Blended Psychotherapy: Treatment Concept and Case Report for the Integration of Internet-and Mobile-Based Interventions into Brief Psychotherapy of Depressive Disorders

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Abstract

Background: Blended psychotherapy (bPT) is a treatment that integrates internet- and mobile-based interventions into out-/inpatient psychotherapy. It can enrich the therapy by using online-based treatment modules as therapeutic extension that patients use time- and location-independently between face-to-face sessions. It could potentially improve the efficacy of psychotherapy and increase the number of treated persons through saved therapist time. The case report aims to facilitate the understanding of the blended treatment components. Case Report: A 4-month short-time depression treatment with six face-to-face therapy sessions, six online lessons, and app ratings of a 48-year-old female patient is presented based on the CARE guidelines and quantitative and qualitative measures (treatment documentation). Depressive symptoms were clinically significantly reduced (PHQ-9, 0–27: T0 = 17; T1 = 7) from a moderately severe to a subclinical-mild degree, and no diagnostic criteria were met in the 12-month follow-up diagnostic interview.

The patient showed a maximum treatment satisfaction (ZUF-8, 8–32: T1 = 32) and adherence and rated the therapeutic working alliance (WAI, 12–60: T1 = 57) highly positive. Conclusion: bPT reduced depressive symptoms for this patient. Strengths of the treatment were the facilitated use of the internet-based elements with a full-time job and the individualization within the face-to-face sessions through the therapist. Treatment success was limited by the predetermined six sessions, which hindered addressing all topics and conducting relapse prevention.

Keywords
Blended psychotherapy · Internet-/mobile-assisted brief psychotherapy · Depressive disorder · Case report

Blended Psychotherapy – verzahnte Psychotherapie: Behandlungskonzept und Fallbericht zur Integration von Internet- und Mobil-basierten Interventionen in die Kurzzeittherapie von depressiven Störungen

Schlüsselwörter
Blended Psychotherapy · Verzahnte Psychotherapie · Internet-/mobilgestützte Kurzzeittherapie · Depression · Fallbericht

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Zusammenfassung

Hintergrund: Blended Psychotherapy (bPT) ist ein Behandlungskonzept zur Integration von Internet-/Mobil-basierten Interventionen in die ambulante/stationäre Psychotherapie. Es kann den Therapieprozess bereichern, indem Online-basierte Behandlungselemente als verlängerter therapeutischer Arm genutzt und zwischen den Therapiesitzungen von PatientInnen zeit- und ortsunabhängig bearbeitet werden. Dadurch könnten die Effektivität von Psychotherapie potenziell verbessert oder mehr Therapieplätze durch die eingesparte Therapeutenzeiten angeboten werden. Der Fallbericht soll ein Verständnis der Verzahnung der Behandlungselemente ermöglichen.


Background

Depressive disorders are highly prevalent, have a high comorbidity rate [Jacobi et al., 2014], and are considered a public health problem, with one of the highest burdens of disease rankings [World Health Organization, 2008]. Yet there is a considerable care deficit, with only 34.6% of those affected (12-month prevalence) utilizing outpatient or inpatient care by physicians/psychotherapists [Mack et al., 2014], and 64.1% seeing only primary care doctors and 25% seeing specialists [Gerste and Roick, 2014]. The waiting time for psychotherapy is an average of 19.9 weeks, which increases the risk of exacerbation and chronification [Bundespsychotherapeutenkammer, 2018].

One possible solution could be the use in psychotherapy of the new media as a means of care delivery, which would convey the psychotherapeutic interventions by other communication channels and would correspond to the role of digitalization in patients’ everyday lives. This shifts therapy from personal contact to virtual space, providing therapeutic techniques and content via the Internet- and mobile-based programs (the web, apps) [Ebert et al., 2018].

Previous research confirms that Internet- and mobile-based interventions (IMIs) can be effective for treatment of depression. Thus, meta-analyses of studies of depression yield that IMIs showed high effect sizes, with Hegdes’ g = 0.90 compared to waiting control groups (number of studies k = 19, study participants included N = 1,650) [Königbauer et al., 2017] and guided IMIs attained significantly higher response rates (odds ratio [OR] = 2.49) and remission rates (OR = 2.41) than did control groups (k = 24, N = 4,889) [Karyotaki et al., 2018]. This shows that guidance (e.g., support by an e-coach) is associated with greater symptom reduction, increased adherence, and fewer dropouts [Baumeister et al., 2014]. Furthermore, IMIs with therapeutic guidance can achieve efficacy similar to cognitive behavioral therapy (CBT) (meta-analysis with k = 20, N = 1,418, of which k = 4 were for depressive symptoms) [Carlbring et al., 2018]. For patients who are open to that but prefer personal contact, an integrated and blended combination treatment could be considered.

The applications of blended psychotherapy (bPT) can be sequential (e.g., IMIs for bridging the waiting time before face-to-face therapy or for follow-up care afterwards) or have an integrating function (e.g., IMIs for support, intensification, or improvement of the resource allocation of face-to-face therapy or as a component of integrated care) [Erbe et al., 2017; Baumeister et al., 2018]. bPT combines IMIs with classic face-to-face psychotherapy and could thereby combine the best of both worlds, by means such as (a) personal contact with the psychotherapist, (b) room for individualization in therapy sessions, (c) the opportunity to use the IMIs by working people or those in underserved areas, independent of time and place, (d) outsourcing of treatment elements to IMIs and investment of the therapist’s time saved to treat more patients, (e) supporting structured treatment, (f) repeated, daily recording of emotions and behavior patterns by an ecological momentary assessment via smartphone or wearable, or (g) potentially increasing effectiveness by intensifying therapy. However, there are also challenges for patients and therapists, including (a) technical know-how, (b) ensuring data protection, (c) costs of acquisition/development/licensing (currently there is no standard health in-
Blended Psychotherapy: Integration of IMIs into Psychotherapy

Initial research has shown promising results for the clinical efficacy of bPT. Increasing the treatment intensity through adjuvant IMIs makes it possible to increase efficacy while keeping face-to-face therapy time constant: the supplementary online component achieved moderate effect sizes of Cohen’s $d = 0.51$ compared to outpatient psychotherapy (85% CBT) [Berger et al., 2018] and $d = 0.44$ compared to inpatient psychodynamic psychotherapy [Zwerenz et al., 2017]. A meta-analysis showed that with additional mobile technology (apps, short message service) for psychological interventions in the case of psychiatric or somatic disorders ($k = 10, N = 1,499$), greater treatment success is possible than with intervention alone (effect size $= 0.27, p < 0.05$) [Lindhiem et al., 2015]. Consistent effects can be achieved by reducing face-to-face therapist time (potential savings of 50–86%) and replacing it with IMIs [Erbe et al., 2017]. Thus, a CBT-based bPT with 50% face-to-face and 50% online sessions was not inferior to classical CBT psychotherapy, and attained a very high effect size of $d = 0.87$ compared to pure CBT online treatment [Sethi et al., 2010]. Smartphone support of short-term CBT (four face-to-face sessions, potential savings of 47% of therapist time) yielded results in reducing depressive symptoms equivalent to a classic short-term CBT (ten sessions) [Ly et al., 2015]. This also suggests the potential for a cost-saving and effective alternative to traditional psychotherapy. It is highly relevant that there have been positive findings about acceptance of bPT both among therapists [Kooistra et al., 2016; Titzler et al., 2018] and among patients [van der Vaart et al., 2014; Etzelmueller et al., 2018], in particular computer-based CBT in underserved rural areas [Vallury et al., 2015].

bPT is an integrated treatment concept that optimally utilizes the technological possibilities of the new media in combination with classical therapeutic methods. It allows psychotherapy to be offered over the Internet independently of time and place, in combination with personal contact. bPT is already being implemented in healthcare in the Netherlands (www.mindway.nl), investigated as routine care in implementation studies [Vis et al., 2015], and put into practice in individual research/model projects in Germany [Etzelmueller et al., 2018; Titzler et al., 2018; Baumeister et al., 2019; Kemmeren et al., 2019]. Given that the course of such treatment is little known, we present a description and concretization based on a case report.

**Description of the Treatment Elements of the bPT**

**Therapy Format**

The bPT we used is an outpatient short-term therapy that integrates face-to-face therapy sessions with IMIs based on CBT. During the treatment period of ca. 13 weeks, seven sequential online lessons (four of which are therapeutically divided into Modules A and B and are to be worked on weekly) are complemented every 2 weeks in a ratio of 2:1 by six personal therapy sessions and continuous app-based measurements of progress (various emotional, cognitive, and behavior-related parameters) (Fig. 1). Each treatment starts with a face-to-face on-site therapy session, alternating with weekly online and bi-weekly face-to-face sessions, and ending with an online lesson on relapse prevention.

**Face-to-Face Therapy Sessions**

Initial Interview and Technical Introduction. The first face-to-face session has specific goals such as building the therapeutic relationship, technical introduction to the web-/app-based treatment elements (e.g., installation, login, dealing with inhibitions, pdf handbooks), as well as explaining and scheduling the treatment process. The other five face-to-face therapy sessions are scheduled on a biweekly basis, allowing for flexible adjustments during crises or delays in performing the online lessons due to illness or vacation.

Second to Fifth Face-to-Face Therapy Sessions. The therapist structures each session to include the following components: (a) integrating online treatment elements, i.e., reviewing online lessons and discussing app measurements of progress, (b) clarifying issues of comprehension and technical difficulties, (c) in-depth discussion of the web content and exercises, (d) dealing with current stress or other topics of concern to the individual, and (e) blending and structuring the course of treatment, e.g., selection and scheduling of the next online lesson. In the second face-to-face session, the “Things worth Knowing” online lesson can be deepened by the creation of an individual vulnerability-stress model or a situational analysis. The sequence of subsequent online lessons can be freely selected and coordinated. The following interventions are proposed for deepening the process in the third to fifth face-to-face sessions: identification of barriers and resource activation for support in behavioral activation (“Getting Active” online lesson), using a step-by-step plan for cognitive restructuring (“Rethinking” online lesson), as well as systematic problem solving in one’s own situations (“Solving Problems” online lesson).

Completion of Therapy. The sixth face-to-face session is designed for reflection on the treatment, reinforcement of progress, initiation of follow-up treatment if appropriate, discussion of prophylactic measures to prevent relapse, and activation of the “Preventing Relapse” online lesson.
**1. Online lesson: Introduction**
- Welcome video
- Presentation of treatment concept and blended elements (web, app, F2F)

**2. Online lesson: Things worth Knowing**
- Psychoeducation about depression, its causes and treatment
- Exercises for setting goals in life and treatment
- Exercise for making a list of rewards for reaching your goals

**3. Online lesson: Getting Active (behavioral activation)**
- Module A: Activity and mood
  - Psychoeducation about the upward/downward spiral of depression and how you can affect it
  - Exercise on list of enjoyable activities
- Module B: Balancing activities
  - Exercises on planning enjoyable, necessary activities and rewards
  - Weekly planning and summary

**4. Online lesson: Rethinking (cognitive restructuring)**
- Module A: Automatic thoughts and thinking errors
  - Psychoeducation on drawing distinctions among cognitions
  - Introduction of the ABC Schema and exercise referring to individual problem situation
- Module B: Finding new thoughts
  - Psychoeducation on helpful strategies
  - Exercise with three steps of rethinking
  - Summary

**5. Online lesson: Solving Problems (skills acquisition)**
- Module A: Goals and problems
  - Psychoeducation on types of problems (unimportant, unsolvable, solvable) and effects on mood
  - Exercise for problem categorization (important, solvable)
- Module B: Problems and solutions
  - Coping strategies for types of problems
  - Exercise on solving problems with 6-step plan
  - Summary

**6. Online lesson (optional): Sports and Exercise (physical activation)**
- Module A: Exercise and mood
  - Psychoeducation on beneficial effects of physical activity on well-being
  - Explanation of aerobic and anaerobic training
- Module B: Reinforcements and obstacles
  - Exercise for identification of goals, rewards, and barriers to activity planning
  - Summary

**7. Online lesson: Preventing Relapse (relapse prophylaxis)**
- Psychoeducation on the relationship between critical life events and the recurrence of depression
- Exercise for reflection on achievement of one’s treatment goals
- Exercise for reflection on skills and coping strategies acquired through the web lessons
- Exercise for identification of warning signs and creation of an action plan with helpful strategies

**F2F therapy session: First talk and technical introduction (50 min)**
- Creating a therapeutic alliance
- Treatment overview
- Insights into web and app elements
- Installation of app + web account
- View on web lesson
- Planning of treatment and scheduling

**F2F therapy session: Blending of all treatment elements (50 min)**
- Discussion of the app ratings
- Going deeper: “Things worth Knowing”
- Clarifying difficulties
- Encouraging adherence/motivation
- Planning the next web lesson

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- Discussion of the app ratings
- Going deeper: “Solving Problems”
- Clarifying difficulties
- Encouraging adherence/motivation
- Planning the next web lesson

**F2F therapy session: Conclusion of therapy (50 min)**
- Discussion of the app ratings
- Psychoeducation on relapse prevention
- Reflection on treatment progress
- Clarification of further treatment needs
- Wrap-up and good-bye
- Activation of web lesson

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**Treatment elements:**
- **F2F**
- **Web:**
- **Patient**
- **Therapist**
- **App**

Fig. 1. Blending of face-to-face (F2F)/app/web treatment elements.
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Online Treatment

Web Treatment Program. The online treatment is performed on the Moodbuster platform (Platform ICT4D, Server University INESC Porto, Portugal), which uses password-encrypted access and does not require input of any personal data. The content can only be viewed by the patient and the therapist. The patient receives access to CBT-based online lessons according to evidence-based therapeutic techniques for treatment of depression (e.g., psychoeducation, behavioral activation, cognitive restructuring, training in problem solving, and relapse prevention) [Hautzinger, 2013]. Each lesson offers in-depth psychoeducation with video and text material, allowing patients to apply what they have learned to their own situation through interactive exercises. The sequence of online lessons can be selected individually in consultation with the therapist, with “Introduction” and “Things worth Knowing” mandatory at the beginning and “Preventing Relapse” at the end of treatment; “Sports and Exercise” is optional. Patients can view the current online lesson and work on it flexibly, track their app-based progress logs (e.g., mood, activity), schedule and evaluate activities on the calendar, and communicate with the therapist.

First Online Lesson, “Introduction.” The introductory lesson welcomes the patient and describes the components (face-to-face, web, app) of the blended depression treatment.

Second Online Lesson, “Things worth Knowing.” For the purpose of psychoeducation, patients are informed about the clinical picture of depression, its causes, and treatment options. Through exercises, they are instructed to reflect upon their life goals and treatment goals, as well as rewards to increase their treatment motivation.

Third Online Lesson, “Getting Active.” For behavioral activation [Sturmey, 2009; Martell et al., 2010], a psychoeducational module provides information on the relationship between behavior and mood, as well as on the upward and downward spiral in depression. Patients plan the first enjoyable activities to enhance their well-being, and examine their own activity level, indicating for each activity how enjoyable it was and how frequently it was performed. To provide structure to the day, they are helped to find a balance between necessary and enjoyable activities and to overcome barriers to achievement. The calendar should comprise as many enjoyable activities as desired and as many necessary activities as required. After a week, both functionality and associated obstacles, as well as conditional mood changes, are scrutinized.

Fourth Online Lesson, “Rethinking.” The goal is to correct dysfunctional cognitions in order to improve mood [Hawley et al., 2017]. An explanation is provided of negative automatic thoughts and thinking errors that lead to a distorted perception of reality. The patient learns seven steps to deal with that: (1) describing the starting position, (2) uncovering automatic thoughts and assessing credibility, (3) perceiving emotional strength, (4) recognizing thinking errors, (5) questioning one’s thoughts and testing them for truthfulness, (6) finding a more helpful way of thinking, and (7) determining the credibility of the new thought. First, the patient analyzes with the ABC schema [Ellis, 1991] automatic thoughts, feelings, and thinking errors in certain situations and assesses the credibility of the automatic thought and the strength of the feelings evoked. Then, the thoughts are scrutinized and alternative, more helpful thoughts are formulated.

Fifth Online Lesson, “Solving Problems.” In order to extend their skills for dealing with problems independently and efficiently [Cuijpers et al., 2018], patients are instructed to make a list of their own problems and assign them to different categories (unimportant, important, and unsolvable, important and unsolvable). Then, a six-step plan is used to find systematic and solution-oriented ways of dealing with solvable problems.

Sixth Online Lesson, “Sports and Exercise” (Optional). Physical activities can have health and psychological benefits [Ledochowski et al., 2017]. Possibilities for affecting mood through exercise are illustrated, aerobic and anaerobic training are explained, and patients are instructed to plan their own sports activities. The patient is then reinforced by identifying goals, rewards, and possible obstacles to their achievement in everyday life.

Seventh Online Lesson, “Preventing Relapse.” In reflection on the treatment, the patients should indicate their satisfaction with the treatment goals and report on the coping skills they acquired in each lesson. Warning signs and response options are addressed for relapse prevention. Finally, the patient is praised for successful completion of the treatment.

App-Based Measurements of Progress. On the smartphone app, the patient is regularly asked to record various parameters such as mood, sleep, activities, social contacts, self-esteem, and rumination, according to an algorithm (mood: 1×/day at randomly chosen time 10:00–22:00, other parameters: 1×/day in the first/last week of treatment, otherwise 1×/week; on a scale from 0 = very bad to 10 = very good). The data are synchronized with the online platform and used therapeutically (e.g., for progress-dependent control of the treatment process, reinforcement for behavioral changes, perception of potential for influence through self-observation).

Therapeutic Guidance. Therapists support the patients online (on the news portal) if difficulties arise, and monitor the progress of the treatment and the app-based progress log on the therapist portal. They write weekly individualized feedback about the exercises or motivational reminder emails if the scheduled online lesson was not
completed. The weekly feedback templates can be customized to fit the patient’s responses and situation (Fig. 2). The aims of the therapeutic guidance of the online treatment, in a time frame of ca. 25 min per week, are promotion of motivation and adherence (completion of the online lessons), reinforcement, reflection, and summary of the treatment progress.

Method

Design

In the context of a Europe-wide research project (www.e-compared.eu), the bPT for depression was evaluated between 2014 and 2017 for its efficacy and cost-effectiveness compared to routine care [Kleiboer et al., 2016; Kemmeren et al., 2019]. Of the 173 patients enrolled in primary care who met the inclusion/exclusion criteria (age at least 18, Patient Health Questionnaire [PHQ-9] ≥ 5 in screening, major depression in the clinically structured interview, no severe comorbid psychiatric disease, no ongoing psychotherapy, access to the Internet), 86 were randomly assigned to the short-term bPT. The treating psychologists were enrolled in a continuing education program in psychological psychotherapy (CBT) and received training (treatment manual), continuous guidance, and monthly supervision.

In-depth insights into the treatment concept enable individual case analyses that make possible scientific findings about new interventions [Cohen, 2006; Virués-Ortega and Rodriguez, 2008]. The present case report was informed by the CARE guidelines [Gagnier et al., 2013] and was further adapted for this form of treatment on the basis of additional case report guidelines [Cohen, 2006; Virués-Ortega and Rodriguez, 2008] (see Check-list, online supplementary Table 1, see www.karger.com/doi/10.1159/000503408 for all online supplementary material).

Participants and Case Selection

The patients in the bPT had an average age of 43.2 years (SD = 13.1, range = 19–70), were predominantly female (60.5%), highly educated (55.8% with at least a high school diploma), employed (74.4%), married (39.5%), and urban residents (60.5%). Selection of treatment case considered criteria such as above-average treatment adherence and treatment success (Reliable Change Index), as well as representativeness of patient characteristics (female, middle age). Other characteristics included employment, rural residence (high need for healthcare), and low education (rather atypical).

Diagnostic Instruments

The representation of treatment progress and results was based on evaluation of self-assessment instruments, clinically structured interviews, questionnaires, and clinical findings (therapist, primary care doctor). These were recorded over 12 months online or on paper at up to four measurement points for all persons involved in treatment.

Qualitative descriptions relied on evaluation of audio recordings and treatment documentation from the face-to-face sessions, as well as exports of the completed online intervention materials.

The following data were used for the quantitative evaluations: the PHQ-9 [Erbe et al., 2016] and the Quick Inventory of Depressive Symptomatology – Self-Report (QIDS-SR) [Rush et al., 2003] recorded depressive symptoms, and the Mini-International Neuropsychiatric Interview [Sheehan et al., 1998] was used for diagnosis. The EQ-5D-5L quality of life questionnaire [Herdmann et al., 2011] covered health-related limitations and the Insomnia Severity Index (ISI) [Thornäke et al., 2011] covered sleep disorders. Treatment expectations were recorded by the Credibility and Expectancy Questionnaire (CEQ) [Devilly and Borkovec, 2000] and facets of treatment satisfaction by the Patient Satisfaction Questionnaire (ZUF-B) [Schmidt et al., 1989] and the System Usability Scale (SUS) [Brooke, 1996]. The working relationship with the therapist was assessed at the session level by the Bern Post Session Report (Patient Version, PSTB) [Flückiger et al., 2010] and after the end of treatment by the Working Alliance Inventory (WAI-SF) [Munder et al., 2010]. The adapted Technology Alliance Inventory – Online Therapy (TAI) covered the working alliance with the online treatment program. The Inventory for the Assessment of Negative Effects of Psychotherapy (INEP) [Ladwig et al., 2014] captured possible negative effects of the intervention. Furthermore, the web logfiles and app progress measurements (ecological momentary assessment) were evaluated and adherence calculated.

Case Report

Patient Information at the Start of Treatment

Demographic Characteristics. The 48-year-old woman, Ms. Mai (secondary school diploma, employed for 33 years, no children, name changed), lives in the countryside with her husband.

Symptoms, Medical History, and Physical Comorbidities. The patient reported a depressed mood, reduced interest or pleasure in almost all activities, loss of appetite, sleep disorders, decreased concentration, psychomotor agitation, fatigue, and lack of energy. These complaints, she said, developed in mid-2015 after years of sleep difficulties due to work overload and had recently led her to take sick leave. She had had two other depressive episodes (the first in her mid-20s). She did not know of any family history of psychiatric disorders; according to the primary care doctor’s consultation report, there were accompanying physical comorbidities (trigeminal neuralgia, diseases of the musculoskeletal system).

Past and Current Treatments. Ms. Mai had been taking medication under the primary care doctor’s care for 6 months because of her psychological complaints and had no previous experience with psychotherapy. The primary care doctor reported that there had...
been eight consultations over the past 3 months and conditional implementation of the treatment for depression because of problematic appointment compliance and patient compliance. This treatment consisted of pharmacotherapy with increased dosage and drug change due to lack of response to antidepressants (venlafaxine, opipramol, citalopram, mirtazapine), active and watchful waiting, as well as referral for treatment by a specialist.

**Prognosis, Expectations, and Preferences for Treatment.** Unfavorable factors included recurrent depression, many drug changes, as well as low compliance with taking medication. Ms. Mai had a significantly higher treatment expectation for bPT than for treatment by her primary care doctor (CEQ: SS bPT = 53, SS GP = 41, range = 6–54). She stated that she preferred bPT because she did not want classic outpatient psychotherapy and preferred learning to handle her symptoms on her own, that it is easier to integrate online treatment, which is time and place independent, with her daily life, and that she found the idea of using new media exciting.

**Timeline**

Figure 3 represents the patient's important time sequences for diagnosis, intervention, and treatment outcomes (for further web-/app-based sequences, see online supplementary material).

**Diagnostic Considerations and Clinical Findings**

In her self-assessment, Ms. Mai reported impaired quality of life (EQ-5D-5L: index = 0.54, range = 0–1), severe clinical insomnia (ISI: SS = 23, range = 0–28), and moderate to severe depressive symptoms (PHQ-9: SS = 17, QIDS-SR: SS = 15, range 0–27 each). In the external assessment, the study leaders used a structured clinical interview (Mini-International Neuropsychiatric Interview) to reach a diagnosis of recurrent depressive disorder, currently major depression. The therapist’s differential diagnosis of recurrent depressive disorder with a current moderate episode (ICD-10 F33.1) was consistent with the finding of the consulting physician. The psychological findings revealed no suicidal thoughts or suicide attempts and no evidence of content-related thought disorder, psychotic events, dysfunction of self-awareness, or obsessive-compulsive disorder (no comorbid mental disorders). There were also no somatic findings reported by the primary care doctor.

**Therapeutic Intervention**

**Type of Intervention.** CBT-based blended short-term psychotherapy with IMIs (see above).

**Course of Treatment.** The bPT took place from January 7, 2016 to May 3, 2016 (17 weeks duration of treatment). The Ap-
pendix presents a detailed chronology of the course of treatment and the blending of face-to-face with web-/app-based interventions. Ms. Mai usually participated in the face-to-face sessions every 2 weeks, interspersed with six interactive online lessons (video/text, exercises) in the sequence agreed upon with the therapist (without the optional lesson). She logged in 17 times for the online lessons and spent a total of 5 h (320 min) on these, with an average of 46 min per lesson. Her continuous app-based progress measurements (104 in total, 0.79 per day) showed improvement as well as stabilization of her mood and perceived self-esteem over the time of the treatment. Her statements about sleep and rumination were extremely variable. The therapist especially noted mood and sleep changes in the face-to-face sessions and sent three motivational reminders and five feedback messages about the exercises.

Changes in the Intervention and Notable Occurrences. Individual topics were dealt with and current stressors were addressed in the six face-to-face sessions. There was not enough time in all the face-to-face sessions to go into greater depth on the online lessons by using the interventions intended (e.g., situational analyses). Ms. Mai worked on two modules each of four online lessons in one pass instead of distributing them over 2 weeks. The exercises were sometimes done superficially and the therapist could only have a delayed corrective effect. Burdensome stressors occurred during the period of treatment (e.g., the death of a friend, returning to work, and an announcement of restructuring measures at work). The treatment duration was prolonged due to illness of the therapist and the patient and technical difficulties, so that there was no online lesson between the third and fourth face-to-face sessions.

Treatment by Primary Care Doctor during the Intervention Period. The primary care doctor’s report covered six consultations with supportive discussions, SNRI medication (venlafaxine; planned dosage reduction), as well as recommendations on social activities and relaxation.

Therapy Results

Adherence. Ms. Mai attended all six therapy sessions, completed six online lessons (including exercises), and gave app ratings continuously (100% adherence).

Face-to-Face Assessment. The patient rated the therapy sessions as very positive on the scales for therapeutic alliance (PSTB: M = 6, range = 0–6), experiences of self-esteem (M = 6), and therapeutic progress (M = 5).

Working Alliance. The therapist assessed the therapeutic alliance as very positive (WAI-SRT: SS = 44, range = 10–50). This was in line with Ms. Mai’s data (WAI-SF: SS = 57, range = 12–60), who gave a maximum rating for the subscale Bond (WAI-SF: SS = 20, range = 4–20) and also rated the technological working alliance very positively with the online treatment program (TAI-SF: SS = 79, range = 12–84).

Treatment Satisfaction. Ms. Mai in general expressed maximum satisfaction with the treatment (ZUF-8: SS = 32, range = 8–32) and was highly satisfied with the online platform (SUS: SS = 75, range = 0–100). In the questionnaire (open answer format), she rated the technical introduction as a good start into the therapy. She gave maximum approval to the following statements (1 “totally disagree” to 5 “fully agree”): “The website and the app have supported the therapy” and “I would not hesitate to recommend an online mental health training program to a friend.”

Undesired and Unexpected Effects. Ms. Mai had only positive things to say about the effects of the treatment (INEP: –3 to +3), e.g., an improved relationship with her spouse (+3) and with her friends (+2).

Efficacy Outcome Measure for Symptom Change by the End of Treatment. Ms. Mai reported mild depressive symptoms (PHQ-9: SS = 7, QIDS-SR: SS = 8, range 0–27 each). The moderate-severe depressive symptoms had improved by ten points in the course of treatment, which is clinically significant (Reliable Change Index, RCI-4 T0–T2 = 1.21, RCI-4 T0–T3 = 2.66) but with continuing subclinical-mild depressive symptoms. In the structured clinical interview at the 12-month follow-up, Ms. Mai no longer met the criteria for clinical depression (MDD: 3/9) and the symptoms were in remission. Although after 3 months (T2), she reported a diminished quality of life (EQ-5D-5L: index = 0.57, index = 0.79) and moderate-severe insomnia (ISI: SS T2 = 22, SS T3 = 16), both conditions had improved significantly after 9 months (T3). She stated at the last 12-month interview that for the past 6 months, she had stopped taking antidepressants and had had four probatory sessions and applied for psychotherapy to qualify for insurance coverage.

Conclusion and Outlook

The case report shows that bPT, a blended integration of Internet and mobile-based treatment elements into an outpatient CBT program, can lead to a substantial reduction of depressive symptoms with just six face-to-face therapy sessions. The patient was very satisfied with the combined treatment as well as the therapeutic and technological working relationship.

The case analysis illustrates numerous strengths of this type of treatment. The patient did not respond adequately to the medication according to the primary care doctor, and she followed his recommendation for bPT because she greatly valued the fact that the online treatment was independent of time and place and that she was able to reconcile the biweekly therapy sessions with her job and rural place of residence. She worked independently and flexibly at her own pace on the web-based CBT elements for treatment of depression and showed good adherence, unlike her problematic compliance with medication according to the primary care doctor. As with other studies, this case demonstrates that therapeutic guidance offered by IMIs leads to high adherence and a low risk of discon-
Blended Psychotherapy: Integration of IMIs into Psychotherapy

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Possible implications are that the implementation and further exploration of bPT should consider the following proposed changes: (a) variable treatment duration, (b) flexible adjustment of the frequency and sequence of face-to-face and online sessions, (c) an extended palette of optional online lessons for comorbid disorders and complaints that can be enabled as needed, and (d) integration of a tapering phase with a time-shifted face-to-face and online booster session to stabilize treatment success and prevent relapse. The limitations of the bPT used should also be explored and taken into account, such as the indicated high-frequency face-to-face sessions for suicidal or self-injuring patients, and the potentially limited indication for online treatment of those with low self-management skills, low technical/computer affinity, and factors inherent in the disease (e.g., psychotic experiences in severe depression, many comorbidities).

In practice, blended concepts are already in use through the combination of individual and group therapy. Also, the recommendations of the S3 Leitlinie (S3 Guideline) [DGPPN et al., 2015] already address the potential of evidence-based online treatments for unipolar depression as a low-threshold entry or link to regular psychotherapy. With regard to the Psychotherapy Guideline [Bundespsychotherapeutenkammer, 2018], the following are some possible areas of application of bPT: (a) for acute treatment of patients in mental crises, which is already offered by 66% of psychotherapists after a clinical consultation for rapid assistance, (b) for short-term or long-term therapy, and (c) for optimization of care in rural areas, where the 5-month waiting period is very long and demand planning foresees fewer psychotherapists. Rural patients are more likely to be able to keep face-to-face appointments in the city if these are at longer intervals and to work on time- and place-independent online lessons between appointments. Psychotherapists could invest their freed-up resources in treating more patients by “delegating” parts of the treatment to IMIs and integrating these as a therapeutic extension. In the bPT we used, 50 min were invested every 2 weeks in face-to-face sessions and 25 min per week in therapeutic guidance of the online lessons, raising the intensity of the therapy; this would allow a savings of ca. 25–50% of therapist time, which is consistent with other studies [Erbe et al., 2017]. However, the validity of that statement is limited, as the therapists gave experience-based estimates of the time needed for online monitoring in interviews and intervision; this should be recorded systematically in log files and in the performance documentation in the future. In the treatment process, the integration of digital technologies may result in improved transfer of learned coping strategies into everyday life, increase the treatment intensity, and/or facilitate the implementation of interventions (e.g., interac-
tive and paperless homework, repeated situational analysis, app-based self-observation to assess cognitions, emotions, and behavior, access to online therapy tools and to evidence-based interventions for high-/low-prevalence symptom profiles). Further research is needed, however, on the potential for increasing efficacy [Ebert et al., 2018], on the evidence and cost-effectiveness of large, high-quality, multicenter clinical trials [Baumeister et al., 2018], as well as on a combination with other schools of therapy. Results from several European countries can be expected soon [Kooistra et al., 2014; Kemmeren et al., 2016; Kleiboer et al., 2016].

The psychotherapeutic care landscape is changing in the digital age, and concepts such as bPT – the blending of offline and online treatment elements – can become a beneficial unit for all those involved.

Acknowledgment

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Statement of Ethics

The patient, Ms. Mai (name changed), gave her written informed consent to the study and the preparation and publication of the case report.

Disclosure Statement

V. Egle and C. Gumbmann declare that they have no conflicts of interest. D.D. Ebert and M. Berking are shareholders and I. Titzler is on the research staff at GET.ON Institut GmbH, which offers IMIs in routine care through selective contracts with health insurance companies.

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Author Contributions

I. Titzler, D.D. Ebert, and M. Berking led the E-COMPARED project. I. Titzler developed the concept of the study/case report, supervised the bPT, collected, analyzed, and interpreted the data, and wrote the manuscript. V. Egle contributed to the conceptualization, data analysis, and interpretation of the case report as well as to the draft manuscript. C. Gumbmann contributed as an independent psychotherapist to the critical interpretation and presentation of the case report. D.D. Ebert gave critical feedback on the study and the bPT concept as well as the draft manuscript. All authors gave critical comments and authorized the final release of the manuscript.
### Appendix

**Description of Ms. Mai's Blended Psychotherapy**

#### F2F Therapy Session 1: Initial interview and technical introduction (duration: 50 minutes)

<table>
<thead>
<tr>
<th>Type of intervention</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relationship building</td>
<td>Technical introduction (installation of the app on the smartphone and account activation, addressing technical misgivings)</td>
</tr>
<tr>
<td>Explanations of the technique</td>
<td>Overview of the structure of blended treatment</td>
</tr>
<tr>
<td>Treatment overview</td>
<td>Appointment for the next F2F session and the online lessons, as well as feedback messages</td>
</tr>
<tr>
<td>Organizational</td>
<td>Mail with PDF manuals for the Moodbuster web and app</td>
</tr>
</tbody>
</table>

#### Online Lesson 1: Introduction + Need To Know (duration: 97 minutes)

<table>
<thead>
<tr>
<th>Introduction</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Welcome video</td>
<td>Presentation of blended treatment for depression</td>
</tr>
<tr>
<td>Information about the mobile app and website with online treatment portal</td>
<td></td>
</tr>
<tr>
<td>Summary, Let's get started</td>
<td></td>
</tr>
</tbody>
</table>

**Psychoeducation about depression, life and treatment goals** (by video, text):
- Depressive symptoms, history, accompanying problems, causes, treatment options
- What are life and treatment goals? Tips for goal formulation

**Exercise 1:** Determining my life goals
1. Bring my private life to an acceptable level in interaction with my partner
2. Do things more often with my best friends

**Exercise 2:** Determining my treatment goals
1. Learn to not always think first about others, but to pay attention to my own concerns as well and be able to communicate them
2. Learn to say "no" more often at my job to accepting more tasks than I can handle
3. Learn to relax more often

**Exercise 3:** Rewards for achievement of goals - Help in creating a reward list
- Go to the movies, drink coffee or tea, listen to music, enjoy chocolate, etc.

**Review and summary** of the "Need To Know" lesson
- Excerpt of feedback from the therapist to Ms. Mai: "... It's sometimes hard to keep on trying. Use the goals you have formulated to motivate yourself..."

#### F2F Therapy Session 2 (duration: 55 minutes)

<table>
<thead>
<tr>
<th>Type of intervention</th>
<th>Content/topics discussed</th>
</tr>
</thead>
</table>
| Relationship building                                                               | App mood ratings: "I don't like ups and downs. I still fall into a hole from time to time..."
| Exploration of life situation and stress factors                                     | Inhibition toward psychotherapy: "I am ambivalent about psychologists and I'm not sure how far I can open up"
| Psychoeducation                                                                     | Self image: resolute, confrontational, a fighter, in need of harmony                     |
| Review of the app                                                                   | History of illness, vulnerability/stress factors: 7 years with a high workload (ca. 10–12 hours per day); sleep disorders already three years before depression, persistent conflicts with partner, reintegration into work |
| Review of the online lesson and planning the next one                                |                                                                                         |

**Psychoeducation for activity and mood** (by video + text): Relationship between behavior and positive impact of mood, upward/downward spiral of depression, motivation

**Exercise 1:** Help to create a list of enjoyable activities
- Listen to music, spend a pleasant evening with friends, go for a walk, yoga

**Exercise 2:** My activity level: How often I performed enjoyable activities
- Very enjoyable activities: Table tennis (often), badminton (often), listening to music (often), pleasant evenings with friends (often), yoga (sometimes), playing a game (sometimes)

**Exercise 3:** My calendar I: Entry of activities for the following week

#### Online Lesson 2: Getting Active (duration: 156 minutes)

**Module A: Activity and Mood**

**Psychoeducation on activity and mood** (by video + text): Relationship between behavior and positive impact of mood, upward/downward spiral of depression, motivation

**Exercise 1:** Help to create a list of enjoyable activities

**Exercise 2:** My activity level: How often I performed enjoyable activities
- Very enjoyable activities: Table tennis (often), badminton (often), listening to music (often), pleasant evenings with friends (often), yoga (sometimes), playing a game (sometimes)

**Exercise 3:** My calendar I: Entry of activities for the following week

**Module B: Balancing Activities**

**Psychoeducation for activity planning:** Identify obstacles to performing enjoyable activities, find a balance between obligatory and enjoyable activities

**Planning activities**
- **Exercise 4:** Compile a list of necessary activities
  - Clean, do my taxes, laundry, shopping
- **Exercise 5:** Compile a list of possible obstacles to enjoyable activities
  - No desire, no time, too much other work
- **Exercise 6:** Determining the number of necessary and enjoyable activities, taking into account the balance between them and setting rewards for achievement of goals
  - Reward: Buy a little something for myself
**Type of intervention:**
- Relationship building
- Psychoeducation
- Goal clarification
- Behavioral activation
- Review of the app
- Review of the online lesson and planning the next one

**Psychoeducation** (by video, text): Explanations and examples of automatic thoughts, thinking errors, beliefs, and introduction of the ABC schema

**Exercise 1:** My ABC - Individual development through a problem situation (4-step plan)
- Describe the starting situation: At the job meeting, many planned upheavals and realignments over the next four years are reported
- Evaluation: Identification of the automatic thought ("Will I keep my job?") and assessment of its credibility (values: 1–10) (9 = very credible)
- Consequences: Naming the reactions and the intensity of feelings (1–10): tense (8), agitated (8), anxious (10)
- Identification of thinking errors: Catastrophizing, emotional reasoning

**Exercise 2:** My rethinking – Exemplary use of the three steps of rethinking
- Questioning one's thoughts - finding evidence: "At every new restructuring in our company, many colleagues have lost their jobs."
- Finding evidence to the contrary: "I almost lost my job during one of the past restructurings, but I had advocates who didn't want to give up the good work and insisted that I stay."
- Helpful thoughts: "After the restructuring I will find new tasks and will do my job well then too, and win people over."
- Reassessing the credibility of the helpful thought (1–10): 5

**Review and summary** of Rethinking

**Excerpt of feedback** from the therapist to Ms. Mai: "Replacing negative thoughts with new, more positive ones is a task that requires constant practice. The first important step has already been taken."

**Type of intervention:**
- Relationship building
- Psychoeducation
- Stabilization and emotion regulation
- Review of the app
- Planning the next online lesson

**Content/topics discussed:**
- App ratings: Intense feelings of mourning after the death of a friend, increased brooding at night, "brain is buzzing"
- Dealing with bereavement/emotion regulation: (a) guidance on differentiated perception of physical signs of her emotions (dissatisfaction palpable in the stomach area, feeling of a foreign body in the stomach, visualized as 50 hot bricks, a sense of boiling anger in the stomach); (b) evaluation of the intensity (0–10): 10; (c) normalization and validation: understanding the experience ("Are there reasons for those bricks?"); (d) model for a permissive attitude toward emotional expression: Let yourself cry, accept comfort

**Homework:** Online Lesson "Solving Problems"

**Excerpt of feedback** from the therapist to Ms. Mai: "... Always remember your rewards, too. If you implemented your plan, you may also reward yourself for it."

**Type of intervention:**
- Relationship building
- Psychoeducation
- Behavioral activation
- Relapse Prevention

**Content/topics discussed:**
- App ratings: "Good mood", increased use of self-calming affirmations to deal with sleep problems, visualization of a peaceful image
- Debriefing: Break from therapy (long illness, technical problems), last session (it was good to give space to the "emotional side")
### Exercise 1:
- Review of the app
- Planning the next online lesson

### Exercise 2:
- Psychoeducation: Connection between suppression of emotions and emergence of depression
- Dealing with dissatisfaction: Mindfully perceive things that are not beneficial, and don’t be silent, but address and change them; improved conflict management is important for that
- Partnership conflicts: Possibilities for external support (e.g., couple counseling), reinforcement for efforts at dialog with the partner
- Medication: Consideration of discontinuing antidepressants, psychoeducation (motivation to consult with primary care doctor, procedure for tapering, possible side effects)

### Exercise 3:
- Ms. Mai categorized all problems as “solvable”

### Exercise 4:
- Describing the problem: Worries about the future, changes at work
- Thinking about solutions: Although there are more tasks, I can make a difference, can contribute my ideas; I see more positive effects than negative, I get involved in committees
- Choosing a solution: I get involved more actively in appropriate committees
- Making a plan: Colleagues support me, I participate actively, constructively contribute ideas

### Exercise 5:
- Goal: I want to bring my private life with my partner to an acceptable level
- Activity: more communication, we currently spend a lot of time talking
- Review and summary of “Solving Problems”

### Online Lesson 4: Solving Problems (duration: 156 minutes)

#### Module A: Goals and Problems

- Psychoeducation on types of problems and effects of mood (by video, text)
- Exercise 1: My life goals - option to adapt or supplement the defined goals
  - “I want to continue to be aware of my strengths, to steer my actions and thoughts in positive directions and to treat problems as a challenge.”
- Exercise 2: My problems - compilation of current concerns and problems
  - Sleep deficit, worries about the future, family conflicts, etc.
- Exercise 3: Classify my problems - categorization as unimportant, important and unsolvable, or important and solvable
  - Ms. Mai categorized all problems as “solvable”

#### Module B: Problems and Solutions

- Psychoeducation: Coping options for different types of problems (Miracle Question, SMART Goals, etc.)
- Exercise 4: Solving my problems - working out a 6-step plan using your own situation as an example (describe the problem, think about solutions, choose, make a plan, take action, take stock)
  - Describing the problem: Worries about the future, changes at work
  - Thinking about solutions: Although there are more tasks, I can make a difference, can contribute my ideas; I see more positive effects than negative, I get involved in committees
  - Choosing a solution: I get involved more actively in appropriate committees
  - Making a plan: Colleagues support me, I participate actively, constructively contribute ideas
- Exercise 5: My training program - choice of a goal and an activity to achieve the goal
  - Goal: I want to bring my private life with my partner to an acceptable level
  - Activity: more communication, we currently spend a lot of time talking

### Online Lesson 5: Sports and Exercise (optional: not done)

### F2F Therapy Session 6 (duration: 55 minutes)

#### Type of intervention:
- Psychoeducation
- Reflection on therapy
- Relapse Prevention
- Planning the last online lesson
- Completion of therapy

### Online Lesson 6: Preventing Relapse (duration: 66 minutes)

#### Psychoeducation

For relapse prevention (video/text material): Triggers for relapses, warning signs, response options, emergency plan, increasing mental well-being

### Exercise 1: My goals - assessment of satisfaction with the achieved therapeutic goals

- Goal 1: Learn to not always think first about others, but to pay attention to my own concerns as well and be able to communicate them (quite satisfied; note: no more concerns about the consequence if I say what I do not like)
- Goal 2: Learn to say "no" more often at my job to accepting more tasks than I can handle during my working hours (very satisfied; note: I say where the limits are)
- Goal 3: Learn to relax (rather satisfied; note: I imagine things that make me happy)

### Exercise 2: My skills - review and reflection on the skills that Ms. Mai has learned

- 1. Lesson "Need To Know": "I have recognized and ... also acknowledged my depression, ... I feel validated that I don't have to be ashamed, but deal with it openly."


2. Lesson “Getting Active”: “I do much more with friends and colleagues.”

3. Lesson “Rethinking”: “I’ve learned that it’s possible to positively transform negative thoughts and feelings.”

4. Lesson “Solving Problems”: “I have changed my point of view. I can sometimes redefine my problems and turn them into challenges and plan actions.”

**Exercise 3: My plan of action - identification of warning signs and helpful coping strategies**

| Warning signs: Worrying, sleep problems, negative thoughts, exhaustion, etc. |
| Response: Set a limit to time for rumination, undertake (sports) activities, ensure regular sleep and waking times, proceed in partial steps, formulate helpful thoughts, etc. |

**Review and summary of “Preventing Relapse”**

**Excerpt of feedback from the therapist to Ms. Mai:** “You can be proud of yourself; during the last few weeks you have really hard and achieved a lot.”

**Thank you mail from Ms. Mai:** “You taught me a lot of strength and motivation…. You as a therapist as well as the online program both helped me very much.”

Legend: ☐=face-to-face input from Ms. Mai; ☐= web entries by Ms. Mai; ☐= feedback from the therapist

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**References**


Fischer F. eHealth in Deutschland. Berlin/Heidelberg: Springer; 2016.


Gerste B, Roick C. Prävalenz und Inzidenz sowie Versorgung depressiver Erkrankungen in Deutschland – eine Analyse auf Basis der in Routinedaten dokumentierten Depressionen.


---

**Verhaltenstherapie**

DOI: 10.1159/000503408
Königbauer J, Lutsch J, Doehbler P, Ebert DD, Bau-
meister H. Internet- und mobile-based de-
pression interventions for people with diag-
nosed depression: a systematic review and
meta-analysis. J Affect Disord. 2017 Dec;23:
28–40.

Kooistra LC, Ruwaard J, Wiersma JE, van Oppen
Development and initial evaluation of blen-
ded cognitive behavioural treatment for
major depression in routine specialized men-
tal health care. Internet Interiv. 2016 Jan;4:
61–71.

Kooistra LC, Wiersma JE, Ruwaard J, van Oppen
P, Smit F, Lokkerbol J, et al. Blended vs. face-
to-face cognitive behavioural treatment for
major depression in specialized mental health
care: study protocol of a randomized con-
trolled cost-effectiveness trial. BMC Psychia-

Ladwig I, Rief W, Nestoriuc Y. Welche Risiken
und Nebenwirkungen hat Psychotherapie? –
Entwicklung des Inventars zur Erfassung
Negativer Effekte von Psychotherapie (INEP).

Ledochowski L, Stark R, Ruedl G, Kopp M. Kör-
perliche Aktivität als therapeutische Intervi-
ention bei Depression. Nervenarzt. 2017 Jul;
88(7):765–78.

Lindhiem O, Bennett CB, Rosen D, Silk J. Mobile
technology boosts the effectiveness of psycho-
therapy and behavioral interventions: a meta-
804.

Ly KH, Topoooco N, Cederlund H, Wallin A, Berg-
ström J, Molander O, et al. Smartphone-Sup-
ported versus Full Behavioural Intervention for
Depression: A Randomised Controlled Trial.

Mack S, Jacobi F, Gerschler A, Strehe J, Höller M,
Busch MA, et al. Self-reported utilization of
mental health services in the adult German
population – evidence for unmet needs? Re-

sults of the DEGS1-Mental Health Module
(DEGS1-MH). Int J Methods Psychiatr Res.

Martell CR, Dimidjian S, Herman-Dunn R. Be-
havioral activation for depression: A clini-

Munder T, Wüllmers F, Leonhart R, Lünster HW,
Barth J. Working Alliance Inventory-Short
Revised (WAI-SR): psychometric properties in
outpatients and inpatients. Clin Psychol

Rush AJ, Trivedi MH, Ibrahim HM, Carmody TJ,
Arnow B, Klein DN, et al. The 16-Item Quick
Inventory of Depressive Symptomatology
(QIDS), clinician rating (QIDS-C), and self-
report (QIDS-SR): a psychometric evaluation
in patients with chronic major depression.

Schmidt J, Lamprecht F, Wittmann WW. Satis-
faction with inpatient management. Develop-
ment of a questionnaire and initial validity
studies. Psychother Psychosom Med Psychol.

Sethi S, Campbell AJ, Ellis LA. The use of comput-
erized self-help packages to treat adolescent
depression and anxiety. J Technol Hum Serv.

Sheehan DV, Lecrubier Y, Sheehan KH, Amorim
P, Janavs J, Weiller E, et al. The Mini-Interna-
tional Neuropsychiatric Interview (M.I.N.I.):
the development and validation of a struc-
tured diagnostic psychiatric interview for
59 Suppl 20:22–33.

Sturmev P. Behavioral activation is an evidence-
based treatment for depression. Behav Modif.

Thorndike FP, Ritterband LM, Saylor DK, Magee
JC, Gonder-Frederick LA, Morin CM. Vali-
dation of the Insomnia Severity Index as a
web-based measure. Behav Sleep Med. 2011;

Titzler I, Egle V, Ebert DD. Blending internet-
and mobile-based treatment for depression with
on-site psychotherapy: case report of a
63-year old patient. Oral poster presentation
at the 10th Scientific Meeting of the Interna-
tional Society for Research on Internet Inter-

Titzler I, Saruhanjan K, Berking M, Riper H, Ebert
DD. Barriers and facilitators for the imple-
mentation of blended psychotherapy for de-
pression: a qualitative pilot study of therapi-
ests’ perspective. Internet Interiv. 2018 Jan;
12:150–64.

Vallury KD, Jones M, Oosterbroek C. Computer-
ized Cognitive Behavior Therapy for Anxiety
and Depression in Rural Areas: A Systematic
Review. J Med Internet Res. 2015 Jun;
17(6):e139.

van der Vaart R, Witting M, Riper H, Kooistra L,
Bohlmeijer ET, van Gemert-Pijnen LJ. Blend-
ing online therapy into regular face-to-face
therapy for depression: content, ratio and
preconditions according to patients and ther-
apists using a Delphi study. BMC Psychiatry.

Virués-Ortega J, Rodriguez R. Guidelines for clin-
ic case reports in behavioral clinical psy-
chology. Int J Clin Health Psychol. 2008;8:
765–77.

Vis C, Kleibor A, Prior R, Bennes E, Cavallo M,
Clark SA, et al. Implementing and up-scaling
evidence-based eMental health in Europe: the
study protocol for the MasterMind project.

World Health Organization. The Global Burden
who.int/healthinfo/global_burden_disease/

Zwerenz R, Becker J, Knickenberg RJ, Siepmann
M, Hagen K, Beutel ME. Online Self-Help as
an Add-On to Inpatient Psychotherapy: Effi-
cacy of a New Blended Treatment Approach.