COMPASSION, ACCEPTANCE AND MINDFULNESS FOR PSYCHOSIS: A REVIEW AND META-ANALYSIS

Bassam Khoury[1] , Ph.D. Candidate, Tania Lecomte[1], Ph.D. , Brandon A. Gaudiano[2], Ph.D., Karine Paquin[1], Ph.D. Candidate,

[1]Department of Psychology, Université de Montréal, Montréal, QC, Canada

[2]Psychosocial Research Program, Butler Hospital & Department of Psychiatry & Human Behavior, Alpert Medical School of Brown University

ABSTRACT

Background: An increasing number of third-wave cognitive behavior (3rdW) interventions are being used with individuals with psychosis or schizophrenia; however no meta-analysis has investigated their effectiveness. ***Objective:*** To evaluate the efficacy of 3rdW interventions for psychosis or schizophrenia, we conducted an effect-size analysis. ***Data Sources*:** A systematic review of studies published in journals or in dissertations in PubMED, PsycINFO or MedLine from the first available date until March 1st, 2013. ***Review Methods:*** A total of 14 studies (n = 468) were included. ***Results:*** Effect-size estimates suggested that 3rdW interventions are moderately effective in pre-post analyses (n = 12; Hedge's g = .52). When compared with a control group, we found a smaller effect size (n = 7; Hedge's g = .41). The obtained results were maintained at follow-up when data were available (n = 6; Hedge's g = .62 for pre-post analyses; results only approached significance for controlled analyses, n = 3; p = .08). Results suggested higher effects on negative symptoms compared with positive ones. Mindfulness, acceptance, and compassion strongly moderated the clinical effect size. However, heterogeneity was significant among the trials, probably due to the diversity of interventions included and outcomes assessed. ***Conclusion***: 3rdW interventions are moderately effective in treating negative symptoms and can be useful adjunct to pharmacotherapy; however more research is warranted to identify the most effective elements of 3rdW interventions.

Introduction

Two recent systematic reviews found that meditation and mindfulness techniques are useful adjuncts to usual care for psychotic disorders in reducing distress, hospitalization rates, and increasing feelings of self-efficacy (Davis and Kurzban, 2012; Helgason and Sarris, 2013), another more general meta-analysis found that mindfulness strongly moderate the effectiveness of mindfulness-based treatments for multiple psychiatric disorders and medical conditions (Khoury et al., submitted).

A growing number of interventions are using these emotion regulation strategies as well as compassion and acceptance with individuals with psychosis or schizophrenia under what is called third-wave CBT (3rdW) treatments; however no meta-analysis has investigated their effectiveness. Moreover the role of mindfulness, compassion and acceptance components in these interventions remains unknown.

In order to address the void of the current literature, we conducted an effect-size analysis with the following objectives: (1) to quantify the size of the 3rdW interventions effect for psychotic disorders; (2) to investigate and quantify the role of 3rdW strategies in moderating the effectiveness of 3rdW interventions for psychosis.

Method

Eligibility criteria

Given the early state of the literature, any study examining the pre-post or controlled effects of a clinical intervention using any of the 3rdW strategies for any psychotic disorders was considered in our analysis. Studies were excluded if they: (1) did not aim to examine treatment effects; (2) reported no clinical outcomes; (3) reported insufficient information to compute an effect size (e.g., only correlational data); or (4) reported data that overlapped with the data from other included studies.

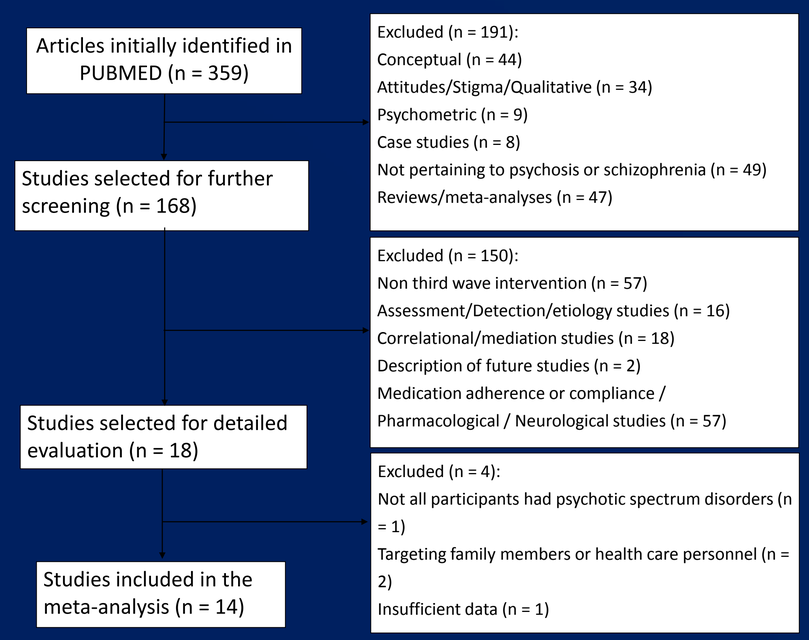
Search

We used the search term *mindfulness* alone or combined with the terms *meditation* or *acceptance or detachment* or *compassion* and combined with one of the terms *psychosis* or *psychotic* or *schizophrenia.*

Risk of bias in individual studies

To minimize the influence of data selection,:

- All outcomes were included, namely positive symptoms, negative symptoms, affective symptoms, thought disorder, functioning, re-hospitalization, quality of life, and mindfulness/acceptance/compassion.
- A study quality score was created based on:
  - adherence of the treatment to an established protocol (ACT, MBCT, LKM, CMT, or CBT with mindfulness/acceptance);
  - administration of measures at follow-up;
  - use of validated mindfulness/acceptance/compassion measures;
  - clinical training of therapists;
  - quality of RCT (blind, control condition, randomization…)



Results

Results suggest higher effects in pre-post analyses (n = 12; Hedge's g = .52; 95% CI [.40, .64], p < .0001) in comparison with controlled analyses (n = 7; Hedge's g = .41; 95% CI [.23, .58], p < .0001), however heterogeneity was moderate to high, suggesting caution in drawing definite conclusions.

Higher effects were also found for negative symptoms compared with positive ones in both the pre-post and controlled analyses with moderate heterogeneity.

Acceptance-based treatments showed highest effects (n = 5; Hedge's g = .63; 95% CI [.40, .86], p < .0001) in pre-post analyses but not in controlled ones (n = 4; Hedge's g = .35; 95% CI [.12, .58], p < .005). The type of the control treatment (waitlist, TAU, or active treatment) might have played a role in that difference.

Pre-post analyses at follow-up suggest maintenance of the effects; however heterogeneity was very high making it difficult to draw definite conclusions about the long-term effectiveness of the interventions. Only three controlled trials had follow-up data available so statistical power was even lower in this analysis.

At the end of treatment, the average pre-post effect size of clinical outcomes was positively moderated by the effects on mindfulness outcomes (n = 5; β = .33, SE = .11, p < .005), the effects on acceptance outcomes, without reaching significance perhaps due to lower statistical power for this analysis (n = 3; β = .14, SE = .21, p = .52, ns), and strongly by the effects on 3rdW strategies combined (n = 6; β = .52, SE = .13, p < .0005) . Only one study used a measure of compassion, rendering it impossible to verify whether compassion separately was a moderator of the clinical effect size. Finally, the effect size on clinical outcomes was not moderated by the study quality score (p = .47, ns).

Table 1.

Description and Effect Size Analyses of the Efficacy of the selected Studies

Study	Type Participants (*N*)	M. Age	% Male	Treatment Group (*n*)	Comp. Group (*n*)	Rnd Ass	% Att	Tx hrs	Clinical Measures (Mind. Measures)	Pre-Post *g* (*g*m)	Fup wks	PreFup *g*(*g*m)	Cntrl *g* post (gm)	Cntrl *g* fup	Sc
Bach & Hayes, 2002; 2012	inpatients with positive psychotic Sx (80)	39.3	63.75	ACT + TAU (35)	TAU (35)	yes	10.0	3	HR	-	17	-	0.54	0.48	7
Chadwick et al., 2005	outpatients with distressing psychosis (10)	33.1	60	Mindfulness + Socratic Discussion (10)	N/A	N/A	26.7	7.5	CORE (MQ)	0.47	-	-	-	-	3
Gaudiano & Herbert, 2006	inpatients with psychotic Sx (40)	40.0	64	ACT + ETAU (19)	ETAU (21)	yes	5.0	3	BPRS; CGI; SRPS; SDS; Rhosp; HR	0.95	17	-	0.32	-	8
Chadwick et al., 2009	outpatients with distressing voices (21)	41.6	-	Mindfulness + metacogniti-ve insight (11)	Waitlist (11)	yes	22.7	10	CORE; PSYRAT; BAVQ-r (SMQ; SMVO)	.49 (.37)	-	-	0.37 (.64)	-	6
Laithwaite et al., 2009	RAP inpatients in High Security Settings (19)	36.9	100	CMT (18)	N/A	N/A	5.26	20		0.19 (0.21)	6	0.30 (0.27)	-	-	5
Dannahy et al., 2011	Outpatients with distressing voices (62)	41.1	35.48	PBCT (62)	N/A	N/A	19	18		0.44	4	0.47	-	-	3
Johnson et al., 2011	SZ spectrum (18)	29.4	83	LKM (18)	N/A	N/A	11.1	7	mDES; DRM; CAINS beta; TEPS; SPWB; THS; SWLS	0.5	13	0.46	-	-	3
White et al., 2011	Psychotic disorder (27)	34	77.78	ACT[1] + TAU (14)	TAU (13)	yes	11.1	10	HADS; PANSS (AAQ-II; KIMS)	0.76 (0.96)	-	-	0.55 (0.76)	-	9
Langer et al., 2012	SZ spectrum (23)	34.7	58.74	MBCT (7)	Waitlist (11)	yes	21.7	8	CGI-SCH (AAQ-II; SMQ)	1.01 (0.39)	-	-	0.55 (0.55)	0.41	7
Shawyer et al., 2012	SZ spectrum with CHs (44)	39.8	55.81	ABCBT(12)	Befrien-ding (14); Wailist (17)	yes	9.1	12	PANSS; mGAF; PSYRATS; QoL; BAVQ-r; IS; VAAS; RSQ	0.31	26	0.35	0.09	0.06	9
Van der Valk et al., 2012	Early Psychosis outpatients (17)	31.8	70.58	Mindfulness(16)	N/A	N/A	18.8	8	SCL-90; (SMQ)	0.28 (0.36)	-	-	-	-	3
Gaudiano et al., 2012	MDD with psychotic features (25)	49.6	14	ADAPT (11)	N/A	N/A	21.4	24	BPRS;	0.91 (1.37)	40	1.11 (1.73)			5
Chien & Lee, 2013	Patients with SZ (96)	25.8	55	Mindfulness Based PsyEd. (48)	Usual care (48)	yes	6	12	(AAQ-II; CAMS-R) ITAQ; BPRS; SSQ-6; Rhosp	0.45	78	0.92	0.57	1.11	5

Conclusion

This meta-analysis examined 14 studies with a combined total of 468 inpatients or outpatients with different psychotic disorders. The results showed that 3rdW interventions are moderately effective in pre-post studies. When compared with a control group (waitlist, TAU, or other treatments), the effect sizes were moderate to small.

Even though 3rdW interventions do not target symptoms reduction but distress resulting from these symptoms, results showed that 3rdW interventions were moderately effective in reducing negative and affective symptoms and in increasing functioning and quality of life.

For positive symptoms, results suggest smaller effects. Findings are comparable to those obtained for CBTp (Wykes et al., 2008) and for mindfulness-based treatments for other disorders (e.g., Khoury et al., submitted).

This diversity of treatment approaches and the corresponding outcomes assessed may have been a large factor in the heterogeneity in effect sizes found in the current meta-analysis.