Randomized Control Trial of web-camera delivered cognitive-behavioral therapy for child with obsessive-compulsive disorder

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Introduction: Obsessive-compulsive disorder (OCD) is one of the most debilitating psychiatric disorders and often emerges during childhood. Cognitive behavioral therapy (CBT) is the first-line psychotherapeutic intervention; however, access to trained therapists and specialized services remains limited. Internet-delivered CBT offers a promising solution to these challenges. Web camera-delivered CBT has demonstrated efficacy for pediatric OCD in previous studies, but there are few studies evaluating its effectiveness in Japan. In this randomized controlled trial, we aimed to evaluate the effectiveness of a web camera–delivered CBT program for children and adolescents with OCD in Japan.

Method: Sixteen patients aged 10 to 17 years were randomly assigned to either the CBT group (n = 10) or the treatment-asusual (TAU) group (n = 6). The primary outcome measure was the Children's Yale–Brown Obsessive-Compulsive Scale (CYBOCS). Sixteen CBT sessions were conducted based on the CBT manual for OCD developed by the Health and Labor Science Research Group in Japan, with individualized modifications tailored to the patient's age and developmental stages.

Results: In the CBT group, CY-BOCS scores significantly decreased from a mean of 27.8 at baseline to 19.6 post-treatment ($p < 0.01$, partial $\eta^2 = 0.57$), representing a 29% reduction. This reduction falls within the range (25–35%) typically considered indicative of clinical response to CBT. In the TAU group, the mean CY-BOCS score decreased from 25.8 to 24.2, and no statistically significant change was observed ($p=0.59$, partial $\eta^2 = 0.06$). The between-group difference did not reach statistical significance ($p = 0.07$, partial $\eta^2 = 0.22$)

Discussion: The CBT didn't demonstrate statistically robust treatment efficacy, but the rate of improvement of CY-BOCS in the CBT group was in the range of the improvement rate, and the effect size suggested a promising level of treatment efficacy. These findings suggest that web camera-delivered CBT is an effective treatment option for children with OCD in Japan. Given the small sample size, further research is necessary to confirm these findings and assess their generalizability.

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Introduction

- Cognitive behavioral therapy (CBT) is the first-line psychotherapeutic intervention for Obsessive-compulsive disorder (OCD).
- In Japan, access to trained therapists and specialized services remains limited. Internet-delivered CBT offers a promising solution to these challenges.
- Web camera-delivered CBT has demonstrated efficacy for pediatric OCD in previous studies.
- There are few studies evaluating its effectiveness in Japan.
- In this randomized controlled trial, we aimed to evaluate the effectiveness of a web camera–delivered CBT program for child with OCD in Japan.

Methods

Participants

Main Diagnosis : OCD(DSM-5**)**
Age : 10 to 17 years
Randomized into two groups

Demographic

☐ **CBT** : n=10
Mean age 13.8
Male (n=5) Female (n=5)

☐ **TAU**（Treatment-as-usual）: n=6
Mean age 14.0
Male (n=2) Female (n=4)

Outcomes

- Primary Outcomes
  Children's Yale-Brown Obsessive-Compulsive Scale (CY-BOCS)
- Secondary Outcomes

DSRS-C（Depression Self-Rating Scale for Children）
≥16 : Elevated depressive symptoms
≥24 : Very likelihood of clinically significant depressive symptoms

SCAS（Spence Children's Anxiety Scale）

	High anxiety	Very high anxiety
Male 8-11	≥40-41	≥51-54
Female 8-11	≥50-51	≥59-61
Male 12-15	≥33-34	≥42-44
Female 12-15	≥39	≥51-54

Therapy

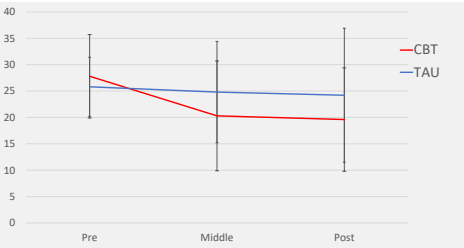
- 16 sessions using web-camera（50 minutes per session）
- CBT Manual for OCD written by our group, implemented with age-appropriate modifications.
- All Therapists received CBT training at Chiba University.
- Supervision was provided to ensure quality.
- Number of sessions and contents were tailored for each patients.

Results

Primary Outcomes

CY-BOCS	Pre (SD)	Middle (SD)	Post (SD)
CBT	27.8 (7.9)	20.3 (10.4)	19.6 (9.8)
TAU	25.8 (5.6)	24.8 (9.6)	24.2 (12.8)

Change in CY-BOCS



P value for CBT vs TAU : 0.07

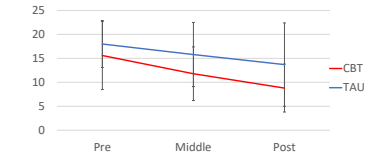
Effect size Partial η^2 : 0.22 (large)

CY-BOCS reduction in CBT : 29.5%

※≥25% and ＜35％ reduction : Partial response

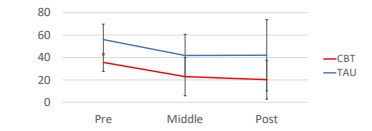
Secondary Outcomes

DSRS-C	Pre (SD)	Middle (SD)	Post (SD)
CBT	15.6 (7.1)	11.8 (5.6)	8.8 (5.0)
TAU	18.0 (4.9)	18.0 (4.9)	18.0 (4.9)



P value for CBT vs TAU : 0.12
Effect size Partial η^2 : 0.12 (medium)

SCAS	Pre (SD)	Middle (SD)	Post (SD)
CBT	35.6 (7.9)	22.9 (17.1)	20.2 (17.4)
TAU	56.0 (13.8)	41.8 (18.9)	42.0 (31.8)



P value for CBT vs TAU : 0.03*
Effect size Partial η^2 : 0.29 (large)

Results (Summary)

- For the primary outcome (CY-BOCS), the CBT group showed an improvement rate of 29.5%, indicating treatment responsiveness. Compared with TAU, the partial η^2 was 0.22, reflecting a large effect.
- For the secondary outcomes, the DSRS-C showed a medium effect size of 0.12, and the SCAS showed a large effect size of 0.29 in the CBT group compared with the TAU group.

Discussion

- The result suggested that web-camera delivered CBT for children with OCD appeared to induce treatment response.
- Additionally, alongside improvements in OCD symptoms, depressive and anxiety symptoms were also considered to improve.
- This study demonstrates the potential significance of web-camera delivered CBT for children with OCD, who have limited access to treatment opportunities.

CBT Manual for OCD

Session	Objective.	Summary	Documentation Sheet
1 Initial Interview	Understanding the case / Diagnosis / Psychological education (Disease)	Asking for help / Understanding the patient's personality	"What is Obsessive Compulsive Disorder?" / CY-BOCS-SC (CY-BOCS Symptom Checklist) / Treatment Notes Preparation
2 Understanding the subject (1)	Identification and evaluation of symptoms / Psychological education (irrationality)	Assessment of obsessive-compulsive symptoms using CY-BOCS (content, severity, involvement, even avoidance)	"What is Obsessive-Compulsive Disorder?" / CY-BOCS / Record of daily life activities
3 Understanding the subject (2) / Behavior analysis	Grasp of life / Understanding the relationship between life and symptoms / Psychological education / Incentive	Understand the relationship between social life situations and symptoms, and adaptation	Engulfment and avoidance diagram / Example of symptom manifestation / Examples of avoidance and excessive behavior description / Diagram of a vicious circle
4 Behavior analysis	Confirmation of ERP adaptation / ERP Description / Incentive	Psychoeducation (symptom mechanisms and the application, content, and effectiveness of ERP)/Treatment Goal Setting	Diagram of a vicious circle / Example of goal setting / Habituation / SUD (subjective unit of distress) / Anxiety hierarchy table
5 Start of treatment	Final confirmation of ERP indication and treatment consent / First assignment decision	Review of Psychological Education including ERP description / CY-BOCS severity reassessment / ERP Issue Determination and Initiation	ERP Homework Record Chart / Habituation / CY-BOCS
6-14 Treatment	ERP Implementation	Verification of effectiveness / Repeatedly correcting issues and stepping up	Homework record sheet
15-16 End of treatment	Termination and relapse Prevention	Reflections and impressions of treatment / Relapse prevention / Discussion of treatment extension and follow-up	Record of daily life activities / CY-BOCS-SC(Comparison with before treatment) / Example of relapse prevention description / Example of treatment impression description

References

Mataix-Cols, D., Fernández de la Cruz, L., Nordsletten, A. E., Lenhard, F., Isomura, K., & Simpson, H. B. (2016). Towards an international expert consensus for defining treatment response, remission, recovery and relapse in obsessive-compulsive disorder. World Psychiatry, 15(1), 80–81. https://doi.org/10.1002/wps.20299

Abbreviations

OCD: Obsessive-Compulsive Disorder, CBT: Cognitive behavioral therapy, DSM; Diagnostic and Statistical Manual of Mental Disorders, TAU; Treatment-as-usual, CY-BOCS: Children's Yale-Brown Obsessive-Compulsive Scale, DSRS-C: Depression Self-Rating Scale for Children, SCAS; Spence Children's Anxiety Scale, SD; Standard Deviation, ERP: exposure and response prevention, SUD: subjective unit of distress, CYBOCS-SC: CY-BOCS Symptom Checklist

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Conflict of interest

The authors declare no conflicts of interest.

発表成果報告書

国際学術交流助成金に採択された方は，学会参加後１か月以内（ただし，助成決定時にすでに発表済みの場合は通知から１か月以内）に以下の資料をご提出ください。

1　発表成果報告書（本様式），②発表抄録（英文），③発表実績（ポスターやスライド等の写し）

【発表概要】（400 字程度）

今回、2025 年 9 月 3～6 日にイギリスのグラスゴーで開催された、ヨーロッパ認知行動療法学会（EABCT ; The European Association for Behavioural and Cognitive Therapies）に参加し、ポスター発表を行った。内容は、児童・思春期強迫症患者に対するウェブカメラを用いた遠隔認知行動療法の効果研究をまとめたものである。児童・思春期強迫症患者にランダム化比較試験を行い、認知行動療法群（10 名）と通常治療群（6 名）を比較した。結果は、認知行動療法群が主要評価項目（CY-BOCS：Children's Yale-Brown Obsessive-Compulsive Scale）において partial response（29.5%の改善）を示し、群間比較では大きな効果量を示した（p=0.07, 効果量大：偏 $\eta^2=0.22$）。今後は、遠隔認知行動療法の普及によって、治療アクセスの改善などが期待される。

【参加体験記】（800 字程度）

学会ではポスター発表を行った。ポスターは会期の中で半日を割り当てられ、その時間のみ指定された場所に掲示して周辺に待機し、ポスターに関心を示してくれた参加者と、適宜、意見交換や質疑応答を行う形式だった。掲示時間内では、ポスターを閲覧した参加者からの幾つかの質問に返答する機会があった。他のポスターを閲覧する中で、イギリスにおける若年者のパラノイアについてのポスターや、児童・思春期の sensory perception の評価方法に関するフランスの研究者によるポスターについて質問や意見交換をし、各国の現状や問題意識を知ることが出来た。また強迫症の認知行動療法の in congress workshop に参加し、自施設で行っている認知行動療法のやり方と比較して、使用するツールや表現方法は異なるものの本質的な共通点も多く、大変参考になった。自身の専門領域である児童思春期強迫症についての発表は、参加した workshop と時間が重なり聞くことが出来ず、発表者と直接交流することは叶わなかったが、他の日本人研究者を介して、帰国後に連絡を取る約束をすることが出来たことが大きな収穫だった。今後は海外の研究者と交流、情報交換をし、国際的な知見も取り入れながら研究を進められるようになることを期待している。また、アバターや VR（virtual reality）など最新のテクノロジーを用いた認知行動療法や、記憶の書き換えなど新しい技法を用いた研究の発表やシンポジウムは、今後の研究活動や臨床活動の方向性を考える上で大いに刺激になった。学会全体を通して、研究や社会実装のスピード、規模、情報発信の質と量に圧倒され、ヨーロッパが認知行動療法の世界的中心地の一つであることを実感した。国際的な知見、情報に触れ、実際に海外の研究者や治療者と交流できた今回の機会を通じて、今後の研究や臨床を進める大きな動機付けと方向性を得ることが出来たと感じている。

【記入に関する注意事項】