

Economic evaluation of unsupported computerised cognitive behavioural therapy for depression

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Objective

Examine the cost-effectiveness of computerised cognitive behavioural therapy (CCBT) compared with treatment as usual by a GP (TAU), and with a combination of both CCBT and TAU (COMBI) for depression

Background Trial design Analysis Results Conclusion

Depression

- High prevalence
- Impacts quality of life
- High costs
- Undertreatment



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CCBT

- Previous research on effectiveness
 - Effectiveness of CCBT is promising (Kaltenthaler et al., 2006)
 - Supported CCBT vs CCBT without support
- Limited evidence on cost-effectiveness in favour of CCBT

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Design of the trial

- Randomised trial:
 1. CCBT
 2. TAU by a GP
 3. CCBT and TAU (COMBI)
- Participants:
 - Recruitment in general population
 - In/exclusion criteria (f.i. BDI-II score ≥ 16 , age 18-65 years)
- Assessments:
 - Baseline, 2, 3, 6, 9 and 12 months: depressive severity, quality of life, productivity & disease
 - Monthly: health care use
 - Track-and-trace system: usage of CCBT

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CCBT




- Colour-your-life*
- Online program
- Based on cognitive behavioural therapy
- Self-help without assistance
- 8 sessions and 1 booster session
- 13 homework assignments
- Mood diary
- Patient forum
- Audio, video, and text
- Effective in people over 50 years old with sub-threshold depression (Spek et al., 2007)

* Developed by Riper & Kramer (2004) from the Trimbos-institute


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TAU

- Treatment as usual by a GP
 - Depression Guideline Dutch College of General Practitioners
 - 4-5 biweekly consultations
 - Combined with antidepressant if indicated
 - If necessary: referral to mental health care specialist


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Flow of the trial participants



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    graph TD
      A[Recruitment population  
N=217,816] --> B[Participated in screening  
N=23,139]
      B --> C[Assessed for eligibility  
N=412]
      C --> D[Randomly allocated  
N=303]
      D --> E1[CCBT  
N=100]
      D --> E2[TAU  
N=103]
      D --> E3[COMBI  
N=100]
      E1 --> F1[Data available  
12 months: N=88]
      E2 --> F2[Data available  
12 months: N=91]
      E3 --> F3[Data available  
12 months: N=88]
  
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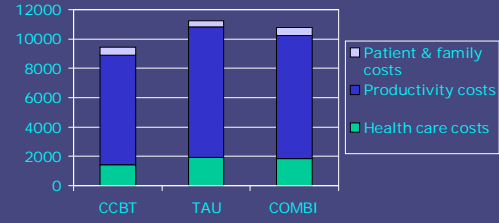
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Analysis


- Societal perspective
- All costs
- 12 months
- Cost-utility & cost-effectiveness analysis (bootstrap re-sampling)
- Sensitivity analyses

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Costs



Note: No correction for baseline costs

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Costs

Costs during 12-months follow-up

CCBT	TAU	COMBI
€9092	€9765	€10534

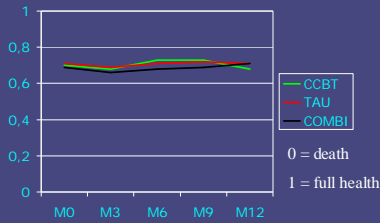
Note: Regression correction for baseline costs

- CCBT lowest costs in all sensitivity analyses
- COMBI highest costs when baseline regression correction
- TAU highest costs when no baseline regression correction

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Quality of life

Utilities (EQ-5D, Dolan)



Note: No correction for baseline utility

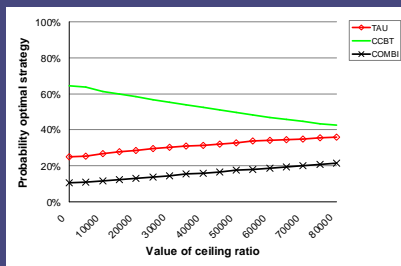
Quality of life

- QALY (quality-adjusted life year, range 0.00–1.00) about 0.70
- Regression correction for baseline utility
- No significant group differences
- Similar results for sensitivity analyses

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Background Trial design Analysis Results Conclusion

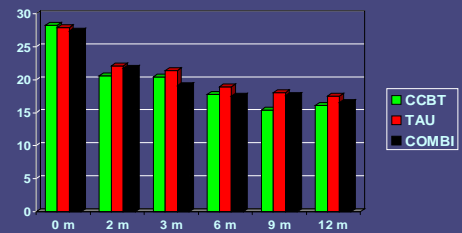
Cost-utility



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Depression severity

BDI-II scores during follow-up



No differences (all $p > .05$) between the interventions at each time-point (adjusted for baseline BDI-II) in the intention-to-treat population

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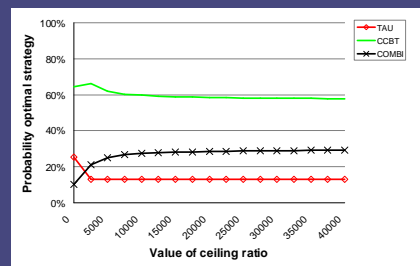
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Depression severity

	CCBT	COMBI	TAU
Baseline BDI-II score	28.2	27.4	27.9
Continuous change (mean pts improvement)	11.10 pts	10.47 pts	9.77 pts
Reliable change (i.e. 9 pts)	51.1 %	60.2 %	48.4 %

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Cost-effectiveness

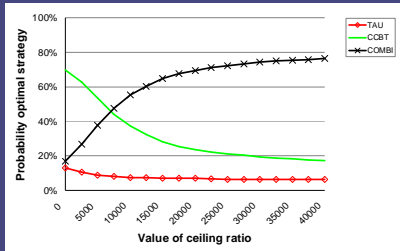


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Cost-effectiveness

- Sensitivity analysis of reliable change on BDI-II



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In sum

- CCBT seems most efficient treatment strategy
- However,
 - Increase threshold value for QALY:
 - Tends to indifference
 - Cost-effectiveness with reliable change outcome in favour of COMBI
 - Outcome measures depression severity and quality of life
 - No significant group differences
 - Not much improvement in all three groups



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Discussion of findings

Despite results in favour of CCBT,

- The severity of depression in our study sample,
- Moderate improvements in depression, and
- Lack of improvement in quality of life

➔ Suitability of treatment?

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Questions?

More information:

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Symposia e-mental health summit Friday 16 October:

4.9 Online cognitive-behavioural therapy for depression from different perspectives (13.30 - 14.45)

PhD Defence Esther de Graaf, October 23, Maastricht University

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