scores and improvement on the mental health scale.

Discussion: The decrease in the number of children's problem behaviors was significant, a factor that could be attributed to the improvement in children's mental development over the one-year period and a decrease in behaviors that irritated their parents. One study limitation was that it was a single-arm study. In the future, we will establish a control group to test the effects of the intervention.

# Online cognitive behavioral therapy (CBT-PAC) for dealing with parenting stress with autism spectrum tendencies: One-year evaluation of a single arm study



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## Aim

- Parents who raise children with autism spectrum disorder (ASD), compared with those without ASD, experience more difficulties in raising children and have higher parenting stress.
- We examined the feasibility of Cognitive-behavioral therapy (CBT) programs to reduce parenting stress or promote parenting resilience in parents raising children with ASD.
- In our prior research, a significant increase in parenting resilience (PREQ total=+15.5 (SD=9.70); Cohen d=1.38, P<.0001) was observed in the post-test vs. pre-test.
- Here, we investigate whether this significant result is maintained in the study participants after 1 year.

## Methods

**Intervention type:** 6-week intervention (6 sessions of online health guidance based on CBT, 50 min/session) and 1 follow-up session

**Samples:** 26 cases; parents with suspected autism spectrum children aged 2 – 7 years old

**Measure:** Primary outcome was Parenting Resilience Elements Questionnaire (PREQ)

**Data analysis:** Efficacy analyses will be conducted using paired t-tests

Table 1. Mean (Standard Deviation) of Parental Stress and Its Subscales, and Results of Independent Samples T-Test

		Pre N=26	Post N=26	Follow-up N=25	1-year after N=22	pre-1-year after P-value	Cohen's d
PREQ	Total	68.6 (12.5)	84 (9.67)	84.2 (8.13)	85.2 (9.19)	<.0001	1.5
	Knowledge	24.7 (6.3)	30.5 (3.52)	31.3 (3.36)	30.3 (4.10)	<.0001	1.04
	Support	24.9 (7.2)	32.3 (4.63)	31.6 (6.16)	33.3 (3.82)	<.0001	1.43
	Positive perception	19.0 (4.2)	21.2 (3.86)	21.3 (2.95)	21.6(3.62)	0.0009	0.67
PSI	Total	248.5 (34.6)	234.3 (35.7)	226.0 (35.4)	221.4 (39.8)	0.019	0.73
	Child	120.2 (19.9)	113.2 (20.4)	109.7 (19.9)	106.6 (19.2)	0.0374	0.69
	Parent	128.4 (18.7)	121.1 (20.0)	116.3 (18.2)	114.8 (23.1)	0.0168	0.65
GHQ-28		36.1 (7.8)	27.3 (9.6)	26.8 (11.2)	26.0 (8.5)	<.0001	1.25
STAI	Trait	51.5 (9.8)	46.3 (10.2)	45.3 (12.3)	45.7 (10.7)	0.0112	0.57
	State	50.5 (7.0)	41.2 (8.2)	40.6 (8.4)	44.2 (9.8)	0.0036	0.75
ECBI	Strength <sup>a</sup>	72.7 (12.9)	70.4 (12.2)	66.6 (11.5)	62.9 (13.0)	0.0095	0.75
	Problem <sup>b</sup>	65.8 (11.0)	60.0 (11.9)	60.1 (12.4)	60.1 (13.7)	0.109	-

PSI: Parenting Stress Index, GHQ-28: The General Health Questionnaire, STAI: State-Trait Anxiety Inventory, ECBI: Eyberg Child Behavior Inventory <sup>a</sup> frequency of problems in the child's behavior; <sup>b</sup> parents' cognition of whether their child's behavior is problematic

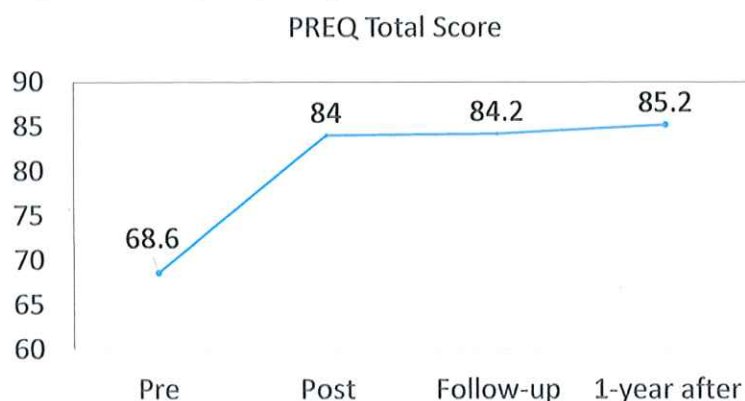
## Results

Compared to before the program began, parents after 1 year of program participation showed a significant "increase parental resilience", "reduced parenting stress and anxiety", and "improved mental health."

## Discussion

- The significant reduction in children's problem behaviors may be due to improvements in children's mental development over the year.
- One study imitation: a single-arm study
- In future, we will establish a control group to test the effects of the intervention.

Figure 1. Change in primary outcomes



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## 発表成果報告書

\* ご自身の研究発表の概要だけでなく、学会での国際交流体験などにつきましても必ずご記載ください。

2024年9月4日～9月7日にセルビアで開催されたEABCT学会に参加し、ポスター発表を行った。自閉スペクトラム症（ASD）の子どもを育てる保護者は、育児の困難さやストレスを感じやすく、抑うつ症状を抱えやすい。近年、発達障害児を育てる親の養育レジリエンス（ストレスに対するこころの弾力力）が注目されている。海外では、親のストレス軽減を目的とした認知行動療法（CBT）の活用が進んでいるが、日本では、親のレジリエンス向上やストレス軽減を目的としたプログラムの実施例は少ない。2020年～2022年に千葉大学で、オンラインによる6回×50分のプログラム（CBT-PAC）を26人の保護者に実施した。その結果、育児レジリエンスが有意に向上し（PREQ +15.5, Cohen  $d=1.38$ ）、1年後もその効果が持続していることが確認された。さらに、親の育児ストレスの軽減や精神健康状態の向上も認められた。今後は、対照群との比較や、アプリ等を併用したプログラムによる効果検証を予定している。

本発表では、ASD児の親に対する支援について報告し、トルコ、インド、イギリスの参加者から質問を受けた。また、各国における支援の実情について意見交換を行い、特に文化や制度の違いによる支援の特徴について活発な議論を交わすことができた。これにより、新たな知見を得ることができた。さらに、学会内の交流会では、オランダの研究者とASD児の親への介入方法について意見を交わし、今後の介入プログラムに関するアイデアを得る貴重な機会となった。本学会への参加を通じて、国際的な視点を踏まえた研究の重要性を改めて認識するとともに、今後の研究発展に向けた有益なネットワークを築くことができた。

(日本語 1200 字以内)

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