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The internet intervention Patient Adherence Scale (iiPAS): Development and psychometric evaluation in a clinical sample of children and adolescents

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Patient adherence: Definition (the boring slide)

- “the extent to which the patient’s behavior (in terms of taking medications, following diets, or executing other lifestyle changes) coincides with medical or health advice” (Haynes, 1979, p. 2)
- = compliance

Yes ok, but what IS adherence?

- In psychotherapy measured in various ways
 - homework compliance
 - in-session engagement
 - patient-therapist alliance
- Other words for non-adherence:
 - Resistance
 - Ambivalence
 - Lack of motivation

Why is adherence important?

- Patient adherence > better treatment outcomes
 - Homework quality and quantity (Kazantzis et al, 2016)
 - Exposure exercises (Simpson, 2012)
 - Session attendance, homework completion & high engagement (Glenn et al, 2013)

Adherence to internet-delivered treatments

- Number of logins and/or completed modules (Donkin, 2011; Vigerland, 2016)
- Inconsistently reported & uncertain association with outcome
- Question: Is nr of logins and completed modules really what matters most?
 - Adherence to intervention schedule vs adherence to psychological strategies

Adherence to internet treatments: In a nutshell

“There is large variation in the reporting of adherence and the association of adherence with outcomes.

A lack of agreement about how best to measure adherence is likely to contribute to the variation in findings. (...)

A composite measure encompassing time online, activity completion, and active engagements with the intervention may be the best measure of adherence.” (Donkin, 2011)

Scale construction

- Item generation from ICBT experts and clinicians at CAP Research Center
 - Clinician-rated 5-item scale
 - 3-point Likert scale
- First evaluation in a clinical sample (N = 50, ICBT for children with anxiety disorders and adolescents with OCD)
- Revision
 - Re-wording of items
 - 5-point scale

The internet intervention Patient Adherence Scale (iiPAS)

1. **Working pace:** Is the patient in phase with the treatment (e.g. working with Chapter 6 during week 6)?
2. **Engagement in exercises:** To what extent does the patient spend time and commitment with the text-based exercises presented in the treatment?
3. **Communication with the online clinician:** To what extent does the patient engage in communication with the therapist, responds to messages and initiate topics for discussion and / or questions?
4. **Motivation for change:** To what extent is the patient willing to actively test and use the strategies presented in the treatment (eg behavioral or cognitive interventions)?
5. **Login frequency:** How often is the patient active in the Internet treatment?

PAS
internet intervention
Patient Adherence
Scale

Patient/ID: _____

Bedömare: _____

Datum: _____

Halvtidsskattning (skatta start – halvtid)

Avslutningsskattning (skatta halvtid – avslut)

1) Arbetstempo: ligger patienten i fas med behandlingen (t.ex. jobbar med kapitel 6 under vecka 6)?

0	1	2	3	4
jobbar ej med behandlingen, inaktiv				är helt i fas med behandlingen

2) Engagemang i övningar: I vilken utsträckning lägger patienten ner tid och engagemang på de textbaserade övningar som presenteras i behandlingen (oavsett om svaren varit korrekta eller **ej**)?

0	1	2	3	4
har ej gjort några övningar				gjort alla övningar, svarat med intresse och engagemang

3) Kommunikation med behandlaren: I vilken utsträckning engagerar sig patienten i kommunikation med behandlaren, svarar på meddelanden och tar själv initiativ till diskussionsämnen och/eller frågor?

0	1	2	3	4
svarar ej på meddelanden eller frågor				pågående dialog med behandlaren, initierar själv kommunikation

4) Förändringsmotivation: I vilken utsträckning är patienten villig att aktivt testa och använda de strategier som presenteras i behandlingen (t.ex. beteende- eller kognitiva interventioner)?

0	1	2	3	4
använder sig inte av de presenterade strategierna				jobbar aktivt och regelbundet med de presenterade strategierna

5) Inloggningsfrekvens: Hur ofta är patienten aktiv i internetbehandlingen?

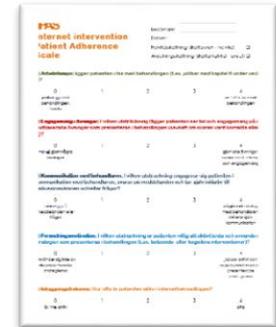
0	1	2	3	4
är inte aktiv				ofta

Scoring the iiPAS



The image shows a sample of the iiPAS questionnaire. It contains several sections with Likert scales from 0 to 4. The sections are:

- iiPAS** (title)
- iiPAS** (instructions)
- iiPAS** (statement 1)
- iiPAS** (statement 2)
- iiPAS** (statement 3)
- iiPAS** (statement 4)
- iiPAS** (statement 5)



This is an identical copy of the iiPAS questionnaire form shown on the left.



Psychometric evaluation

- N = 148 children 8 – 17 years (M = 12:7)
- 60% female
- Diagnoses:
 - Tics/tourettes 15%
 - Social anxiety disorder 24%
 - OCD 16%
 - Separation anxiety disorder 12%
 - GAD 8%
 - Specific phobia 6%
 - Panic disorder 2%
 - Non-suicidal self-injury 17%
- Treatment outcome: Clinician severity rating / Clinical Global Impression - Severity

Internal consistency

Study	iiPAS-mid	iiPAS-post
BiP TIC	.90	.95
BiP SoFT (social anxiety)	.96	.96
BiP OCD Stockholm	.79	.74
BiP OCD Gothenburg	.91	.95
BiP Anxiety	.96	.94
BiP ERITA (self-harm)	.94	.97
All trials combined	.93	.95

Factor structure

- Exploratory Factor Analysis indicated a single factor that explained ~ 80% of the variance

Validity: Correlations with platform activity and outcome

	Number of logins	Logged in time	Written characters	Symptom severity change score	iiPAS-mid
iiPAS-total	.59***	.22*	.49***	.18*	
iiPAS-mid	.53***	.29**	.43***	.17*	
iiPAS-post	.57***	.12	.47***	.19*	.78***

Closer look at iiPAS-mid items and treatment outcome

- iiPAS-mid item 2 ("engagement with exercises") $r = .21, p < .05$
- iiPAS-mid item 4 ("motivation for change") $r = .21, p < .05$.

Summary

- Reliability & validity of the iiPAS was evaluated
- Adherence seems to be relatively stable over time (1st to 2nd half of treatment) > specific interventions needed?
- iiPAS correlates with behavior-level platform activity variables
- iiPAS is associated with treatment outcome
 - Engagement with exercises and psychological strategies more important than following treatment schedule
- Mid-iiPAS might be a useful tool to screen for potential non-responders or indicate the need for augmentation of treatment
- Evaluations in adult samples, with other types of interventions and different conditions needed!



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Thank you!

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