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Research Article

FURTHER EVIDENCE FOR THE EFFICACY OF ASSOCIATION SPLITTING AS A SELF-HELP TECHNIQUE FOR REDUCING OBSESSIVE THOUGHTS

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Background: *Despite improved treatment options, many people with obsessive–compulsive disorder (OCD) do not seek or even actively avoid therapy due to shame or fear of stigmatization. Self-help treatment is increasingly acknowledged as a means to "treat the untreated" and to motivate patients for face-to-face psychotherapy. Our group has gathered preliminary evidence for the efficacy of a novel self-help approach entitled association splitting (AS) aimed at the reduction of obsessions.* **Methods:** *For this study, a total of 46 participants with a likely diagnosis of OCD were randomly allocated to either AS or a waitlist control (WL). Treatment consisted of the self-study of a manual sent via e-mail. At baseline and four weeks later symptoms were assessed online using the self-report version of the Yale-Brown Obsessive-Compulsive Scale (Y-BOCS), the Obsessive-Compulsive Inventory-Revised (OCI-R), and the Beck Depression Inventory (BDI).* **Results:** *A total of 74% of the initial sample took part in the re-assessment. Results were in accordance with prior uncontrolled data indicating that AS is a feasible approach leading to a symptom decline of approximately 25% on the Y-BOCS. The technique also exerted a positive effect on depression (BDI) and the OCI-R subscale obsessive thoughts.* **Conclusions:** *The study confirms the feasibility and efficacy of AS for a subgroup of patients with OCD. Ongoing studies explore whether short-term effects are maintained over time and whether therapist-guided therapy may enhance the efficacy of AS. Depression and Anxiety 28:574–581, 2011.*

Key words: *obsessive-compulsive disorder; therapy; self-help; association splitting; cognition*

INTRODUCTION

Obsessive–compulsive disorder (OCD) is a severe mental disorder characterized by intrusive, repetitive, and bothersome thoughts (i.e., obsessions, for example, fear about contamination) that the affected person seeks to neutralize by ritualized behavior (i.e., compulsions, for example, washing). OCD affects up to 3% of the world population and comes with enormous costs for both patients whose achievements usually stay below their (academic) potential as well as society.[1] Up to 11 years may elapse until the disorder is treated for the first time.[2] A majority of 60% does not seek therapy at all according to a WHO study.[3] Although a recent US-American study assessing an Internet sample reported a somewhat smaller number, still only approximately 60% of the sample had received treatment for their OCD symptoms.[4] If treated

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competently, the majority of patients experiences substantial[5] and lasting[6] symptom reduction. However, most patients endure remaining and bothersome symptoms even after meeting conventional response criteria (35% symptom decline) and there is evidence that the remarkable results of clinical trials estimated at a large effect size[7] do not fully translate into clinical practice as many therapists trained in cognitive behavioral therapy (CBT) do not practice exposure and response prevention (ERP) in OCD, the flagship and most effective component of behavior therapy.[8,9]

Multiple reasons have been elucidated why patients do not seek help.[10] Strong personal motifs are stigma/shame, irrational fears to be judged as a (potential) criminal by therapists due to aggressive or sexual obsessions (e.g., fears to be a paedophile) as well as rejection of exposure treatment[11] and/or medication. Other reasons relate to poverty[4] (many patients are not properly insured) and poor treatment availability as state-of-the-art CBT is still administered rarely, even in countries that have incorporated CBT into their treatment guidelines.[12]

To bring relief to patients unable or currently unwilling to go to a therapist, self-help in the form of bibliotherapy or Internet therapy (e.g., BT-Steps/OC Fighter[13,14]) has been available for quite some time now. A systematic evaluation of 50 top-selling self-help books for anxiety, depressive, and trauma-related disorders[15] listed five books on OCD among the top-ten regarding quality. For Germany, three out of four OCD patients have read at least one self-help book on OCD in the course of illness.[16] Although studies directly comparing self-help versus therapist-guided approaches usually favor the latter,[17] ERP conveyed via bibliotherapy[17,18] or computer[13,14] exerted an effect over time.

This study was concerned with association splitting (AS), a self-help technique for obsessive thoughts available in German, English, and Montenegrin language at no cost via www.uke.de/assoziationsspaltung.[19,20] The concept, which is inspired by semantic network models, draws upon a cognitive phenomenon called the "fan-effect". Semantic network models assume that cognitions are represented as "nodes" in networks. Once a node is activated associations radiating out from this node simultaneously activate other nodes (or concepts). Anderson[21] and others have shown that the quantity of the activation is limited and its sum distributed across the associations (1974). Thus, the more associations are built up for a given cognition, the less weight remains for each single association. We transposed this principle to OCD where associations radiating out from OCD-relevant cognitions are often impoverished.[22] In short, patients are taught to generate or strengthen neutral or positive associations for fear-related OCD cognitions (e.g., HIV, "13", cancer, death, blood). The new associations should stand in no direct relationship with OCD-related concerns. Importantly, the technique is exercised in obsession-free intervals and thus does not represent a ritual, covered avoidance, or distraction. For example, a patient who despite good illness insight is pre-occupied with "blood" may exercise with words like "Bloody Mary" (cocktail), "blood brothers", "diamonds" (i.e., blood diamonds), "Bloodhound gang" (band), or "Snow-white" ideally using visual material collected, for example, via search engines (other examples can be found in the appendix of the free manual).

While these associations will by no means annihilate the association between the cognition blood and obsessive thoughts, its strength and especially behavioral impact (e.g., urge to perform a ritual) is decreased: When later confronted with a threat cue, associations are ideally not stuck in "a one-way street" but concurrently divert into various directions due to the fan effect. It also conveys patients a cognitive model that there is no evil force at all in their head but that OCD fears are based on simple learning principles that can be changed. To provide a cognitive understanding of OCD is thus hoped to challenge the alleged omnipotence and intelligence of their OCD.

Assumptions of the model were verified post-hoc in a study asking OCD and healthy subjects to generate associations for words with double or even multiple meanings (i.e., homographs such as *arms* or *cancer*). OCD patients preferably showed a bias to provide negative and OC-related associations than healthy controls. Words like cancer were more often associated with the negative (e.g., illness) than the neutral meaning.[22] Importantly, symptom severity in subjects familiar with the AS technique was significantly lower.

One uncontrolled study conducted over the Internet[20] directly tested the efficacy of AS in 38 people with a self-reported and likely diagnosis of OCD. In this study, participants were recruited via German online OCD self-help forums. Three weeks after the e-mail dispatch of the manual, a re-assessment was conducted using the Maudsley Obsessive Compulsive Inventory (MOCI), the Yale-Brown Obsessive-Compulsive Scale (Y-BOCS), and the Beck Depression Inventory (BDI), which yielded a significant decline for obsessions, depression, and most MOCI subscales. The mean magnitude of the improvement on the Y-BOCS was 4 points. Retrospective ratings and standard pre-post response criteria (35% decline on the Y-BOCS) asserted that at least one third of the participants had markedly improved. However, since no control condition was implemented it cannot be excluded that at least some of the effects were due to factors other than AS such as self-efficacy, motivation to change, and elapse of time.

To fill this gap, this study compared AS in its latest version to a waitlist (WL) control. Instead of the MOCI, the Obsessive-Compulsive Inventory-Revised (OCI-R) was administered, which is superior to capture the different symptom dimensions of OCD (e.g., washing, checking, ordering, and hoarding).

METHODS

RECRUITMENT

With the consent of the respective administrators, we posted invitations for an Internet-based self-help trial aimed at reducing OCD symptoms on the following English and American Internet

services dedicated to supporting people with OCD: self-help forums (e.g., www.ocdtodayuk.org; www.experienceproject.com; www.stuck inadoorway.org), newsgroups (e.g., yahoo OCD-support list), and the webpages of non-profit organizations (e.g., International OCD Foundation; OCD-UK). We refrained from posts in forums with a broader scope possibly attracting patients with non-OCD problems. Preconditions for participation were the experience of obsessive thoughts, at least partial insight into the exaggerated nature of the obsessions, willingness to participate in an anonymous (Internet-based) survey before and after the intervention, and sufficient time to perform exercises in the course of the subsequent four weeks. Further, a diagnosis of OCD had to be determined by a health-care professional before. No compensation was offered for study participation except for the cost-free delivery of an electronic self-help book (pdf-converted ebook). The study was approved by the local ethics committee in Hamburg (ethics approval # PV3407).

On the Internet page of the study, which was implemented via www.unipark.de, participants were welcomed and the study rationale was repeated, followed by informed consent. It was made clear that study participation would not require personal or telephone contact and was strictly anonymous. Participants were only sent e-mails to announce group allocation (in the case that someone was allocated to the AS group, the manual was attached) and reminders for the post-assessment. Only if participants gave their informed consent for participation, they were directed to the Internet-based pre-assessment of the study. This assessment started with questions regarding socio-demography (age, gender, school education) and medical history (e.g., time when OCD started, profession of the person who had diagnosed the participant with OCD), followed by a clinical part consisting of three psychopathological scales (see OCI-R, Y-BOCS, BDI in the questionnaires section). At the beginning of the Y-BOCS section, examples for obsessions and compulsions were given to prevent possible misunderstandings (e.g., cognitive compulsions such as counting are sometimes confused with obsessive thoughts by patients). Items were worded in the original item format except that the retrospective time-frame was restricted to the last week. The survey only proceeded if all items were replied to. On the final page, participants were asked to leave their e-mail address and a code word, which would be requested at the post-intervention phase. The survey did not store IP addresses.

Participants completing the survey were allocated to the experimental (AS) or control (WL) groups according to a random plan (no stratification). The treatment manual was sent to half of the participants (experimental group) via e-mail attachment within 24 hr. The other half was informed via e-mail that they were allocated to the WL group and would receive the manual subsequent to the re-assessment four weeks later. Patients were provided the e-mail address of the first author in the case of questions. E-mails were responded to within 24 hr, which, however, was used by few subjects and solely related to technical problems.

Four weeks after the pre-assessment, participants were requested by e-mail to take part in the post-assessment. The e-mail contained the respective password of the participant. To identify participants, either the code word or e-mail address had to be entered first on the webpage. For the post-assessment, participants were reminded up to three times. The second assessment contained the same questionnaires as before (see below OCI-R, Y-BOCS, and BDI in the Questionnaires section) but did not ask again for background data or the medical history. In addition, participants in the experimental group were asked whether they had read the manual, only parts of it, or not at all. Subjects who had read the manual were posed several questions on, for example, the subjective effectiveness of the technique, comprehensibility of the manual, and motivation to use the technique in the future (see Table 2). At the end of the assessment, gratitude for participation was expressed to all subjects. Participants also had the opportunity to download the latest version of the manual as well as three chapters of the English translation of a German self-help book for OCD (myMCT[23,24]).

PARTICIPANTS

A total of 66 individuals accessed the first page of the baseline questionnaire. Two of these negated consent, 8 cancelled the assessment directly after provision of consent, and 10 cancelled the assessment at some other time during the preassessment. A total of 74% of the remaining 46 subjects taking part in the preassessment completed the postassessment ($n = 34$). Except for one person, all confirmed that a health-care professional had established or confirmed a diagnosis of OCD: psychiatrist ($n = 23$), psychologist ($n = 13$), psychotherapist not further specified ($n = 3$), psychiatric nurse ($n = 2$), mental health worker ($n = 1$), person with Master's degree in social work ($n = 1$), general practitioner ($n = 1$), and doctor not further specified ($n = 1$).

QUESTIONNAIRES

The baseline and postassessment required to fill out the Obsessive-Compulsive Inventory-Revised (OCI-R),[25] a self-report scale to assess the severity and distress experienced by OC symptoms across six subscales. The OCI-R has good psychometric properties,[25–27] which were verified using the German version[28,29] and is sensitive to change.[30] Internet administration of the OCI-R[31] has been found to be equivalent to paper-and-pencil administration. The post-assessment survey was reworded and asked for symptoms experienced during the last 7 days.

The primary outcome of the study was the self-report version of the Yale-Brown Obsessive Compulsive Scale (Y-BOCS[32,33]), which assesses the severity of obsessions and compulsions. The difference between obsessions and compulsions was explained at the beginning to avoid confusion between mental compulsions and obsessions, thereby enhancing the reliability of the assessments.[34] In addition to the 10 items computed for the total score, items on insight (item 11), avoidance (item 12), and symptom change (item 13) were posed. The self-report version of the scale has shown strong convergent validity with the original interview version.[35,36] In addition to the standard Y-BOCS algorithm (obsessions: items 1–5; compulsions: items 6–10), this study computed an algorithm put forward by Kim et al.[37] and Moritz et al.[38] which has been derived from factor analyses: severity of obsessions (items 1–3), severity of compulsions (6–8) as well as resistance (4 and 9). The total score was computed conventionally (sum of items 1–10).

The Beck Depression Inventory (BDI[39]) was administered to tap depressive symptoms. The BDI is often seen as the gold standard for the subjective assessment of depression. It contains good concurrent validity in medical inpatients (BDI[39]). Internet administration of the BDI[40] has been found to be equivalent to paper-and-pencil administration. For this study we used the older version of the BDI as this has been used for Internet research before.[24,41]

STRATEGY OF DATA ANALYSIS

Group differences across time were assessed using mixed analyses of variance (ANOVA) with group as the between-subject and time as the within-subject factor. We report both per protocol (PP) analyses, which considered data of the completers as well as intention-to-treat analyses (ITT), considering data of all subjects enrolled in the study. We used multiple imputation (MI) to estimate missing values, which is increasingly favored over last observation carried forward (LOCF), implying that noncompleters have not improved at all. While we used LOCF in some previous trials its assumptions are not fully valid.

Most notably, there are several reasons other than symptom stagnation why a subject does not participate at later assessment, such as, nonavailability, low motivation, and little gain from participation in the re-assessment, which is a potent motif in the experimental group as participants have already received the treatment. Since no gold-standard has been established how to treat missing values, we additionally used the direct maximum likelihood method (SAS PROC MIXED). Hereby, we used the adjustment to the standard errors and degrees of freedom derived by Kenward and Roger.[42] This gives more accurate standard errors when the sample size is small, and corrects the default estimate of the degrees of freedom. Group comparisons at single points in time (pre or post) were conducted using either *t*-tests (for dimensional variables) or crosstables (for nominal data).

RESULTS

BASELINE DIFFERENCES

Table 1 presents the socio-demographic and psychopathological characteristics of the WL and the AS group at baseline. As can be seen, no significant differences emerged on any of the scales, except patients in the wait list group had higher scores on the OCI-R hoarding subscale ($M = 6.96$) than those in the AS group ($M = 4.70$; $P = .03$). Of note, there were numerically more men in the AS group.

Two participants of the WL group and ten patients from the AS group did not participate in the postassessment, $\chi^2(1) = 7.22$, $P = .007$. Postassessment noncompleters ($n = 12$) were more often male, $\chi^2(1) = 4.89$, $P = .03$. In both the WL and AS groups, the percentage of male noncompleters was higher than expected from their overall ratio (WL: 50% of the noncompleters versus 22% overall; AS: 60% of the noncompleters versus 44% overall). Noncompleters also had higher scores on the OCI-R neutralizing subscale, $t(44) = 2.70$, $P = .01$. While the differences on OCI-R total score were insignificant, $t(44) = 1.53$, $P = .13$, noncompleters numerically still showed smaller baseline symptom severity ($M = 41.42$ versus $M = 47.83$). Participants who canceled preassessment at a later point ($n = 10$) did not differ from baseline completers ($n = 46$) on any variable ($P > .05$).

Of those who received the manual, all except for two participants read the manual at least once. One subject read half of the manual and another one had read most of it according to the self-report. These subjects were retained in the per protocol analyses.

PER PROTOCOL ANALYSES

Across all domains, symptom improvements were numerically stronger for the AS than the WL group. Figures 1 and 2 show the results of the pre–postassessment calculated for completers. Significant and strong differences were found for the Y-BOCS total score, $t(34) = 2.79$, $P = .009$, $d = .94$, which primarily reflects greater symptom decline in the AS group for the obsessions, $t(34) = 2.26$, $P = .03$, $d = .76$, and the resistance subscales, $t(34) = 2.45$, $P = .02$, $d = .88$. For

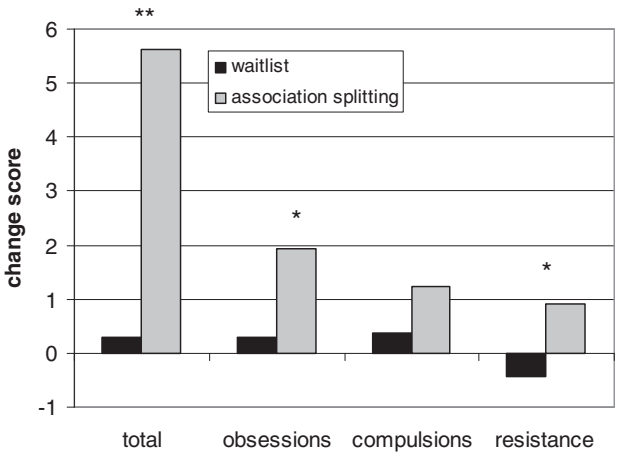

Figure 1. Participants in the AS group improved by almost 6 points on the Y-BOCS total score (item 1–10) predominantly reflecting medium-to-strong improvement on the obsessions (1–3) and the resistance (4 and 9) subscores (per protocol data). **$P < .01$; *$P < .05$.

TABLE 1. Background and psychopathological differences at baseline

Variable	Waitlist ($n = 23$)	Association splitting ($n = 23$)	(df for *t*-tests = 44)	Significance
Age in years	36.30 (9.66)	36.00 (9.81)	0.11	$P > .9$
Education in years	16.22 (4.31)	15.13 (5.98)	0.71	$P > .4$
Gender (male/female)	5/18	10/13	$\chi^2(1) = 2.47$	$P > .1$
Currently taking medication	74%	56%	$\chi^2(1) = 1.53$	$P > .2$
Treatment seeking	65%	70%	$\chi^2(1) = 0.10$	$P > .7$
Length of illness in years	19.63 (12.33)	19.22 (12.30)	0.11	$P > .9$
Y-BOCS				
Compulsions	6.91 (2.97)	6.13 (3.61)	0.80	$P > .4$
Obsessions	7.74 (2.53)	7.78 (2.43)	0.06	$P > .9$
Resistance	3.43 (1.50)	3.13 (1.82)	0.62	$P > .5$
Total	22.83 (6.66)	21.96 (8.17)	0.40	$P > .6$
OCI-R total	48.78 (13.03)	43.52 (12.04)	1.42	$P > .1$
BDI total score	21.74 (11.53)	21.96 (9.89)	0.07	$P > .9$

the compulsions subscale, a significant difference was detected using the traditional algorithm (items 6–10), $t(32) = 2.04$, $P = .05$, $d = 69$, but not the revised one (item 6–8), $t(34) = .99$, $P > .3$, $d = 33$. Only one patient in the AS group worsened on the Y-BOCS total score by three points. The difference on the OCI-R obsessions subscale also achieved significance, $t(34) = 2.04$, $P = .05$, $d = .76$, whereas the total score did not reliably discriminate groups, $t(34) = .99$, $P > .3$, $d = .32$. The BDI score declined significantly more strongly in the AS group in the range of a medium-to-strong effect size, $t(34) = 2.01$, $P = .05$, $d = .71$.

We also looked at Y-BOCS item 13 asking for improvement. We collapsed the response options *worsened markedly* and *lightly* as well as *improved markedly* and *lightly* into each one score. The cross table statistics achieved significance, $\chi^2(1) = 7.96$, $P = .02$, owing to a higher percentage of participants in the AS group, who improved (AS: 77% versus WL: 29%). In the WL group, the largest subgroup showed unchanged symptoms (AS: 8% versus WL: 43%), while the rate for those who worsened was similar to the rate of those who improved (AS: 15% versus WL: 29%).

INTENTION TO TREAT ANALYSES

The intention to treat (ITT) analysis based on multiple imputation (MI) for missing values yielded similar results (100 imputations were run). Again, only the OCI-R obsessions subscale distinguished groups significantly ($P = .03$), while all other OCI-R subscales were insignificant ($P > .1$). The BDI ($P = .04$), the Y-BOCS obsessions ($P = .02$), and resistance subscores ($P = .04$) as well as the total score ($P = .006$) yielded significance while the revised compulsions subscore (items 6–8) did not ($P > .2$). As patients in the waitlist group displayed more hoarding symptoms, we conducted analyses of covariance (ANCOVA) with OCI-R hoarding (baseline) as covariate. The status of significance did not change for any of the indices. With the exception of the BDI where group differences shrank to a trend ($P = .06$), the same was true after replacing the MI method with the maximum likelihood method.

Even if we assumed that noncompleters did not improve at all, results would have remained significant for the Y-BOCS resistance factor, $t(44) = 2.25$, $P = .03$, $d = .66$. At trend level, subjects in the AS group improved more than WL controls on the Y-BOCS total score, $t(44) = 1.96$, $P = .06$, $d = .94$.

SUBJECTIVE APPRAISAL

Table 2 provides data on the subjective appraisal of the patients regarding AS. All found the manual written comprehensibly and the vast majority appraised the technique as adequate for self-administration. Two thirds judged the technique as superior to other approaches. A total of 42% ascribed symptom decline to the administration of the technique, whereas none

TABLE 2. Subjective appraisal of association splitting

Item	Percentage endorsement (%)
Association splitting is appropriate for self-administration	92
My OCD symptoms have decreased due to association splitting	42
My OCD symptoms have worsened due to association splitting	0
The manual was written comprehensively	100
I found the manual useful	83
I was able to regularly perform the exercises	75
I did not find the time to study the manual intensively	58
I would find association splitting more helpful in combination with a direct psychotherapy	83
The manual was written in an appealing way	92
I found association splitting more helpful than other self-help approaches	67
I will use association splitting in the future	82

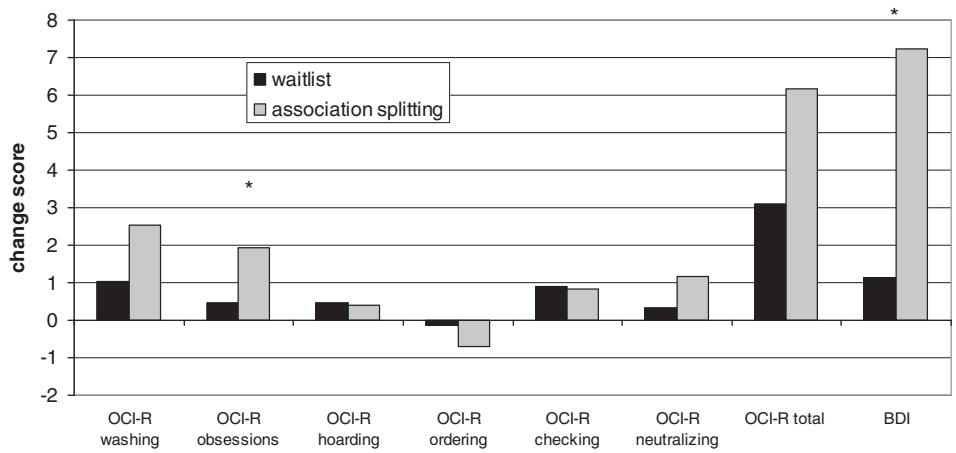

Figure 2. Patients in the AS group improved more strongly on the OCI-R obsessions subscale and the BDI relative to the waitlist group. For the other OCI-R subscales and the total score no difference emerged (per protocol data). *$P < .05$.

reported symptom deterioration because of AS. About 82% of the sample claimed that they would continue to use AS.

DISCUSSION

The present trial confirms that AS is a feasible (all completers in the experimental group found the manual comprehensible), safe (none reported symptom worsening due to AS), and potentially effective approach to treat patients with OCD. The analyses suggest medium to strong effect sizes in favor of the AS for the Y-BOCS and the BDI total scores in comparison to the WL group. Upon closer inspection, the decrement in the Y-BOCS was especially due to the obsessions and resistance subscales, while the compulsions subscale only improved when the traditional algorithm but not a revised one was used. For the OCI-R, only the obsessions subscale yielded a significant result. In line with a prior study, noncompleter were more often male and at trend level showed fewer symptoms.[43]

In retrospect, more than one third of the participants in the AS group reported a symptom decline due to AS. A majority (83%) found AS more useful than other techniques and intended to apply it in the future (82%). While these findings are encouraging and improvement on the Y-BOCS total score under AS was somewhat higher in comparison to ERP self-help,[17] results fall behind the response rates for clinician-administered psychotherapeutic studies.[7,44]

Several critical points need to be addressed. Firstly, data were obtained over the Internet and we relied on self-report. Although external validation of diagnosis and symptom severity is the undisputed gold-standard, an online study is without alternative if one tries to reach "the unreachable" as clinical interviews in a hospital environment would have discouraged many potential participants.[10] Moreover, recent studies have shown the reliability of self-report instruments and the compatibility of results obtained with the Y-BOCS self-report scale and the conventional expert rating.[35,36] In addition, the validity of Internet relative to conventional research is increasingly demonstrated,[31,45–47] even with psychiatric patients.[48,49] Secondly, we can only speculate that improvements are retained over time. A study by Tolin et al.[17] showed that the improvements provided by ERP self-help were still observable 6 months later. Currently, we test whether clinician-administered AS conveyed by a trained therapist in the context of an inpatient CBT treatment including ERP exerts a surplus effect.

Thirdly and most importantly, the drop-out rate in the experimental group was higher than that seen in the WL group. We tried to account for missing values using different state-of-the-art statistical procedures (multiple imputation; regression-based models), which yielded virtually identical results. Still, there is no consensus on the best measure to fill in gaps in the data sets. While it cannot be ruled out that a number of participants did not complete due to lack of improvement, other reasons should also be taken into account. In particular, there was a slight excess of male participants in the AS condition and in line with a prior study[16] males were especially prone to non-completion. In addition, the AS group had the least to gain from the re-assessment as they already received the AS (the WL group received the manual after the post-assessment). Then, at least on the OCI-R participants the AS group displayed somewhat less severe symptoms, which may result in a smaller pressure of illness, a risk factor for partial compliance with protocol observed before.[24] Finally, future study should more thoroughly screen for co-morbid diagnoses, especially personality disorders, which may complicate treatment and dampen treatment outcome.

As mentioned in the introduction, self-help and bibliotherapy in our view are not meant to substitute standard psychotherapies but rather to reach patients unwilling or presently unable to undergo proper therapy. Self-help may correct clichés against psychological and psychiatric treatment as many patients equate treatment with ERP, which is rejected by approximately 25%[11] and/or psychopharmacological treatment, the latter being critically regarded not only by patients but by the general population as well.[50,51] Self-help books may also shorten valuable treatment time,[52] as therapists may delegate certain issues to homework and confine treatment to those aspects where face-to-face intervention is indispensable (e.g., elaboration of an illness model). We endorse a stepped care approach of OCD,[13] which recommends (guided) self-help for easier cases. As a next step, brief face-to-face sessions with a therapist in an ambulatory setting can be offered, while severe or treatment-resistant cases should receive intensive face-to-face treatment in a specialized hospital setting. Low-threshold help and knowledge translation may help to prevent chronicity and secondary deterioration of psychosocial and work functioning, which often give rise to depression.[1]

CLINICAL IMPLICATIONS

We regard AS along with self-help ERP as a promising self-help approach for OCD. While it was initially designed to help those people with OCD not sufficiently motivated for treatment or on waitlists, there is emerging evidence for its feasibility in face-to-face treatment as an adjunct to CBT.[53] The learning model on which it is founded (i.e., obsessions as manifestations of consolidated memory networks that can be altered through training) may bring relief to patients preoccupied with the idea that, for example, their aggressive impulses are manifestations of an evil personality. AS may serve as an alternative for CBT in those cases where standard interventions such as ERP and behavioral challenges are hard or even impossible to implement (e.g., fears or false memories about past

misbehavior, fears about delayed consequences of negative acts). Still, these claims await rigorous testing in randomized controlled trials testing AS as an add-on to CBT.

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