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NICE methodology and the case of counselling for depression

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Overview

CONTEXT - approach to question of the session:
Systematic reviews for an ageing NHS - Does NICE need to change its methodology?

FOCUS
(3) How will we know if the new NICE guideline for depression is being implemented well?
(2) Why do some systematic reviews arrive at different findings from others? Is this a problem?
(1) What is NICE's current methodology for evaluating psychological therapies?

CONCLUSION

Context

British Association for Counselling and Psychotherapy

- **Professional body, membership association, learned society**
- **44,000 members = largest such association in the UK**
- **Charitable remit includes a focus on 'best practice' in the therapy professions**

➢ ***Focus on practitioners***

➢ ***Focus on the public/clients***

NICE Guideline for Depression

2009 Guideline for Depression

Counselling initially excluded – BACP campaign

Counselling included in the 2009 Guidelines but:

- only for those who declined other recommended treatments
- only for subclinical or mild to moderate depression

Relationship between NICE and NHS workforce:

IAPT workforce census data suggest 35% decline in # of qualified counsellors working as high-intensity therapists between 2012 and 2015

Overall IAPT workforce grew by 18% in this period

IAPT Programme (2013). Census of the IAPT Workforce as at August 2012 . Retrieved from https://www.uea.ac.uk/documents/246046/11919343/iapt-workforce-education-and-training-2012-census-report.pdf/907e15d0-b36a-432c-8058-b2452d3628de.

NHS England and Health Education England (2016). 2015 Adult IAPT Workforce Census Report. https://www.england.nhs.uk/mentalhealth/wp-content/uploads/sites/29/2016/09/adult-iapt-workforce-census-report-15.pdf

BACP + NICE Guideline in 2017

Commitment to:

- Client choice
- Range of therapies in NHS

Lindhiem, O., Bennett, C. B., Trentacosta, C. J., & McLear, C. (2014). Client preferences affect treatment satisfaction, completion, and clinical outcome: a meta-analysis. *Clinical Psychology Review, 34,* 506–517.

Williams, R., Farquharson, L., Palmer, L., Bassett, P., Clarke, J., Clark, D. M., & Crawford, M. J. (2016). Patient preference in psychological treatment and associations with self-reported outcome: national cross-sectional survey in England and Wales. *BMC Psychiatry,16*,4

Commitment to CBT

Concern about potential exclusion of counselling in NICE 2017

How will we know if the new NICE guideline for depression is being implemented well?

Research, Guideline, practice links

Critical to understand how Guideline recommendations work in practice

No mechanism whereby findings from NHS practice can influence Guideline

IAPT dataset evidence for counselling

Massive dataset e.g. in 2016-2017

- 500,000 clients completing treatment in
- >160,000 with depression

Year	Intervention	Number of referrals for depressive disorder	Average number of sessions	Recovery rate (%)
2014-15	CBT	28,350	5.1	44.1
	Counselling	14,994	4.4	45.2
2015-16	CBT	35,589	5.8	45.9
	Counselling (CfD)	20,011	5.3	47.6
2016-2017	CBT	45,746	5.9	47.3
	Counselling (CfD)	29,265	5.6	50.2

See also:

Pybis, J., Saxon, D., Hill, A., & Barkham, M. (2017). The comparative effectiveness and efficiency of cognitive behaviour therapy and counselling in the treatment of depression: Evidence from the 2nd UK National Audit of Psychological Therapies. *BMC Psychiatry, 17,* 215.

Why do some systematic reviews arrive at different findings from others? Is this a problem?

Reviews examining counselling

All studies focussed on adult depression; 2 focussed on primary care; 2 network meta-analysis

Cape, J., Whittington, C., Buszewicz, M., Wallace, P. and Underwood, L. (2010) Brief Psychological Therapies for Anxiety and Depression in Primary Care: Meta-Analysis and Meta-Regression. BMC Medicine, 8, 38.

- 3962 patients, 34 studies [11 CBT, 8 counselling]

P. Cuijpers, E. Driessen, S. D. Hollon, P. van Oppen, J. Barth, G. Andersson. (2012) The efficacy of non-directive supportive therapy for adult depression: a meta-analysis. Clinical Psychology Review, 32 (4), 280-291

- 2508 patients, 31 studies [18/30 comparisons NDST compared to CBT]

Barth, J., Munder, T., Gerger, H., Nüesch, E., Trelle, S., Znoj, H., ... & Cuijpers, P. (2016). Comparative efficacy of seven psychotherapeutic interventions for patients with depression: a network meta-analysis. *Focus*, *14*(2), 229-243.

- 15,118 patients, 198 studies [139 CBT, 37 supportive counselling]

Linde, K., Rücker, G., Sigterman, K., Jamil, S., Meissner, K., Schneider, A., & Kriston, L. (2015). Comparative effectiveness of psychological treatments for depressive disorders in primary care: network meta-analysis. *BMC family practice*, *16*(1), 103.

- 7024 clients, 37 studies [9 CBT, 8 'other', "mainly counselling" (p11)

Findings for counselling

"In network meta-analyses face-to-face CBT, other face-to-face therapies (mainly counselling approaches)….were superior to usual care or placebo." (Linde et al., 2015, p11)

- Researchers also urge caution about findings from network meta-analysis

In summary, when studies with a low researcher allegiance against counselling together with evidence from bona fide counselling interventions are considered, the meta-analytic studies comparing counselling with CBT for depression suggest either broad equivalence of patient outcomes or, where differences do exist, that they are small." [Barkham, Moller & Pybis, 2017, p256]

Barkham, M., Moller, N. P., & Pybis, J. (2017). How should we evaluate research on counselling and the treatment of depression? A case study on how the National Institute for Health and Care Excellence's draft 2018 guideline for depression considered what counts as best evidence. *Counselling and psychotherapy research*, *17*(4), 253-268.

Questions about RCT evidence base

- **Concern about researcher allegiance** – meta meta-analysis found relationship between researcher allegiance and study outcome "substantial and robust" (Munder et al, 2013)

Munder, T., Brütsch, O., Leonhart, R., Gerger, H., & Barth, J. (2013). Researcher allegiance in psychotherapy outcome research: an overview of reviews. *Clinical Psychology Review*, *33*(4), 501-511.

- **Concern about lack of power** - "We can conclude that comparative outcome trials in the field of psychotherapy for depression are heavily underpowered and the trials that were carried out do not come close to the statistical power that is needed to examine whether one therapy is more effective than another" (Cuijpers, 2016)

Cuijpers, P. (2016). Are all psychotherapies equally effective in the treatment of adult depression? The lack of statistical power of comparative outcome studies. *Evidence-based mental health*, ebmental-2016.

What is NICE's current methodology for evaluating psychological therapies?

Service user voices

NHS England's business plan for 2016/17 commitment: "to make a genuine shift to place patients at the centre, shaping services around their preferences and involving them at all stages"
(NHS England, 2016, p.49)

NICE has a similar commitment
(NICE Patient and Public Involvement Policy, 2017)

However in 2017 no update from 2009 of section on service user voice

Network meta-analysis: NICE Guideline for depression

- Questions about included studies
  - Difficult to understand which studies included in which analyses
  - Rationale for inclusion unclear – e.g. NICE analysis 11 counselling studies included
- Unclear whether data extraction and assessment of methodological quality for included studies were performed by independent raters
- Failure to use GRADE (Grading of Recommendations Assessment, Development and Evaluation) system for rating the quality of evidence (Salanti et al., 2014; Puhan et al., 2014).
- Failure to systematically consider impact of researcher allegiance
- Questions about how studies grouped into classes = necessarily subjective

Linde et al. (2015): "Because psychological treatments are considered complex interventions, grouping them can be performed along several dimensions and remains controversial."

Linde, K., Sigterman, K., Kriston, L., Rücker, G., Jamil, S., Meissner, K., & Schneider, A. (2015). Effectiveness of Psychological Treatments for Depressive Disorders in Primary Care: Systematic Review and Meta-Analysis. *Annals of Family Medicine*, *13*(1), 56–68.

Key outcome variable

Main clinical outcome = Standardized mean difference
SMD of depressive symptom severity change from baseline to the end of treatment as measured by continuous scales

- **Missing data for calculation of SMD led to estimation of SMD**

E.g. the analysis of SMD of symptom change for less severe depression, treatment effects in 86 of the 106 trials had to be estimated
→ Majority of the trial effect estimates was approximated

- **Question assumptions used to approximate trial effects**
- **Question why not use SMD of symptom severity at the end of treatment (much more complete data)**

Assumptions of network meta-analysis

Homogenity of populations

Statistical homogenity

Within-class heterogeneity

Between-trial heterogeneity

"It was assumed, that the statistical between trial-heterogeneity (the variation of the effect estimates) is the same for all comparisons of interventions. Although it simplifies statistical modelling, empirical findings suggest that this assumption is very unlikely to hold (Turner et al., 2016; Rhodes, Turner & Higgins, 2015). In addition, in some of the network meta-analyses moderate to high between-trial heterogeneity was present as compared to the average heterogeneity in a large number of meta-analyses (Salanti et al., 2014; Turner et al., 2016; Rhodes, Turner & Higgins, 2015), precluding firm conclusions regarding treatment effect estimates like in any meta-analysis."

Assumptions of network meta-analysis

Inconsistency - global and local = assumption that treatment effect estimates from different sources (particularly form direct comparative trials and from indirect comparisons) are sufficiently homogeneous

A careful investigation of most networks that are depicted in the Guideline reveals that the decisive body of evidence consists of two weakly connected sub-networks: one testing pharmacological interventions and using placebo as control treatment, while another testing psychological or physical interventions with waitlist or TAU as control. Even if these sub-networks can be consistent for themselves, due to sparse comparisons between them an essential part of inconsistency (for example, for comparisons of pharmacological and psychological treatments) cannot be assessed empirically.

Transitivity = assumption trials are sufficiently similar in clinical and design aspects

Linde, Rücker, Schneider & Kriston (2016) conducted a network meta-analysis of both pharmacological and psychological trials for depression in primary care and discussed the outcomes of this NMA in comparison with NMAs conducted separately for medications and psychological interventions. The authors concluded that while their assessment of the transitivity of the separate NMAs was broadly acceptable, that the assumption of transitivity for the joint analysis was questionable.

Use of treatment rankings

Analysis used strong focus on ranking of treatments according to their efficacy

Question about approach taken to ranking

Question about focus on ranking

Treatment ranking needs caution (Salanti, Ades & Ioannidis, 2011; Ioannidis, 2009).

e.g. imprecision of treatment effect estimates is frequently associated with good (low) ranks.

e.g. interventions/intervention classes with best (lowest) median ranks small N

Verdict

While the network meta-analysis reported in the NICE Guideline follows scientific standards it relies on important assumptions. To be able to integrate the whole body of evidence in large connected networks, these assumptions were explicitly (and sometimes implicitly) translated into statistical models, of which several were both innovative and complex. However, uncertainties regarding the categorization of interventions, potential clinical heterogeneity of the investigated populations and treatments, statistical heterogeneity and inconsistency present in several analyses, the utilization of questionable class models, a large amount of necessary approximation of trial data for central outcomes, the non-negligible risk of bias present both within and across trials, and the prioritization of ranking information for interpretation, all raise questions regarding the trustworthiness of the findings. Some of the assumptions (for example, clinical homogeneity, identical between-trial statistical heterogeneity across comparisons, consistency, acceptable risk of bias within studies) are unlikely to hold completely and it is unclear how robust the applied methods are against the violation of these assumptions. It is our conclusion, based on the identified issues outlined, that while some findings of this NMA are likely to be trustworthy, others may simply be wrong.

Conclusion

Does NICE need to change its methodology?

Yes

- **Research based on large-scale (NHS) routine outcome data**
- **Service user voices, qualitative research**
- **Synthesis of existing meta-analytic studies**
- **Cautious approach to new statistical methods**

Not all eggs in one network meta-analysis basket!

- **Consider conclusions of other guideline groups**

Moriana, J. A., Galvez-Lara, M., & Corpas, J. (2017). Psychological treatments for mental disorders in adults: a review of the evidence of leading international organizations. Clinical Psychology Review, 54, 29-43

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Barkham, M., Moller, N. P., & Pybis, J. (2017). How should we evaluate research on counselling and the treatment of depression? A case study on how the National Institute for Health and Care Excellence's draft 2018 guideline for depression considered what counts as best evidence. *Counselling and psychotherapy research, 17(4),* 253-268.

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Questions?

Thank you

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