eTherapy: What the evidence shows... and doesn't show

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OÉ Gaillimh

ORIGINAL CONTRIBUTION

Telephone Psychotherapy and Telephone Care Management for Primary Care Patients Starting Antidepressant Treatment

A Randomized Controlled Trial

JAMA (2004)

Gregory E. Simon, MD, MPH
Evette J. Ludman, PhD
Steve Tutty, MA
Belinda Operskalski, MPH
Michael Von Korff, ScD

Context Both antidepressa
proven efficacious, but less t
effective levels of either trea

Objective To compare usu
grams: telephone care mana
psychotherapy.

Design Three-group rando
blinded outcome assessment

Setting and Participants
ment for depression were sy
clinics; patients already recei

Interventions Usual prima
program including at least 3
care coordination; usual care
sion cognitive-behavioral psy

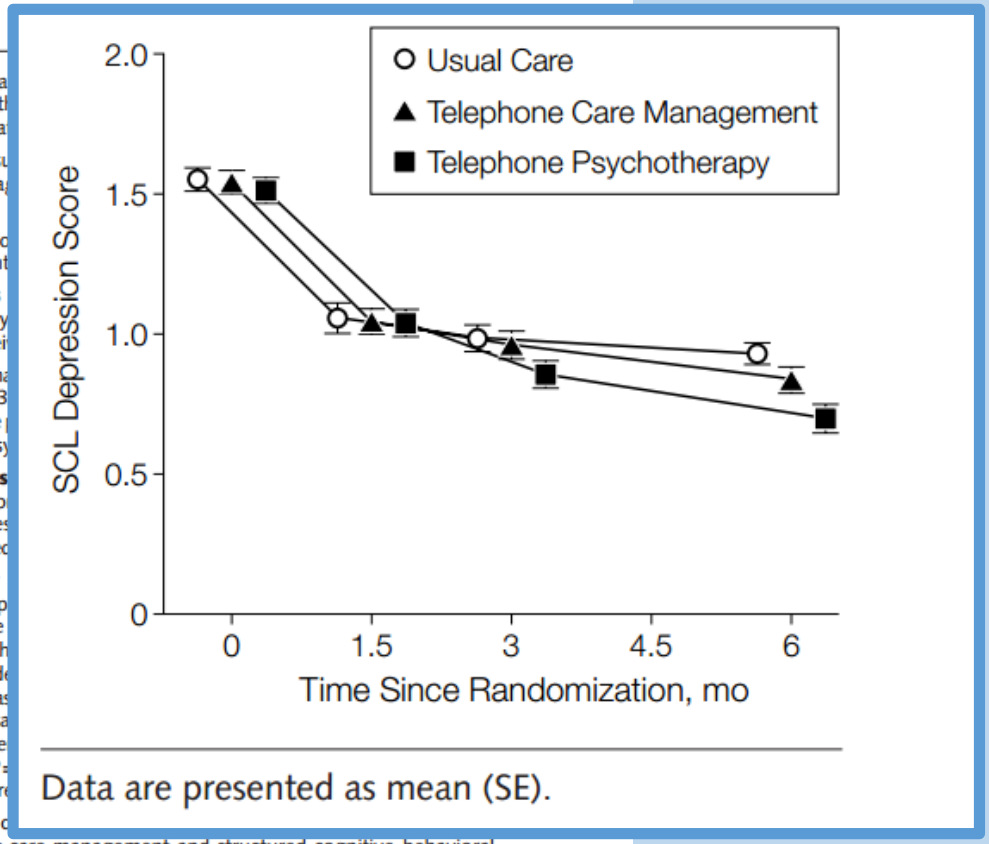
Main Outcome Measures
6 months assessed depressio
and the Patient Health Ques
with treatment. Computerized
cation and outpatient visits.

Results Treatment particip
and 93% for telephone care
care, the telephone psychoth
Checklist Depression Scale d
reporting that depression was
proportion of patients "very sa
The telephone care manage
provement (66% vs 55%, *P*=
mean depression scores were

Conclusions For primary c
phone program integrating care management and structured cognitive-behavioral
psychotherapy can significantly improve satisfaction and clinical outcomes. These

A BUNDANT EVIDENCE SUPports the efficacy of antidepressant pharmacotherapy and structured psychotherapy for treatment of depression.[1-3] Unfortunately, the reach and actual effectiveness of either treatment remain poor. Of patients who begin taking antidepressants, 40% discontinue within a month, and only 25% receive even minimal levels of follow-up.[4,5] Only one third of patients with depressive disorders receive any psychotherapy.[6] Of those beginning psychotherapy, 25% attend only 1 session and only half attend 4 or more sessions.[7] At the population level, only 25% to 30% of those with depressive disorders receive an effective level of either treatment.[6,8]

While shortcomings in the care of depression parallel those seen for other chronic illnesses,[9,10] depression treatment presents special challenges. Depression is defined by pessimism, dis-



Lancet (2009)

	Intervention		Control		Adjusted OR/adjusted difference in means (95% CI)†	p value
	N	n (%)/mean (SD)*	N	n (%)/mean (SD)*		
Recovery (BDI <10)	109	46 (42%)	101	26 (26%)	2·07 (1·11 to 3·87)	0·023
BDI score	109			·2)		
SF-12 mental subscore	95			·2)		
EQ-5D s	99			·26)		

Intenti n-to-treat analysis adjusted for baseline BDI score and stratification (centre) and other minimisation variables

Swing of 10 cases would nullify the difference

"Small" to "medium" effect (d = 0.4)

Only 62% o
re ived th
yet

Although a higher proportion in the intervention group than in the control group reported taking antidepressants, the differences were small and neither was greater than could occur by chance. At 4 months, 53 of 104 (51%) patients in the intervention group and 43 of 92 (47%) in the control group reported antidepressant use; at

The UK Government
to psychological thera
The plans include
3600 therapists to deliver such therapies.[5] Cognitive-behavioural therapy (CBT) is a large part of these plans.

Methods

Meta-analyses – Dep/Anx

Psychological Medicine, 2007, **37**, 319–328. © 2006 Cambridge University Press
doi:10.1017/S0033291706008944 First published online 20 November 2006 Printed in the United Kingdom

REVIEW ARTICLE

Internet-based cognitive behaviour therapy for symptoms of depression and anxiety: a meta-analysis

VIOLA SPEK[1,2*], PIM CUIJPERS[3], IVAN NYKLÍČEK[1], HELEEN RIPER[4], JULES KEYZER[2] AND VICTOR POP[1,2]

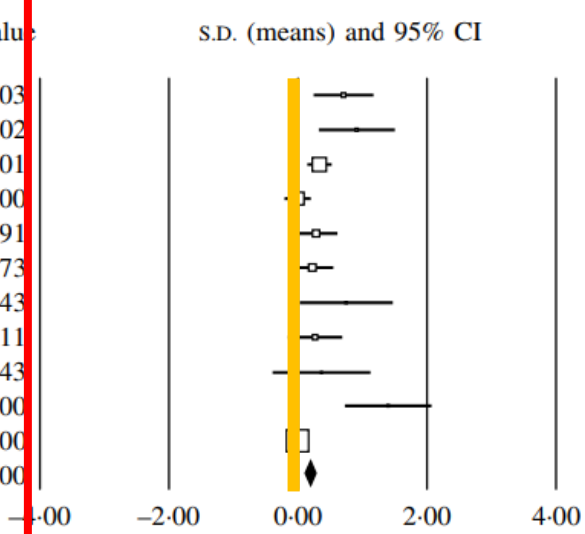
[1] *Department of Psychology and Health, Tilburg University, The Netherlands*; [2] *Diagnostic Centre Eindhoven, The Netherlands*; [3] *Department of Clinical Psychology, Vrije Universiteit Amsterdam, The Netherlands*; [4] *Trimbos-instituut, Netherlands Institute of Mental Health and Addiction, The Netherlands*

Psychological Medicine (2007)

- 12 RCTs
- iCBT vs 'control'
- Mixed depression and anxiety symptoms

"Small" effect (d = 0.2)

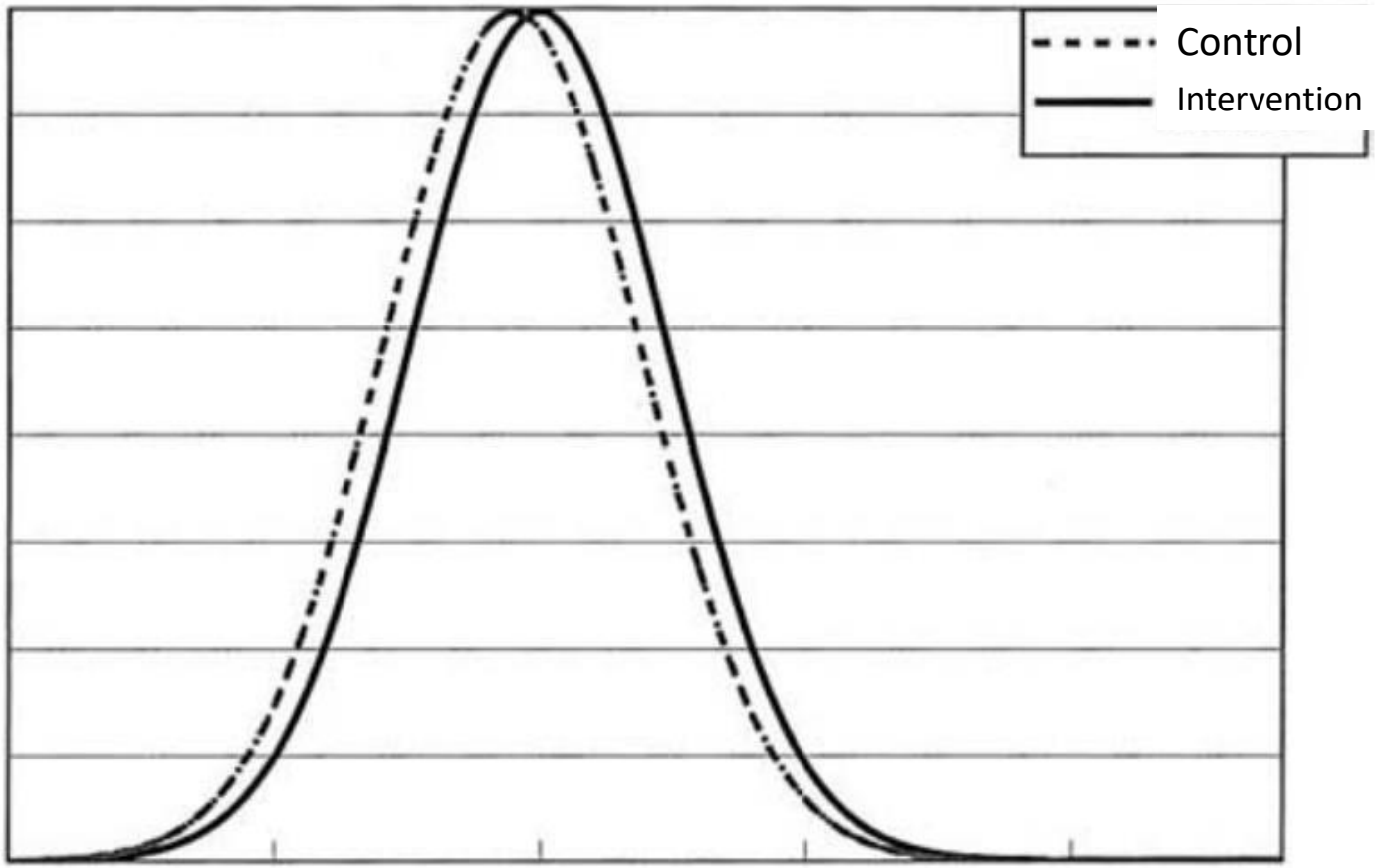
		Statistics for each study						
Model	Study name (1st-named author)	S.D. (means)	S.E.	Variance	Lower limit	Upper limit	Z value	p value
	Andersson (2006)	0·769	0·259	0·067	0·261	1·276	2·967	0·003
	Carlbring (2001)	0·991	0·327	0·107	0·350	1·632	3·032	0·002
	Christensen (2004)	0·365	0·106	0·011	0·157	0·574	3·437	0·001
	Clarke (2002)	0·000	0·116	0·013	–0·227	0·227	0·000	1·000
	Clarke (2005) Mail	0·310	0·184	0·034	–0·050	0·670	1·690	0·091
	Clarke (2005) Phone	0·247	0·181	0·033	–0·108	0·601	1·364	0·173
	Hirai (2005)	0·812	0·401	0·161	0·026	1·597	2·026	0·043
	Kenardy (2003)	0·293	0·234	0·055	–0·166	0·751	1·251	0·211
	Klein (2001)	0·400	0·422	0·178	–0·426	1·226	0·949	0·343
	Klein (2006)	1·516	0·373	0·139	0·785	2·248	4·063	0·000
	Patten (2003)	0·000	0·072	0·005	–0·141	0·141	0·000	1·000
Fixed		0·195	0·046	0·002	0·105	0·284	4·264	0·000



INTRODUCTION

people using the internet is still rising. Internet

Figure 1
Graphic Representation of a 0.21 Effect Size



Adapted from Hyde (2005)

Meta-analyses -- Depression

Cognitive Behaviour Therapy Vol 38, No 4, pp. 196–205, 2009

Internet-Based and Other Computerized Psychological Treatments for Adult Depression: A Meta-Analysis

Gerhard Andersson[1] and Pim Cuijpers[2]

[1]*Department of Behavioural Sciences and Learning, Swedish Institute for Disability Research, Linköping University, Linköping, and Department of Clinical Neuroscience, Psychiatry Section, Karolinska Institutet, Stockholm, Sweden;* [2]*Department of Clinical Psychology and EMGO+ Institute, VU University, Amsterdam, the Netherlands*

Abstract. Computerized and, more recently, Internet-based treatments for depression have been developed and tested i
of these treatments ar
particular, the autho
computerized treatmer
with a total of 2446 pa
size of the 15 comparis
vs. control groups at p
estimate was moderate
and unsupported (*d* =
more studies are need
evidence-based treatm
based; role of support

Received 15 August, 2

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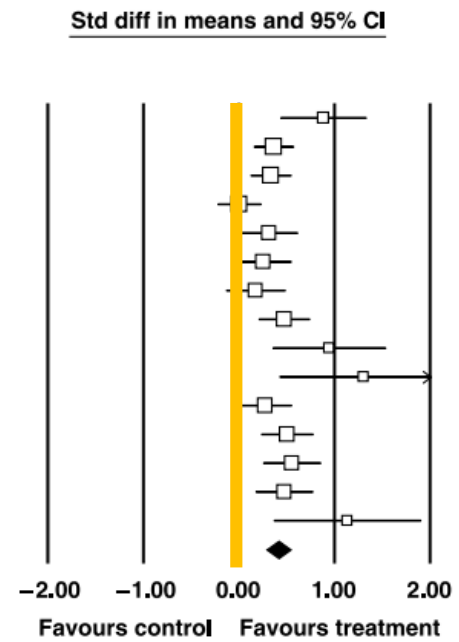
45. E-mail: Gerhard.A*

Adult depression is
which numerous di
been developed (E
Steele, 2006). Among
ment options, severa
effective (Cuijpers, va
van Oppen, 2008), w
ences between the ma
Cognitive behaviour
has been investigated in by far the most trials
and in different administration formats such

been tested in research.

Internet-delivered treatments of depression

Study name	Statistics for each study				
	Std diff in means	Lower limit	Upper limit	Z-Value	*p*-Value
Andersson et al., 2005	0.88	0.43	1.33	3.83	.00
Christensen et al., 2004, A	0.36	0.15	0.57	3.39	.00
Christensen et al., 2004, B	0.33	0.12	0.54	3.03	.00
Clarke et al., 2002, B	0.00	−0.23	0.23	0.00	1.00
Clarke et al., 2005, A	0.31	0.01	0.61	2.02	.04
Clarke et al., 2005, B	0.25	−0.05	0.55	1.66	.10
Clarke et al., 2009	0.17	−0.14	0.48	1.07	.28
Proudfoot et al., 2004	0.47	0.20	0.74	3.45	.00
Ruwaard et al., 2009	0.94	0.35	1.53	3.11	.00
Selmi et al., 1990, A	1.30	0.42	2.18	2.89	.00
Spek et al., 2007, A	0.27	−0.01	0.55	1.91	.06
Van Straten et al., 2008	0.50	0.23	0.77	3.59	.00
Warmerdam et al., 2008, A	0.55	0.25	0.85	3.57	.00
Warmerdam et al., 2008, B	0.47	0.17	0.77	3.07	.00
Wright et al., 2005, B	1.13	0.36	1.90	2.87	.00
	0.41	0.29	0.54	6.47	.00



Cognitive Behaviour Therapy (2009)

- 12 RCTs
- iCBT vs 'control'
- Depression symptoms

"Medium" effect (d = 0.4)

Meta-analyses -- Anxiety

Cochrane Library (2016)

- 38 studies
- iCBT vs various
- Anxiety

Cochrane Library

What does the evidence from the review tell us?

ICBT with therapist support was significantly more effective than no treatment (waiting list) at improving anxiety and reducing symptoms. The quality of the evidence was low to moderate.

There was no significant difference in the effectiveness of ICBT with therapist support and unguided CBT, though the quality of the evidence was very low. Patient satisfaction was generally reported to be higher with therapist-supported ICBT, however patient satisfaction was not formally assessed.

ICBT with therapist support may not differ in effectiveness as compared to face-to-face CBT. The quality of the evidence was low.

DOI: 10.1002/14651858.CD011565.pub2.

Meta-analyses – Youth (< 25y)

PLOS One (2015)

- 13 RCTs
- iCBT vs 'no treatment' or 'placebo'
- Depression/anxiety

PLOS | ONE

RESEARCH ARTICLE

Internet and Computer-Based Cognitive Behavioral Therapy for Anxiety and Depression in Youth: A Meta-Analysis of

CrossMark

OPEN ACCESS

Citation: Ebert DD, Zarski A-
Stikkelbroek Y, Cuijpers P, Be
Internet and Computer-Based
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Meta-Analysis of Randomized
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unrestricted use, distribution,
medium, provided the original
credited.

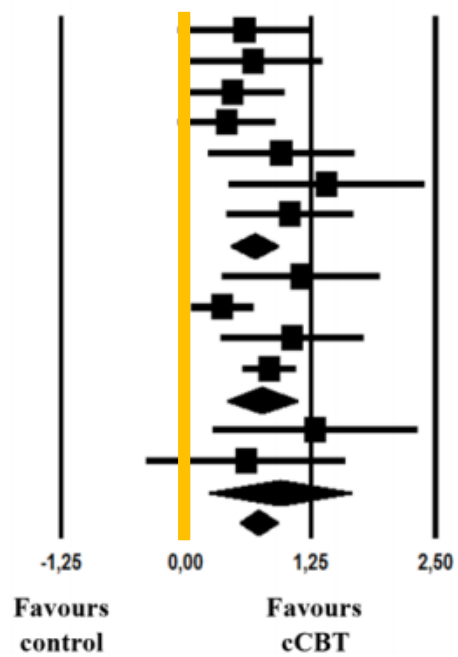
Data Availability Statement:
within the manuscript.

Funding: This study is funded by the European

Group by target condition	Study name	Statistics for each study			
		Hedges' g	lower limit	upper limit	p-value
Anx	Keller 2009	0.59	-0.07	1.25	0.08
Anx	Khanna 2010	0.68	-0.01	1.37	0.05
Anx	March 2009	0.47	-0.04	0.98	0.07
Anx	Spence 2011	0.42	-0.07	0.90	0.09
Anx	Storch 2011	0.96	0.23	1.69	0.01
Anx	Tillfors 2011	1.41	0.44	2.39	0.00
Anx	Wuthrich 2012	1.05	0.41	1.68	0.00
Anx	**Anx overall**	**0.68**	**0.45**	**0.92**	**0.00**
Dep	Fleming 2012	1.16	0.37	1.95	0.00
Dep	Makarushka 2012	0.37	0.06	0.68	0.02
Dep	Stasiak 2012	1.07	0.36	1.78	0.00
Dep	Van der Zanden 2012	0.84	0.58	1.10	0.00
Dep	**Depr overall**	**0.76**	**0.41**	**1.12**	**0.00**
Trans	Sethi 2010	1.30	0.28	2.32	0.01
Trans	Stallard 2011	0.61	-0.39	1.60	0.23
Trans	**Trans overall**	**0.94**	**0.23**	**1.66**	**0.01**
Overall		**0.72**	**0.54**	**0.91**	**0.00**

and two were of a transdiagnostic nature, targeting both anxiety and depression. The overall

"Medium" to "large" effect (g = 0.7)



eTherapy vs. Face-to-Face therapy

COGNITIVE BEHAVIOUR THERAPY, 2018
VOL. 47, NO. 1, 1–18
https://doi.org/10.1080/16506073.2017.1401115

Routledge
Taylor & Francis Group

OPEN ACCESS Check for updates

Internet-based vs. face-to-face cognitive behavior therapy for psychiatric and somatic disorders: an updated systematic review and meta-analysis

Per Carlbring[a], Gerhard Andersson[b,c], Pim Cuijpers[d], Heleen Riper[d,e,f,g] and
Erik Hedm

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of Clinical N
Clinical, Neu
The Netherla
Public Health
University of
Osher Center

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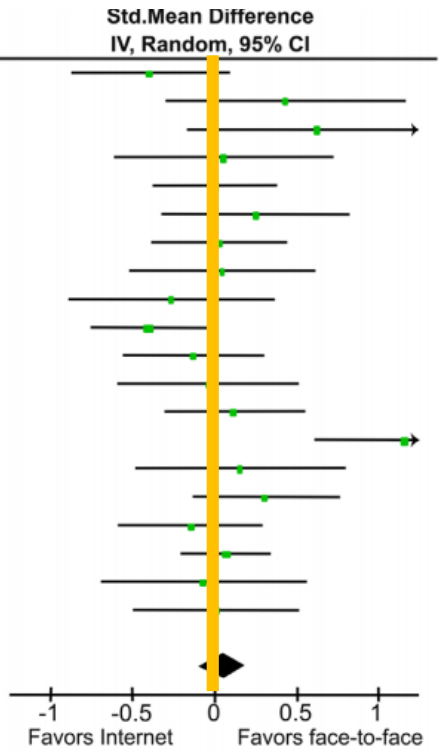
Study	Weight	Std. Mean Difference IV, Random, 95% CI
Andersson et al. (2013)	5.3%	-0.39 [-0.87, 0.09]
Andersson et al. (2009)	3.0%	0.43 [-0.30, 1.15]
Andersson et al. (2013)	2.6%	0.62 [-0.17, 1.42]
Andrews et al. (2011)	3.4%	0.06 [-0.61, 0.72]
Bergström et al. (2010)	6.9%	0.00 [-0.37, 0.37]
Blom et al. (2015)	4.2%	0.25 [-0.32, 0.82]
Botella et al. (2010)	6.2%	0.03 [-0.38, 0.44]
Carlbring et al. (2005)	4.3%	0.05 [-0.51, 0.61]
Gollings et al. (2006)	3.7%	-0.26 [-0.88, 0.36]
Hedman et al. (2011)	7.1%	-0.40 [-0.75, -0.05]
Jasper et al. (2014)	5.9%	-0.13 [-0.55, 0.30]
Kaldo et al. (2008)	4.4%	-0.04 [-0.58, 0.51]
Kiropoulus et al. (2008)	6.0%	0.12 [-0.30, 0.54]
Lancee et al. (2016)	4.4%	1.16 [-0.61, 1.71]
Lappainen et al. (2014)	3.6%	0.16 [-0.48, 0.79]
Paxton et al. (2007)	5.7%	0.31 [-0.13, 0.76]
Schover et al. (2012)	5.8%	-0.14 [-0.58, 0.29]
Spek et al. (2007)	8.6%	0.07 [-0.21, 0.34]
Vallejo et al. (2015)	3.8%	-0.06 [-0.68, 0.56]
Wagner et al. (2014)	5.0%	0.01 [-0.49, 0.51]
Total (95% CI)	**100.0%**	**0.05 [-0.09, 0.20]**

Heterogeneity: Tau² = 0.04; Chi² = 32.91, df = 19 (P = 0.02); I² = 42%
Test for overall effect: Z = 0.75 (P = 0.45)

Equivalence



Cognitive Behaviour Therapy (2018)

- 20 RCTs
- iCBT vs f2f equivalent
- Many conditions

eTherapy vs. Face-to-Face therapy

COGNITIVE BEHAVIOUR THERAPY, 2018
VOL. 47, NO. 1, 1–18
https://doi.org/10.1080/16506073.2017.1401115

Internet-based vs. face-to-face cognitive behavior therapy for psychiatric and somatic disorders: an updated systematic review and meta-analysis

Per Carlbring[a], Gerhard Andersson[b,c], Pim Cuijpers[d], Heleen Riper[d,e,f,g] and Erik Hedman-Lagerlöf[h]

- 17 studies not properly blinded
- Fragmented literature, very small subsets
- Margins-of-Error were noticeably large
- Several of the studies reviewed were conducted by the reviewers themselves

What should be the benchmark?

Clinical Review & Education

Review

Efficacy of Pharmacotherapy and Psychotherapy for Adult Psychiatric Disorders
A Systematic Overview of Meta-analyses

Maximilian Huhn, MD; Magdolna Tardy, MSc; Loukia Maria Spineli, MSc; Werner Kissling, MD; Hans Förstl, MD; Gabriele Pitschel-Walz, PhD; Claudia Leucht, MD; Myrto Samara, MD; Markus Dold, MD; John M. Davis, MD; Stefan Leucht, MD

IMPORTANCE There is debate about the effectiveness of psychiatric treatments and whether pharmacotherapy or psychotherapy should be primarily used.

OBJECTIVES To perform a systematic overview on the efficacy of pharmacotherapies and psychotherapies for major psychiatric disorders and to compare the quality of pharmacotherapy and psychotherapy trials.

EVIDENCE REVIEW We searched MEDLINE, EMBASE, PsycINFO, and the Cochrane Library (April 2012, with no time or language limit) for systematic reviews on pharmacotherapy or psychotherapy vs placebo, pharmacotherapy vs psychotherapy, and their combination vs either modality alone. Two reviewers independently selected the meta-analyses and extracted efficacy effect sizes. We assessed the quality of the individual trials included in the pharmacotherapy and psychotherapy meta-analyses with the Cochrane risk of bias tool.

FINDINGS The search yielded 45 233 results. We included 61 meta-analyses on 21 psychiatric disorders, which contained 852 individual trials and 137 126 participants. The mean effect size of the meta-analyses was medium (mean, 0.50; 95% CI, 0.41-0.59). Effect sizes of psychotherapies vs placebo tended to be higher than those of medication, but direct comparisons, albeit usually based on few trials, did not reveal consistent differences. Individual pharmacotherapy trials were more likely to have large sample sizes, blinding, control groups, and intention-to-treat analyses. In contrast, psychotherapy trials had lower dropout rates and provided follow-up data. In psychotherapy studies, wait-list designs showed larger effects than did comparisons with placebo.

CONCLUSIONS AND RELEVANCE Many pharmacotherapies and psychotherapies are effective, but there is a lot of room for improvement. Because of the multiple differences in the methods used in pharmacotherapy and psychotherapy trials, indirect comparisons of their

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Conclusions

- Good
  - Lots of research
  - Viable efficacy shown
  - eTherapy seems similar to traditional therapy
  - Youth-compatible
- Bad
  - Studies are weak
  - Adherence is poorly controlled
  - Commercial products poorly studied
  - Effects typically small-to-medium (as with traditional therapy)
- Unclear
  - What does the ‘e’ add?
  - Individual differences in receptiveness

eTherapy: What the evidence shows... and doesn't show

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