# Supplemental Online Content

Association between expectations and clinical outcomes in online versus face-to-face therapy –an individual participant data meta-analysis

Moa Pontén PhD, Martin Jonsjö PhD, Viktor Vadenmark MSc, Erica Moberg MSc, David Grannas MSc, Gerhard Andersson PhD, Katja Boersma PhD, Erik Hedman-Lagerlöf PhD, Maria Kleinstaeuber PhD, Cornelia Weise PhD, Viktor Kaldo PhD, Brjánn Ljótsson PhD, Erik Andersson PhD, Erland Axelsson PhD, Karin Jensen PhD

Table of Contents

[Search strategies 3](#_TOC_250005)

Medline (Ovid) 3

[Psycinfo 5](#_TOC_250004)

[Details about the statistical model 7](#_TOC_250003)

Overall model 7

Interaction test model 7

Conditional modes for random effects 7

[Imputed model 8](#_TOC_250002)

Imputed fixed effects 8

[Risk of bias assessments, JADAD 9](#_TOC_250001)

[Risk of bias assessments, Psychotherapy outcome study methodology rating form (POMRF) 10](#_TOC_250000)

PRISMA 2009 Flow Diagram 11

Screening 11

Included 11

Eligibility 11

Identification 11

# Medline (Ovid)

## Search strategies

|  |  |  |
| --- | --- | --- |
| **#** | **Searches** | **Results** |
| 1 | exp Behavior therapy/ | 77875 |
| 2 | (("acceptance and commitment" or aversive or behavio?r\* or cognit\* or conditioning or relaxation) adj (therapy or therapies)).ti,ab,kf. | 29117 |
| 3 | (anger management or applied behavio?r analys\* or cognitive remediation ormeditation or mindfulness).ti,ab,kf. | 14330 |
| 4 | or/1-3 | 96382 |
| 5 | Internet/ | 75006 |
| 6 | Internet-Based Intervention/ | 424 |
| 7 | Mobile applications/ | 6973 |
| 8 | Videoconferencing/ | 1787 |
| 9 | (app or apps or cellphone\* or computer\* or digital or e mail or email or internet\* or mobile application\* or online or phone\* or smartphone\* or technolog\* or telephone\* ortext message\* or video\* or virtual or web based or web site or website).ti,ab,kf. | 1361991 |
| 10 | Telemedicine/ | 26415 |
| 11 | exp Remote Consultation/ | 5083 |
| 12 | Telerehabilitation/ | 467 |
| 13 | (distance counsel?ing or distance consultation\* or e consultation\* or econsultation\* ore counsel?ing or ecounsel?ing or e health\* or ehealth\* or e therapies or e therapy or etherap\* or e visit\* or evisit\* or m health or mhealth or mobile counsel?ing or mobile consultation\* or remote consultation\* or remote counsel?ing or tele health\* or telehealth\* or tele consultation\* or teleconsultation\* or tele medicine or telemedicine  or tele rehabilitation or telerehabiliation).ti,ab,kf. | 33215 |
| 14 | or/5-13 | 1404325 |
| 15 | 4 and 14 | 13129 |
| 16 | randomized controlled trial.pt. | 522744 |
| 17 | controlled clinical trial.pt. | 94063 |
| 18 | randomi#ed.ti,ab. | 660108 |
| 19 | clinical trials as topic/ | 194645 |
| 20 | or/16-19 | 1101060 |
| 21 | exp animals/ not humans/ | 4786681 |
| 22 | 20 not 21 | 1064497 |
| 23 | 15 and 22 | 5532 |

**Field labels**

* exp/ = exploded MeSH term
* / = non exploded MeSH term
* .ti,ab,kf. = title, abstract and author keywords
* adjx = within x words, regardless of order
* \* = truncation of word for alternate endings

# Psycinfo

|  |  |  |
| --- | --- | --- |
| **#** | **Searches** | **Results** |
| 1 | exp Behavior therapy/ | 20889 |
| 2 | exp Cognitive Behavior Therapy/ | 22462 |
| 3 | (("acceptance and commitment" or aversive or behavio?r\* or cognit\* or conditioning or relaxation)adj (therapy or therapies)).ti,ab,id. | 43557 |
| 4 | (anger management or applied behavio?r analys\* or cognitive remediation or meditation ormindfulness).ti,ab,id. | 24183 |
| 5 | or/1-4 | 80818 |
| 6 | exp Computer assisted therapy/ | 10257 |
| 7 | Internet/ | 29376 |
| 8 | Digital technology/ | 622 |
| 9 | Mobile applications/ | 1072 |
| 10 | exp Videoconferencing/ | 621 |
| 11 | (app or apps or cellphone\* or computer\* or digital or e mail or email or internet\* or mobile application\* or online or  phone\* or smartphone\* or technolog\* or telephone\* or text message\* orvideo\* or virtual or web based or web site or website).ti,ab,id. | 425622 |
| 12 | (distance counsel?ing or distance consultation\* or e consultation\* or econsultation\* or e counsel?ing or ecounsel?ing or e health\* or ehealth\* or e therapies or e therapy or etherap\* or evisit\* or evisit\* or m health or mhealth or mobile counsel?ing or mobile consultation\* or remote consultation\* or remote counsel?ing or tele health\* or telehealth\* or tele consultation\* or  teleconsultation\* or tele medicine or telemedicine or tele rehabilitation or telerehabiliation).ti,ab,id. | 6906 |
| 13 | or/6-12 | 429239 |
| 14 | 5 and 13 | 8221 |
| 15 | Treatment effectiveness evaluation/ | 25310 |
| 16 | Treatment Outcomes/ | 35090 |
| 17 | Followup Studies/ | 12380 |
| 18 | (random\* or comparative stud\*).ti,ab,id. | 223509 |
| 19 | (clinical adj3 trial\*).ti,ab,id. | 37720 |
| 20 | (evaluat\* adj3 stud\*).ti,ab,id. | 66851 |
| 21 | (prospectiv\* adj3 stud\*).ti,ab,id. | 34541 |
| 22 | ((singl\* or doubl\* or trebl\* or tripl\*) adj3 (blind\* or mask\*)).ti,ab,id. | 26978 |
| 23 | or/15-22 | 390412 |
| 24 | 14 and 23 | 3421 |

Field labels

* exp/ = exploded controlled term
* / = non exploded controlled term
* .ti,ab,id. = title, abstract and author keywords
* adjx = within x words, regardless of order

\* = truncation of word for alternate endings

## Details about the statistical model

Overall model

|  |  |  |  |
| --- | --- | --- | --- |
| **Variable** | **Estimate** | **S.E.** | **P-value** |
| Intercept | 0.307 | 0.038 | <0.01 |
| Treatment: Internet | -0.011 | 0.015 | 0.464 |
| CEQ score | -0.267 | 0.057 | <0.01 |
| Pretreatment | 0.580 | 0.035 | <0.01 |
|  |  |  |  |
| **Random Effect** | **Std.** |  |  |
| CEQ score | 0.088 |  |  |
| Residual | 0.169 |  |  |

Interaction test model

|  |  |  |  |
| --- | --- | --- | --- |
| **Variable** | **Estimate** | **S.E.** | **P-value** |
| Intercept | 0.309 | 0.05 | <0.01 |
| Treatment: Internet | -0.016 | 0.062 | 0.7943 |
| CEQ score | -0.270 | 0.072 | <0.01 |
| Pretreatment | 0.580 | 0.035 | <0.01 |
| Treat\*CEQ | 0.007 | 0.087 | 0.936 |
| **Random Effect** | **Std.** |  |  |
| CEQ score | 0.088 |  |  |
| Residual | 0.169 |  |  |

Conditional modes for random effects

|  |  |
| --- | --- |
| **Study** | **Random effects: Conditional modes** |
| Andrews | 0.114 |
| Axelsson | 0.014 |
| Boersma | 0.075 |
| Hedman | -0.080 |
| Jasper | -0.041 |
| Kaldo | -0.083 |

## Imputed model

Imputed fixed effects

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| term | estimate | std.error | statistic | df | p.value |
| (Intercept) | 0.31605414 | 0.03639731 | 8.683449 | 245.0269 | 4.440892e-16 |
| Treatment: Internet | -0.01588993 | 0.01445499 | -1.099270 | 426.4900 | 2.722707e-01 |
| CEQ\_sum | -0.27049385 | 0.05554522 | -4.869795 | 413.1001 | 1.593752e-06 |
| Pre | 0.58165318 | 0.03316254 | 17.539466 | 266.9552 | 0.000000e+00 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| term | estimate | std.error | statistic | df | p.value |
| (Intercept) | 0.31650109 | 0.04513744 | 7.01194089 | 303.5106 | 1.530598e-11 |
| Treatment: Internet | -0.01672392 | 0.05544932 | -0.30160726 | 473.6372 | 7.630838e-01 |
| CEQ\_sum | -0.27111716 | 0.06640224 | -4.08295212 | 467.1931 | 5.231004e-05 |
| Pre | 0.58162938 | 0.03322904 | 17.50364845 | 263.3211 | 0.000000e+00 |
| Treat:CEQ\_sum | 0.00121242 | 0.07760106 | 0.01562376 | 485.4854 | 9.875410e-01 |

## Risk of bias assessments, JADAD.

|  |  |  |  |
| --- | --- | --- | --- |
| **Author, Publicationyear** | **1. Was the study described as randomized (this includes the use of words such as randomly, random, andrandomization)?** | **2. Was the study described as doubleblind?** | **3. Was there a description of withdrawals and dropouts?** |
| *Andrews et al.(2011)* | 2 | 0 | 1 |
| *Axelsson2020* | 2 | 0 | 1 |
| *Boersma et al.(2019)* | 2 | 0 | 1 |
| *Hedman et al.(2011)* | 2 | 0 | 1 |
| *Jasper et al.(2014)* | 2 | 0 | 1 |
| *Kaldo et al.(2008)* | 2 | 0 | 1 |

## Risk of bias assessments, Psychotherapy outcome study methodology rating form (POMRF).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Andrews et al. 2011 | Axelsson, et al. 2020 | Boersma et al. 2019 | Hedman et al. 2011 | Jasper et al. 2014 | Kaldo, et al. 2008 |
| 1: Clarity of sample description | 0 | 2 | 2 | 2 | 1 | 1 |
| 2: Severity/ chronicity of disorder | 0 | 1 | 1 | 1 | 1 | 1 |
| 3: Representativeness of sample | 1 | 1 | 1 | 1 | 1 | 1 |
| 4. Reliability of diagnosis | 0 | 0 | 0 | 1 | 0 | 0 |
| 5: Specificity of outcome measures | 2 | 2 | 2 | 2 | 2 | 2 |
| 6: Reliability and validity of outcome measures | 2 | 2 | 2 | 2 | 2 | 2 |
| 7: Use of blind evaluators | 0 | 0 | 0 | 2 | 0 | 0 |
| 8: Assessor training | 0 | 0 | 0 | 0 | 0 | 0 |
| 9: Assignment to treatment | 1 | 1 | 1 | 1 | 1 | 2 |
| 10: Design | 2 | 2 | 2 | 2 | 2 | 2 |
| 11: Power analysis | 0 | 2 | 2 | 0 | 1 | 0 |
| 12: Assessment points | 0 | 2 | 1 | 1 | 1 | 2 |
| 13: Manualized, replicable, specific treatment programs | 2 | 2 | 1 | 2 | 2 | 2 |
| 14: Number of therapists | 0 | 1 | 1 | 1 | 1 | 1 |
| 15: Therapist training/experience | 0 | 2 | 1 | 2 | 1 | 1 |
| 16: Checks for treatment adherence | 0 | 1 | 1 | 1 | 0 | 0 |
| 17: Checks for therapist competence | 0 | 1 | 0 | 0 | 0 | 0 |
| 18: Control of concomitant treatments | 0 | 1 | 0 | 1 | 0 | 0 |
| 19: Handling of attrition | 1 | 2 | 2 | 1 | 2 | 2 |
| 20: Statistical analyses and presentation of results | 2 | 2 | 2 | 2 | 2 | 2 |
| 21: Clinical significance | 0 | 2 | 2 | 2 | 2 | 1 |
| 22: Equality of therapy hours | 1 | 2 | 0 | 2 | 2 | 2 |
| Total score: | 14 | 31 | 24 | 29 | 24 | 24 |

10

**PRISMA 2009 Flow Diagram1**

Full-text articles excluded, with reasons

(n =36)

\*FTF, video in Internet condition=6

No CEQ =2

Not a main outcome study, n=12

Not a randomized study =1 Not therapist guided =10 Wrong population = 1

Not similar treatment in

\*INT/FTF=3 No FTF=1

Full-text articles assessed for eligibility

(n = 62)

**Eligibility**

**Screening**

**Identification**

**Records identified through database searching**

**(n = 8953 )**

Additional records identified through other sources

(n = 10)

**Records after duplicates removed (n = 7045)**

Records screened (n =7045)

Records excluded (n = 6983)

1

From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(6): e1000097. doi:10.1371/journal.pmed1000097. For more information, visit [www.prisma-statement.org.](http://www.prisma-statement.org/)

Full-text articles excluded, with reasons

(n = 20 ) No CEQ =13

Data not available=1 Limited resources =2

No response =4

Studies included in quantitative synthesis (meta-analysis)

(n = 6)

Studies approached for \*CEQ and \*IPD

(n = 26)

**Included**

\*INT- Internet-based treatment, FTF – face-to-face treatment,