Psychotherapy and Psychosomatics **Standard Research Article**

Psychother Psychosom DOI: 10.1159/000529411 Received: April 14, 2022 Accepted: January 20, 2023 Published online: April 6, 2023

Psychotherapy for Chronic In- and Outpatients with Common Mental Disorders: The "Choose Change" Effectiveness Trial

Andrew T. Gloster^a Elisa Haller^a Jeanette Villanueva^{a, b} Victoria Block^a Charles Benoy^{a, c} Andrea H. Meyer^d Sandra Brogli^b Veronika Kuhweide^b Maria Karekla^e Klaus Bader^b Marc Walter^{b, f} Undine Lang^b

^aDepartment of Psychology, Division of Clinical Psychology & Intervention Science, University of Basel, Basel, Switzerland; ^bCenter for Psychosomatics and Psychotherapy, University Psychiatric Clinics Basel, Basel, Switzerland; ^cCentre Hospitalier Neuro-Psychiatrique, Ettelbrück, Luxembourg; ^dDepartment of Psychology, Division of Clinical Psychology and Epidemiology, University of Basel, Basel, Switzerland; ^eDepartment of Psychology, University of Cyprus, Nicosia, Cyprus; ^fPsychiatrische Dienste Aargau AG, Windisch, Switzerland

Keywords

Treatment non-response · Anxiety and depression · Effectiveness · Routine care · Transdiagnostic

Abstract

Introduction: Treatment non-response occurs regularly, but psychotherapy is seldom examined for such patients. Existing studies targeted single diagnoses, were relatively small, and paid little attention to treatment under real-world conditions. **Objective:** The Choose Change trial tested whether psychotherapy was effective in treating chronic patients with treatment non-response in a transdiagnostic sample of common mental disorders across two variants of treatment delivery (inpatient and outpatient). Methods: The controlled nonrandomized effectiveness trial was conducted between May 2016 and May 2021. The study took place in two psychiatric clinics with N = 200 patients (n = 108 inpatients and n = 92outpatients). Treatment variants were integrated inpatient care versus outpatient care based on acceptance and commitment therapy (ACT) for approximately 12 weeks. Therapists delivered individualized and non-manualized ACT. Main outcome

karger@karger.com www.karger.com/pps

Karger

∂OPEN ACCESS

© 2023 The Author(s). Published by S. Karger AG, Basel

This article is licensed under the Creative Commons Attribution-NonCommercial 4.0 International License (CC BY-NC) (http://www. karger.com/Services/OpenAccessLicense). Usage and distribution for commercial purposes requires written permission. measures were symptoms (Brief Symptom Checklist [BSCL]); well-being (Mental Health Continuum-Short Form [MHC-SF]), and functioning (WHO Disability Assessment Schedule [WHO-DAS]). Results: Both inpatients and outpatients showed decreases in symptomatology (i.e., BSCL: d = 0.68) and increases in well-being and functioning (MHC-SF: d = 0.60 and WHO-DAS: d = 0.70, with more improvement in the inpatients during treatment. Both groups maintained gains 1 year following treatment, and the groups did not significantly differ from each other at this timepoint. Psychological flexibility moderated impact of stress on outcomes. Conclusions: Psychotherapy as practiced under routine conditions is effective for a sample of patients with common mental disorders, a long history of treatment experience and burden of disease, in both inpatient and outpatient settings. Trial registration: This study was registered in the ISRCTN registry on May 20, 2016, with the registration number ISRCTN11209732.

> © 2023 The Author(s). Published by S. Karger AG, Basel

Registration: This study was registered in the ISRCTN registry on May 20, 2016, with the registration number ISRCTN11209732.

Correspondence to: Andrew T. Gloster, andrew.gloster@unibas.ch

Introduction

Empirical evidence shows that comorbidity is the rule and not the exception, particularly in common mental disorders such as depressive and anxiety disorders [1, 2]. Another clinical challenge that occurs across all diagnoses is a chronic course of mental disorders due to treatment non-response, partial response, or persistence of symptoms. It has been estimated that a third to a half of all psychiatric patients do not respond to their first line therapy – for both pharmacotherapy and psychotherapy [3]. Furthermore, individuals with a long treatment history present for treatment with preconceived ideas about what therapy is, and what is or is not possible. Given the size of these problems, empirically based therapeutic options for treatment non-responders are needed. Toward this goal, it may be particularly helpful to use intervention approaches that target salient factors that contribute to the development and crucially the maintenance of psychopathology across numerous disorders (i.e., transdiagnostic targets and transdiagnostic samples) [4].

An overwhelming majority of studies targeting treatment non-response to date have been pharmacological in nature, with only a few quality psychotherapy trials [5–7]. The lack of psychological options is further problematic in that pharmacological approaches can result in iatrogenic effects [4]. Extant studies of psychotherapy for treatment non-response have found preliminary evidence that interventions containing components of mindfulness, values, and those that help patients relate differently to their symptoms may be especially helpful [5, 8, 9]. Although promising, these studies are limited by the fact that they examined single diagnoses [5]. As such, these studies do not readily translate to real-world conditions in which therapists treat a clinically heterogeneous patient population. Furthermore, the most stringent definitions of treatment non-response require documentation of the previous treatment(s)' adequacy and the patient's remission status [10]. Such information is often unknown in common clinical practice due to lack of records and patients' difficulty in recalling such information [11]. Therefore, viable treatment options are needed for chronic patients with years of suffering and significant therapy experience, even when extensive details about previous therapies are not available.

Acceptance and commitment therapy (ACT) is a transdiagnostic psychotherapy with the potential for successfully addressing treatment non-response given its focus on flexibly relating to symptoms and thus extracting their distressing and encumbering properties. ACT aims at promoting psychological flexibility by helping patients learn to stop fighting against their symptoms and stress (acceptance); relate to their evaluative thoughts with distance (cognitive defusion); increase awareness of the present moment (mindfulness); and both clarify and engage in the things in their lives that they deeply care about (values and committed action) [12]. So doing, ACT helps reframe symptoms, emotions, and associated stress such that they are no longer barriers to living. Stress - both symptom-related and daily stress - is a common risk factor for developing mental health problems and can be particularly detrimental for those suffering from mental health difficulties [13]. High levels of psychological flexibility may offset the detrimental effects of stress on symptoms and well-being. ACT's goals are consistent with modern concepts of well-being, which show that well-being and symptoms are not simply opposites but are rather partially independent [14, 15].

When researching treatment options for treatment non-response, it is critical to examine patients and therapies under real-world conditions in which most future patients will be treated. Such effectiveness trials maximize the generalizability of findings by using several key design characteristics: broad inclusion criteria (i.e., numerous diagnoses vs. only one; wide range of severity levels), minimal exclusion criteria, and ensuring that the pathway into a study mimics the way patients usually present for treatment (i.e., minimal screening). Likewise, treatment decisions of clinicians should be examined under realistic conditions (i.e., flexible application of treatment principles rather than following a manual rigidly). This increases the likelihood that the knowledge gained from the research will be implemented in routine care once the research ends [16, 17].

Furthermore, comparison conditions should ideally inform about treatment variations ultimately available to clinicians. For example, inpatient treatment settings consist of intense treatment from a multidisciplinary team, characterized by a high level of continuity of care across treatment providers (i.e., coordination between therapists, nurses, supporting staff, etc.). In contrast, outpatient treatment is provided by a single therapist, usually less frequently, and communication with other providers is either non-existent or infrequent. Such targets of research inform about the importance of treatment relevant factors such as intensity, continuity of care, and multidisciplinary teams instead of studies that compare two different treatment approaches (e.g., psychodynamic vs. behavioral treatment) offer limited information on how to provide treatment.

Given that large effectiveness studies on the routine care for transdiagnostic samples do not exist to our knowledge, the aim of this study was to examine whether ACT is an effective treatment for non-responders with common mental disorders under real-world conditions, with respect to symptoms (decrease), functioning (increase), and well-being (increase) (hypothesis 1). Toward this end, the impact of treatment intensity and continuity of care was examined by comparing whether outpatients and inpatients obtained differential outcomes over the course of therapy (hypothesis 2). Finally, we investigated the role of the hypothesized treatment process inherent to ACT (i.e., psychological flexibility) by examining whether psychological flexibility moderated the relationship between patients' stress level and outcomes (hypothesis 3).

Materials and Methods

Trial Design

This study was a controlled, nonrandomized effectiveness trial. Patients were assigned to treatment setting (inpatient vs. outpatient) based on ongoing referral and intake procedures (i.e., were not randomized in order to maximize real-world conditions). Extensive additional details about the methods can be found in the online supplementary material (for all online suppl. material, see www.karger.com/doi/10.1159/000529411) and study protocol [18]. The reporting of the trial follows the TREND guidelines [19].

Participants

Participants were recruited from a regional psychiatric clinic. Inclusion criteria were kept to a minimum: (a) \geq 18 years of age, (b) sufficient local language skills, and (c) ability to attend sessions. Exclusion criteria were (a) acute suicidal intent, (b) acute substance dependency, (c) active mania, (d) previous experience with ACT, and (e) inability to read. Otherwise, all diagnoses and combinations thereof were eligible. Additionally, the patients' history of mental disorders (i.e., years since onset) and previous treatment experience were assessed to determine their history struggling with and attempts to resolve their mental disorder(s). Non-response was defined as having received any previous full course of a mental health service (i.e., psychotherapy, psychopharmacological treatment) prior to participating in this study.

Procedure

After obtaining informed consent, eligible participants were enrolled into the trial and completed the Structured Clinical Interview for DSM-IV Axis I Disorders (SCID) [20]. Patients completed diagnosis-specific and transdiagnostic questionnaires electronically at baseline (BL), post-treatment (post), and 12month follow-up (FU-12).

Intervention

The intervention was based on principles of ACT and was delivered in a treatment phase of approximately 12 weeks. Therapy content included strategies that focus on (a) observing and experiencing thoughts and feelings in a non-judgmental, mindful manner; (b) distancing oneself from self-evaluative thoughts; (c) learning that efforts to control undesired thoughts are associated with behavioral difficulties; (d) formulating values and committing to behaviors and personal goals based on these values.

Inpatients had two individual therapy sessions per week plus daily group sessions, supportive nurse care, all of which were presented consistent with ACT and provided by a multidisciplinary team consisting of psychotherapists and nursing staff. Outpatients had either two individual or one extended ACT session per week provided by a staff psychotherapist.

The intervention did not follow a treatment manual to allow for tailoring the therapy course to the patients' individual needs and thereby enhancing ecological validity. When participants entered the clinic, medication was optimized by an attending physician in consideration of patient preference. Whenever possible, medication was held constant throughout the treatment.

Therapy Integrity

All treatment sessions were audio-recorded unless patients refused for a specific session.

Outcomes

This study registered three primary outcomes targeting symptoms, functioning, and well-being. These were assessed via the following questionnaires: The Brief Symptom Checklist (BSCL) [21]; the World Health Organization Disability Assessment Schedule-2 (WHO-DAS 2) [22] was used to measure dysfunction; and the Mental Health Continuum-Short Form (MHC-SF) [14] was used to measure well-being. Secondary outcomes were psychological flexibility, measured with Psy-Flex [23], and stress, measured with the Perceived Stress Scale (PSS) [24].

Sample Size

Power analyses were done with alpha = 0.05, power = 0.8, twosided test, for within- and between-group hypotheses. Based on previous work [25], a small to medium effect was assumed. Required sample sizes were 150 patients (75 per group) for betweengroup hypotheses. Assuming ca. 10% dropout during treatment, at least 85 patients per treatment modality were needed. Assuming additional dropouts during the follow-up assessments (an additional ca. 10%), we recruited additional patients.

Blinding

Therapists, assessors, and patients were blinded to the hypotheses.

Statistical Methods

We used linear mixed models [26] to test our hypotheses. We tested whether mean outcome values were improved at post relative to BL and whether additional changes were observed between post and FU-12. Effect sizes were calculated according to Feingold [27]. For hypothesis 2, the model additionally included the factor treatment intensity (inpatient vs. outpatient) plus the interaction "treatment intensity x time." Finally, for hypothesis 3, we ran a model with stress as time-varying predictor and Psy-Flex as time-invariant predictor. Stress was group-mean centered to avoid conflation between within- and between-subject associations [28]. This model contained a random intercept and a random slope coefficient for the PSS.

	Inpatients		Outpatients		Total		<i>p</i> value
	n	%	n	%	n	%	
Sociodemographc characteristics							
Number of patients	108	54.0	92	46.0	200	100	
Sex							
Male	58	53.7	40	43.5	98	49.0	0.019
Female	50	46.3	52	56.5	102	51.0	
Age, mean (SD)	34.69 (1	0.41)	35.65 (12.	6)	35.13 (1	1.45)	
Marital status	50	EA C	20	20.4	07	42 E	0.079
Single Married	59 20	54.6 18.5	28 21	30.4 22.8	87 41	43.5 20.5	0.078
Steady relationship	20 24	22.2	9	9.8	33	16.5	
Divorced	4	3.7	2	2.2	6	3.0	
Not specified	1	0.9	32	34.8	33	16.5	
Living arrangement	·	0.9	52	51.0	55	10.5	
Single household	42	38.9	18	19.6	58	29.0	0.026
Parental home	22	20.4	12	13.0	33	16.5	0.020
Col-habitation (spouse, partner, roommate)	43	21.5	37	40.2	76	38.0	
Missing	1	0.9	25	27.2	33	16.5	
Education level							
Without degree	5	4.6	1	1.1	6	3.0	0.095
Graduation	17	15.7	2	2.2	19	9.5	
Secondary school	16	14.8	16	17.4	32	16.0	
Vocational education	38	35.2	24	26.1	62	31.0	
Polytechnic degree	6	5.6	8	8.7	14	7.0	
University degree	26	24.1	11	12.0	37	18.5	
Missing	0	0.0	30	32.6	30	15.0	
Employment							
Employed (full-time, part-time)	63	22.0	43	46.7	106	53.0	0.370
Unemployed or non-working	16	14.7	11	18.8	27	16.2	
Unemployment benefits	10	9.2	3	4.7	13	7.5	
Disability benefits	18	16.5	5	7.8	23	13.3	
Retired	1	0.9	1	1.6	3	1.7	
Missing	0	0	29	31.5	29	14.5	
Clinical characteristics							
Previous treatment							
Previous psychotherapy	99	91.7	55	59.8	154	77	< 0.001
Previous pharmacology	99	91.7	56	60.9	155	77.5	
Both	95	88	41	44.6	136	68	
Other services	6	5.6	9	9.8	15	7.5	
Latency since start of complaints in years, mean (SD) [range]	13.2 (10	.9) [0.4–49.3]	11.9 (13.1) [0.2–51.8]	12.7 (11	.7) [0.2–51.8]	
Number of treatment courses, mean (SD) [range]							
Psychotherapy	2.7 (1.7)	[0-8]	1.1 (1.2) [0–6]	1.9 (1.7) [0–8]	
Pharmacology	1.8 (1.3) [0–7]		0.9 (1.1) [0–6]		1.4 (1.3) [0–7]		
Other services	0.1 (0.2) [0–1]		0.1 (0.5) [0–3]		0.1 (0.4) [0–3]		
Duration of previous treatments in years, mean (SD) [range]	4.4 (6.0) [0–31.9] 2.8 (4.3) [0–26.9]		3.4 (7.3) [0–35.8] 1.1 (2.9) [0–20.4]		3.9 (6.6) [0–35.8] 2.0 (3.8) [0–26.9]		
Psychotherapy							
Pharmacology	1.5 (3.4) [0–19.9]		2.1 (5.9) [0–29.9]		1.8 (4.7) [0–29.9]		
Other services	0.1 (0.4)	[0-4]	0.2 (1.1) [0–10]	0.1 (0.8) [0–10]	
Non-responder status							
Non-responder	102	94.4	64	69.6	166	83.0	
Unclear adequate treatment	6	5.6	28	30.4	34	17.0	
Primary diagnosis							
Depressive disorder	43	41.0	14	15.9	57	29.5	0.005
Anxiety disorder	30	28.6	46	52.3	76	39.4	
OCD	21	20.0	18	20.5	39	20.2	
Adjustment disorder	2	1.9	3	3.4	5	2.6	
Somatoform disorder	4	3.8	4	4.5	8	4.1	
Substance abuse disorder	1	1.0	1	1.1	2	1.0	
Other	4	3.8	2	2.3	6	3.1	
Comorbid diagnosis	a -					a	
None	25	23.8	30	41.1	55	30.9	0.004
1	46	43.8	19	26.0	65	36.5	
2	23	21.9	13	17.8	36	20.2	
3	11	10.5	11	15.1	22	12.4	

Note: p values refer to χ^2 tests.

Because patients were not randomized, BL differences between in- and outpatients were examined and controlled for if deemed relevant for testing hypothesis 2. We also performed subgroup analysis on patient's status on prior treatment variables (previous psychotherapy, previous pharmacotherapy, and previous unclear adequate treatment status) and a dropout analysis (for differences with respect to each of the outcomes at BL).

Response rates for the BSCL were defined as any improvement, a decrease of at least 50%, and the reliable change index (RCI) using last observation carried forward (LOCF) and completers. RCI was calculated using reliability estimate based on alpha coefficient of the BSCL at BL. Response rates for the WHO-DAS and MHC were based on descriptive categories (e.g., languishing, flourishing, and moderate mental health).

Results

Participants

Patient flow is displayed in online supplementary Figure S1 (for all online suppl. material, see www.karger.com/doi/10.1159/000529411). Sociodemographic and clinical characteristics of the sample at BL are presented in Table 1. No adverse events related to the treatment were observed.

Therapy Integrity

Overall, 91.2% of the sessions were rated as ACT conform (inpatient: 84.7%; outpatient: 93.0%) with a mean competency rating of 2.1, SD = 0.9 (good) (inpatient: M = 1.9, SD = 1.1; outpatient: M = 2.2, SD = 0.9).

Outcomes

Hypothesis 1 (Effectiveness of ACT)

Mean values were strongly improved at the end of treatment compared to BL for each of the three outcomes. Change scores were -24.66 (SE = 2.28, $t_{460} = -10.84$, p < .001, d = 0.68) for BSCL, -7.63 (SE = 0.68, $t_{453} = -11.27$, p < .001, d = 0.70) for WHO-DAS, and 8.26 (SE = 0.90, $t_{450} = 9.17$, p < .001, d = 0.60) for MHC-SF. The FU-12 values were comparable to those at post for all three outcomes with change scores from post to FU-12 being -2.29 (SE = 2.83, $t_{460} = 0.81$, p = .698, d = 0.06) for BSCL, -0.62 (SE = 0.88, $t_{453} = 0.71$, p = 0.761, d = 0.06) for WHO-DAS, and 2.10 (SE = 1.17, $t_{450} = -1.79$, p = .171, d = 0.15) for MHC-SF.

Hypothesis 2 (Treatment Intensity Results in Differential Outcomes)

Treatment success varied between in- and outpatients for all three outcomes as displayed in Figure 1a–c (interaction "treatment intensity x time"; $F_{2,448} = 3.94$, p = 0.020 for BSCL, $F_{2,440} = 7.09$, p < .001 for WHO-DAS, $F_{2,437} = 4.52$, p = 0.011 for MHC-SF). Inpatients exhibited stronger improvement than outpatients between BL and post, while the changes from post to FU-12 differed less between the two groups.

Hypothesis 3 (Psychological Flexibility Moderates the Relationship between Participants' Stress and Outcomes).

We found evidence that psychological flexibility moderated the association between participants' stress and both WHO-DAS and BSCL (Fig. 2a–c; interaction "PSS x Psy-Flex"; b = -1.23, $t_{215} = -2.54$, p = 0.012 for BSCL, b = -0.31, $t_{228} = -2.32$, p = 0.021 for WHO-DAS). Thus, patients with higher psychological flexibility showed a less positive association between stress and BSCL/WHO-DAS than patients with lower psychological flexibility. In contrast, there was no evidence for such a pattern for the MHC-SF (interaction "PSS x Psy-Flex"; b = 0.23, $t_{228} = 1.31$, p = 0.192).

Subgroup and Dropout Analysis

Subgroup analyses failed to find differences between patients with a previous course of psychotherapy versus those with no psychotherapy; nor were differences observed for those with previous pharmacotherapy versus no previous pharmacotherapy. We also checked whether the temporal course for all three outcomes differed between patients with minimally adequate previous treatment and those without previous treatment. We found no difference between these two groups for the outpatient sample in all three outcomes. We also found no difference in changes between dropouts and completers (see online suppl. material for additional details).

Response Rates

Response rates were calculated first for symptoms using the BSCL. LOCF analyses showed that 67.5% of patients showed any improvement, 32% showed at least 50% decrease in symptoms, and 39.5% a statistically reliable improvement (RCI) at post. Only 16.5% showed any increase in symptoms, with only 4% showing reliable deterioration (RCI). For completers, 80.4% showed any improvement, 36.9% a decrease of at least 50%, 47% statistically reliable improvement, 19.6% any increase in symptoms, and 4.8% reliable deterioration.

Discussion

This study investigated the effectiveness of ACT for mostly non-responding patients in the in- and outpatient

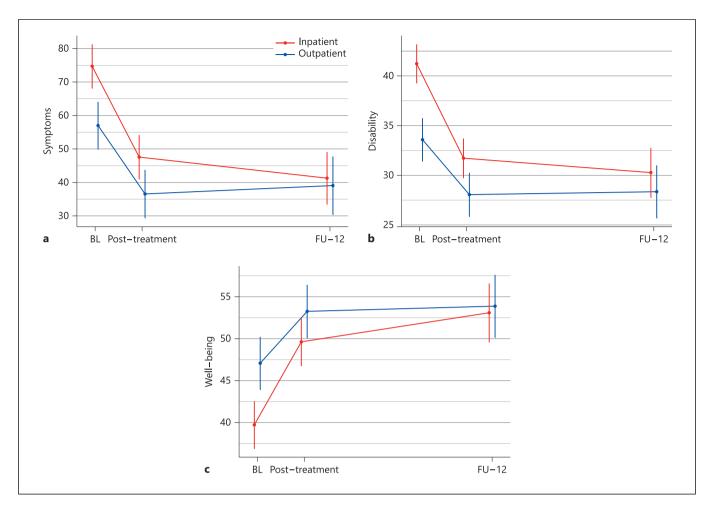


Fig. 1. Changes in symptoms (a), disability (b), and well-being (c) from BL to post and FU-12 for the inpatient and outpatient samples.

setting. We found large, significant reductions of symptoms and large improvements in well-being and functioning. Importantly, these effects were sustained for all three outcomes 12 months after treatment in both settings. Although inpatients started treatment with more severe symptoms and lower functioning, they reached and maintained the same levels as outpatients following treatment. Lastly, our trial supported the hypothesized role of psychological flexibility in moderating the association between patients' level of stress and symptomatology as well as well-being.

This study provides insights into a scientifically neglected clinical issue common in most disorders: whether psychotherapy is an effective and sustainable treatment option for chronic patients whose previous treatment failed to alleviate suffering. The positive finding from this study is important because treating chronic and non-responding patients with psychotherapy can help avoid the iatrogenic effects sometimes encountered when using pharmacology. In this study, we used ACT, which focuses on the premise that unhelpful verbal representations are a driving force of psychological difficulties across all disorders. Being a transdiagnostic treatment (i.e., targeting mechanisms that apply across multiple diagnoses), ACT can effectively induce change in patients across many psychopathological problems and with a long history of suffering. Despite the long history of patients' problems and the real-world nature of this effectiveness trial, response rates based on RCI in this trial (39.5% LOCF/ 47% completers) were comparable to previous findings from efficacy [29] and digital trials [30].

Importantly, this trial investigated psychotherapy under routine clinical conditions that compares treatment effects in the in- and outpatient care. These two settings vary in context, treatment intensity, and continuity of

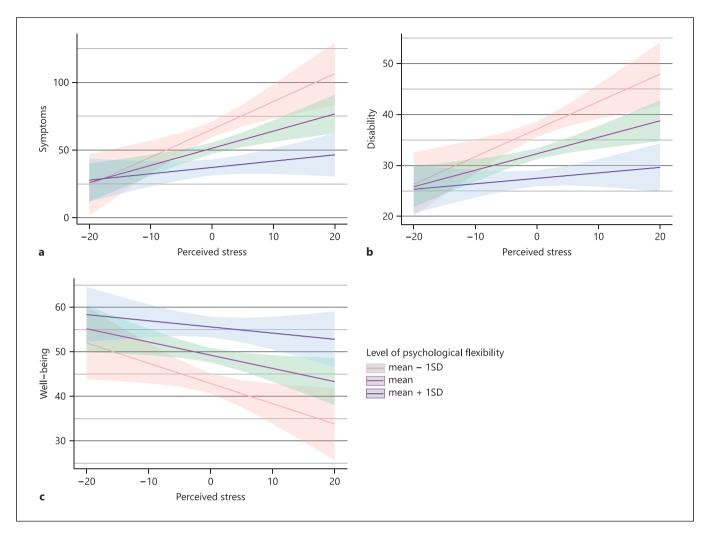


Fig. 2. Associations between stress and symptoms (**a**), disability (**b**), and well-being (**c**) as differentiated by level of psychological flexibility. High levels of psychological flexibility refer to the mean plus one standard deviation, moderate values refer to the mean, and low levels refer to the mean minus one standard deviation.

treatment and constitute two major pillars of the mental health care system. Previous naturalistic studies had small samples or did not include follow-up data, which limits the explanatory power of such trials [5]. The relatively large sample size of our study and multiple assessments up to 12 months after treatment completion are thus informative for frontline clinical practice of common mental disorders. In particular, the maintenance of treatment gains over 12 months is encouraging in light of the long burden of disease these patients previously had.

The focus on functioning and well-being as outcomes expands a mere syndrome-focus with regard to individual suffering. Prescinding from a medical disease model with disorder-specific manualized treatment packages, the psychotherapy in this study allows researchers and practitioners to focus on central transdiagnostic processes that lead to change in individuals suffering from mental distress [4, 31]. Our trial supports the role of psychological flexibility as a process of treatment change with our results showing that psychological flexibility protects from the negative effects of stress on functioning and symptoms. Given that stressful events and the perception thereof cannot be prevented and are part of human nature [32], it is central to equip vulnerable individuals with inter- and intrapersonal skills to navigate the requirements of living in a manner that promotes well-being and functioning despite stress or symptoms [15].

This trial has three main limitations: first, we employed a nonrandomized trial design because it was not possible in this clinical setting. This curtails our ability to rule out covariates or spurious variables as being responsible for the observed outcomes. Second, we employed a control condition that allowed for comparison of the same treatment across implementation variants. The absence of a separate control group consisting of a different treatment limited our ability to discuss whether and to what degree other treatments would obtain similar results. Third, outcomes were based on self-report questionnaires and are limited by the biases inherent therein. Other limitations include the possibility that observed changes might potentially be affected by ceiling/floor effects, regression toward the mean, and that the outcome assessments may not have been sensitive enough to treatment changes - although the significant results mitigate this concern somewhat [10, 33]. The current study also has several strengths: a key strength is the trials' high external validity, which allows to generalize our findings to real-world clinical practice with confidence. This is reflected in several aspects of our trial: first, a heterogeneous clinical population provides a more accurate depiction of patients presenting for treatment in everyday clinical practice compared to highly selected populations fulfilling specific and circumscribed diagnoses. Second, the evaluated intervention and its delivery reflect real-world clinical practice. We did not focus on therapists intensely trained in delivering manualized treatment package. Third, the inclusion of outcome measures that go beyond symptom-focus fosters the external validity of our results. Patients present for treatment with issues that transcend the mere presence of symptoms. Taking all these features together allows the conclusion that psychotherapy performs well when delivered in routine clinical settings. Lastly, one major strength of our study is the comparatively low dropout rate of 9.5%. Previous meta-analytic reviews estimating dropout rates from RCTs study adult individual psychotherapy of approximately 20% [34-36]. This indicates that the transdiagnostic treatment of ACT is an accepted and feasible treatment approach for non-responders in routine clinical care.

In conclusion, this transdiagnostic treatment appears to be a viable psychotherapy option for treating patients with common mental disorders and a long treatment history. This clinically important result is also valuable for researchers, in that future research should continue to examine which psychological interventions and processes lead to increased well-being and reduced suffering in this common clinical group.

Acknowledgments

We wish to thank all the brave patients who participated in this study, and all of the dedicated treatment teams and students who contributed to this study.

Statement of Ethics

The trial complied with the Helsinki Declaration of 1975 and was approved by the Local Ethics Committee Ethikkommission Nordwest- und Zentralschweiz (EKNZ-165/13). Written informed consent was obtained from all participants.

Conflict of Interest Statement

All authors declare that they have no conflict of interest.

Funding Sources

The study was funded by the Swiss National Science Foundation (Grants: PP00P1_190082 & PP00P1_163716/1) awarded to the first author.

Author Contributions

ATG (conceptualization, funding acquisition, methodology, supervision, writing – original draft, and writing – review and editing); EH (conceptualization, writing – original draft, and writing – review and editing); JV (project administration, data curation, writing – review and editing); VB (project administration, data curation, and writing – review and editing); CB and SB (clinical care, data curation, and writing – review and editing); AM (formal analysis, writing – original draft, and writing – review and editing); VK (clinical care, and writing – review and editing); MK (writing – review and editing); KB (supervision, conceptualization, and writing – review and editing); MW and UL (resources, and writing – review and editing).

Data Availability Statement

The data and scripts that support the findings of this study are openly available on OSF at https://osf.io/42v5a/?view_only= aef4ffa1b01540dda7c338f43bffdd08. Further inquiries can be directed to the corresponding author.

References

- Kessler RC, Chiu WT, Demler O, Merikangas KR, Walters EE. Prevalence, severity, and comorbidity of 12-month DSM-IV disorders in the national comorbidity survey replication. Arch Gen Psychiatry. 2005 Jul;62(6): 617–27.
- 2 McGrath JJ, Lim CCW, Plana-Ripoll O, Holtz Y, Agerbo E, Momen NC, et al. Comorbidity within mental disorders: a comprehensive analysis based on 145 990 survey respondents from 27 countries. Epidemiol Psychiatr Sci. 2020 Aug;29:e153–9.
- 3 Kolovos S, van Tulder MW, Cuijpers P, Prigent A, Chevreul K, Riper H, et al. The effect of treatment as usual on major depressive disorder: a meta-analysis. J Affect Disord. 2017 Mar;210:72–81.
- 4 Fava GA. Clinimetric integration of diagnostic criteria for a personalized psychiatry. Psychother Psychosom. 2022 Nov;91(6): 373–81.
- 5 Gloster AT, Rinner MTB, Ioannou M, Villanueva J, Block VJ, Ferrari G, et al. Treating treatment non-responders: a meta-analysis of randomized controlled psychotherapy trials. Clin Psychol Rev. 2020 Feb;75:101810.
- 6 Wiles N, Thomas L, Abel A, Ridgway N, Turner N, Campbell J, et al. Cognitive behavioural therapy as an adjunct to pharmacotherapy for primary care based patients with treatment resistant depression: results of the CoBalT randomised controlled trial. Lancet, 2013 Feb;381(9864):375–84.
- 7 van Bronswijk S, Moopen N, Beijers L, Ruhe HG, Peeters F. Effectiveness of psychotherapy for treatment-resistant depression: a metaanalysis and meta-regression. Psychol Med. 2019 Feb;49(3):366–79.
- 8 Eisendrath SJ, Gillung E, Delucchi KL, Segal ZV, Nelson JC, McInnes LA, et al. A randomized controlled trial of mindfulness-based cognitive therapy for treatment-resistant depression. Psychother Psychosom. 2016 Feb;85(2):99–110.
- 9 Gloster AT, Sonntag R, Hoyer J, Meyer AH, Heinze S, Ströhle A, et al. Treating treatment-resistant patients with panic disorder and agoraphobia using psychotherapy: a randomized controlled switching trial. Psychother Psychosom. 2015 Mar; 84(2):100-9.
- 10 Guidi J, Brakemeier EL, Bockting CLH, Cosci F, Cuijpers P, Jarrett RB, et al. Methodological recommendations for trials of psychological interventions. Psychother Psychosom. 2018 Sep;87(5):276–84.
- 11 Simon GE, Rutter CM, Stewart C, Pabiniak C, Wehnes L. Response to past depression treatments is not accurately recalled: comparison of structured recall and patient health questionnaire scores in medical records. J Clin Psychiatry. 2012 Dec;73(12):1503–8.

- 12 Hayes SC, Strosahl KD, Wilson KG. Acceptance and commitment therapy: the process and practice of mindful change. 2nd ed. New York: Guilford Press; 2012.
- 13 Gloster AT, Meyer AH, Lieb R. Psychological flexibility as a malleable public health target: evidence from a representative sample. J Contextual Behav Sci. 2017 Apr;6(2): 166–71.
- 14 Keyes CLM. The mental health Continuum: from languishing to flourishing in life. J Health Soc Behav. 2002 Jun;43(2):207–22.
- 15 Guidi J, Fava GA. The clinical science of euthymia: a conceptual map. Psychother Psychosom. 2022 May;91(3):156–67.
- 16 Cook SC, Schwartz AC, Kaslow NJ. Evidencebased psychotherapy: advantages and challenges. Neurotherapeutics. 2017 Jul;14(3): 537–45.
- 17 Shean G. Limitations of randomized control designs in psychotherapy research. Adv Psychiatry. 2014 Nov;2014:1–5.
- 18 Villanueva J, Meyer AH, Rinner MTB, Firsching VJ, Benoy C, Brogli S, et al. "Choose change": design and methods of an acceptance and commitment therapy effectiveness trial for transdiagnostic treatment-resistant patients. BMC Psychiatry. 2019 Jun; 19(1):173.
- 19 des Jarlais DC, Lyles C, Crepaz N; TREND Group. Improving the reporting quality of nonrandomized evaluations of behavioral and public health interventions: the TREND statement. Am J Public Health. 2004 Mar; 94(3):361–6.
- 20 Wittchen HU, Wunderlich U, Gruschwitz S, Zaudig M. SCID: structured clinical interview for DSM-IV axis I disorders Göttingen: Hogrefe; 1997.
- 21 Franke GH. Brief symptom inventory: deutsche version. Göttingen: Beltz; 2000.
- 22 Garin O, Ayuso-Mateos JL, Almansa J, Nieto M, Chatterji S, Vilagut G, et al. Validation of the "world health organization disability assessment Schedule, WHODAS-2" in patients with chronic diseases. Health Qual Life Outcomes. 2010 May;8:51.
- 23 Gloster AT, Block VJ, Klotsche J, Villanueva J, Rinner MTB, Benoy C, et al. Psy-Flex: a contextually sensitive measure of psychological flexibility. J Contextual Behav Sci. 2021 Oct;22:13–23.
- 24 Cohen S, Kamarck T, Mermelstein R. A global measure of perceived stress. J Health Soc Behav. 1983 Dec;24(4):385–96.
- 25 Gloster AT, Klotsche J, Gerlach AL, Hamm A, Strohle A, Gauggel S, et al. Timing matters: change depends on the stage of treatment in cognitive behavioral therapy for panic disorder with agoraphobia. J Consult Clin Psychol. 2014;82(1):141–53.

- 26 Pinheiro J, Bates D, Saikat D, Deepayan S; R Core Team. Nlme: linear and nonlinear mixed effects models. R package version 3.1-148. 2020.
- 27 Feingold A. Effect sizes for growth-modeling analysis for controlled clinical trials in the same metric as for classical analysis. Psychol Methods. 2009 Mar;14(1):43–53.
- 28 Enders CK, Tofighi D. Centering predictor variables in cross-sectional multilevel models: a new look at an old issue. Psychol Methods. 2007 Jun;12(2):121–38.
- 29 Cuijpers P, Karyotaki E, Ciharova M, Miguel C, Noma H, Furukawa TA. The effects of psychotherapies for depression on response, remission, reliable change, and deterioration: a meta-analysis. Acta Psychiatr Scand. 2021 Sep;144(3):288–99.
- 30 Schaeuffele C, Bär J, Buengener I, Grafiadeli R, Heuthaler E, Strieder J, et al. Transdiagnostic processes as mediators of change in an internet-delivered intervention based on the unified protocol. Cognit Ther Res. 2022 Apr;46(2):273–86.
- 31 Hofmann SG, Hayes SC. The future of intervention science: process-based therapy. Clin Psychol Sci. 2019 Jan;7(1):37–50.
- 32 Gloster AT, Hoyer J, Karekla M, Meyer A, Bader K, Imboden C, et al. How response styles moderate the relationship between daily stress and social interactions in depression, social phobia, and controls. Psychother Psychosom. 2021 Jun;90(4):280–4.
- 33 Carrozzino D, Patierno C, Guidi J, Berrocal Montiel C, Cao J, Charlson ME, et al. Clinimetric criteria for patient-reported outcome measures. Psychother Psychosom. 2021 Jun;90(4):222–32.
- 34 Swift JK, Greenberg RP. Premature discontinuation in adult psychotherapy: a metaanalysis. J Consult Clin Psychol. 2012 Aug; 80(4):547–59.
- 35 Cooper AA, Conklin LR. Dropout from individual psychotherapy for major depression: a meta-analysis of randomized clinical trials. Clin Psychol Rev. 2015 Aug;40:57–65.
- 36 Karekla M, Constantinou P, Ioannou M, Gloster AT, Kareklas I. The phenomenon of treatment dropout, reasons and moderators in acceptance and commitment therapy and other active treatments: a meta-analytic review. Clin Psychol Eur. 2019 Sep;1(3):1–36.