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Access to Psychotherapy in the Era of Web 2.0 – New Media, Old Inequalities?

Zugang zur Psychotherapie in der Ära des Web 2.0 – Neue Medien, Alte Ungleichheiten?

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Abstract

Background: Currently, the debate on regional and socio-structurally related treatment gaps in psychotherapeutic care increases the interest in e-mental health interventions such as the Internet-based psychotherapy, online self-help and new approaches for self-empowerment. Thus, health professionals could support informed decision-making by knowing the latest developments. However, if the 'digital revolution' fails to reach patients not familiar with Web 2.0, access to psychotherapies is unlikely to improve. Therefore, the objective of this review is to clarify whether online therapies should be recommended as an effective alternative to conventional psychotherapy in primary care. **Methods:** To investigate the research evidence of online therapies in adults within the last decade (2004–2014), a rapid review of literature was conducted by using electronic databases (i.e. Medline/PubMed, PubMed Central, Cochrane Library) to find systematic reviews, meta-analysis and clinical trials. Furthermore, a hand search in journals and grey literature was undertaken. **Results:** A search in PubMed for clinical trials on 'online psychotherapy' resulted in a total number of 245 publications. So, eight reviews and several clinical trials were chosen. Overall, mostly positive findings on the effectiveness and acceptance of online psychotherapy, primarily in the treatment of depression and anxiety disorders, were identified. **Discussion:** In sum, Internet-based psychotherapies have been effective in reducing symptoms of mood and anxiety disorders in clinical trials. However, due to the limited range of treatable disorders and non-representative samples (young female college graduates), external validity remains insufficient. Thus, further research is needed to determine if online therapies will be capable of improving access to psychotherapy.

Abstract

Hintergrund: Angesichts der Debatte über regionale sowie soziostrukturell bedingte Versorgungslücken in der psychotherapeutischen Versorgung erhöht sich gegenwärtig das Interesse an E-Mental-Health-Interventionen wie der internetbasierten Psychotherapie, Online-Selbsthilfe und an neuen Ansätzen zur Selbstermächtigung. Profitieren könnten Gesundheitsberufe im Hinblick auf eine informierte Entscheidungsfindung, wenn sie die neuesten Entwicklungen kennen. Wenn allerdings diese "digitale Revolution" jene Patienten, die mit dem Web 2.0 nur unzureichend vertraut sind, nicht erreichen kann, wird sich der Zugang zu Psychotherapien kaum verbessern lassen. Daher soll mit dieser Übersichtsarbeit geklärt werden, ob und inwieweit Internettherapien als eine wirksame Alternative zur konventionellen Psychotherapie in der Grundversorgung empfohlen werden können. **Methoden:** Zur Untersuchung der Evidenzbasis aus der letzten Dekade (2004 – 2014) zur Internettherapie für erwachsene Patienten wurde ein „Rapid Review" durchgeführt. Über elektronische Datenbanken (d.h. Medline/PubMed, PubMed Central, Cochrane Library) wurde nach systematischen Reviews, Metaanalysen und klinischen Studien gesucht. Ergänzt wurden sie durch Recherchen in Fachzeitschriften und der grauen Literatur. **Ergebnisse:** Die Suche nach klinischen Studien zur "Online-Psychotherapie" in PubMed ergab insgesamt 245 Publikationen, wobei letztlich acht Reviews und klinische Studien ausgewählt wurden. Bezogen auf einen verbesserten Zugang zur Psychotherapie haben vor allem Studien zur Behandlung von Depressionen und Angststörungen überwiegend positive Befunde zur Wirksamkeit und Akzeptanz von Internettherapien erbracht. **Diskussion:** Zwar konnten Internettherapien die Symptome von Affektiven Störungen und Angststörungen in klinischen Studien lindern. Jedoch erscheint die externe Validität aufgrund der begrenzten Auswahl an behandelbaren Störungen und nicht-repräsentativen Stichproben (jung, weiblich, Hochschulabsolventen) unzureichend. Somit ist weitere Forschung notwendig, um festzustellen, ob Internettherapien den Zugang zur Psychotherapie verbessern können.

Keywords

e-mental health – psychotherapy – Internet therapy – online self-help – empowerment – treatment gaps – mental disorders – external validity

Keywords

E-Mental-Health – Psychotherapie – Internettherapie – Online-Selbsthilfe – Empowerment – Versorgungslücken – psychische Störungen – externe Validität

INTRODUCTION

E-Mental health meets psychotherapy — status quo, hopes and concerns

Regarding the potentials of Web 2.0, Belliger and Krieger (2014) associate ´health 2.0´ with improved and well connected health care — including options for active participation and empowerment of patients. Accordingly, an interactive use of information via communication technologies could promote initiatives for 'patient 2.0 empowerment' (Bos, Marsh, Carroll, Gupta, & Rees, 2008). As a side effect of the so-called 'digital revolution', personal contacts between therapists and patients may become rare over the next decade — in favour of interactions mediated through electronic devices (Weiner, 2012). In the context of psychological issues, the term 'e-mental health' was established, comprising a variety of services, ranging from the mere provision of information, screenings, monitoring, psychosocial counselling and self-help to psychotherapeutic interventions (Lal & Adair, 2014).

Nowadays, technical innovations allow an active online participation in discussions regarding health issues without former experience in programming or designing websites. In the era of Web 2.0, it seems that users are developing from pure consumers to active participants (Bauer & Kordy, 2008, p. 5), so-called 'prosumers' (Belliger & Krieger, 2014, p. 11). Various e-health tools focusing on empowerment could therefore support self-management of patients — for example in the supplementary treatment of chronic diseases such as diabetes (see Anderson & Funnell, 2010). Nevertheless, data on empowerment through e-health programs are rare (Alpay, van der Boog, & Dumaj, 2011).

Concerning psychotherapeutic care, the majority of trials termed online interventions as tools expanding the access to care by closing the gap between the recognised needs of a patient and the limited capacity and resources supplied by conventional therapies (Lal & Adair, 2014). For instance, the need for psychotherapeutic treatment exceeds the capacity of the German care system. According to health insurance data, in 2012 19.6% of German employees were affected by mental disorders (Barmer GEK Health Report, 2014, p. 107). However, patients seeking help usually wait for weeks or months for an initial consultation with a registered psychotherapist, particularly in rural areas (see Barmer GEK Health Report, 2014). Given the scarcity of financial resources for public health in European countries, testing of innovative approaches to the treatment of mental disorders may help close the gap between supply and demand (Moock, 2014). However, in Germany, Internet therapies are currently not viable for patients in primary care due to the so-called prohibition of remote treatment (so-called 'Fernbehandlungsverbot'; see Bauer & Kordy, 2008). In contrast, in the Netherlands, the UK, Scandinavian countries, Australia and New Zealand both guided and unguided self-help e-mental health services have already been integrated into primary care; the implementation of e-mental health services in Germany and France is also under discussion (Moock, 2014). Thus, there are only field studies on publicly available online counselling service for the German-speaking countries (Eichenberg & Ott, 2012). The majority of studies on Internet therapy (76%) comes from the USA, Australia and the Netherlands (Lal & Adair, 2014). Other research sites with an ever-growing number of empirical studies are located particularly in Switzerland and Sweden (for review, see Berger, 2015).

At least, the limited availability of outpatient treatment centres appears to increase the willingness of clients to use Web 2.0 to gather information about their concerns as well as alternative treatment options. Correspondingly, a representative survey of Eichenberg, Wolters and Brähler (2013) demonstrated that among subjects in Germany (N = 2.411) more than a quarter considered using the web for advice for their medical and mental problems. For those seeking help, Web 2.0 not only provides digital health information regarding mental disorders and their treatment, but also immediate free psychosocial online counselling and, under special conditions, even access to online interventions.

A rapid review of the literature (see Lal & Adair, 2014) summarised widely proposed strengths of e-mental health initiatives such as Internet therapies: improved accessibility to professional care, reduced costs, more flexibility via adaptable standardised and personalised software solutions, interactivity, as well as consumer engagement. In this respect, e-mental health could diminish barriers when the access to psychotherapy is limited by mental problems, by physical, occupational and social constraints or by residential location (Bee et al., 2008). For some patients living in social isolation those services may be an incentive to seek help online (Clarke & Yarborough, 2013); for instance, patients suffering from social phobia (Löhr, Rosenvinge, & Wynn, 2011). Even patients on waiting lists, who are unlikely to initiate constructive actions without professional help by themselves, may benefit from Internet-based treatments (Cuijpers, van Straten, & Andersson, 2008).

On the other hand, risks and barriers related to e-mental health could become the replacement of conventional treatment services or reduction of efforts improving quality or funding conventional treatments, financial interests of researchers and developers (e.g. publication bias), the limited evidence basis, poor therapeutic relationships, unfamiliarity with the technology, discrimination against those patients with physical, financial or cognitive impairments, delayed utilisation of conventional therapies, use of inappropriate or even

harmful treatments, problems in data security and lack of patients' adherence (see Lal & Adair, 2014).

Relevance of e-mental health for health professions

So far, the consultation of so-called 'Dr. Google' as 'first opinion' for patients is well known to many health professionals. However, it appears unclear, if a wide range of patients only use the Internet for quick information or if they would prefer to be treated online as well? In order to help patients make informed decisions, all health professions should be aware of the spreading impact of e-health-projects and initiatives on the European public health sector. For instance, if online therapies become a standard treatment, patients with mental problems will ask rather different health professionals like nurses for their advice and recommendations than rarely available psychotherapists. Furthermore, health professions should be able to evaluate main changes due to e-health in order to take part actively in discourses concerning their profession. Namely, the proposed implementation of online psychotherapy into primary care in countries like Germany could initiate an interdisciplinary challenge for the 'speaking medicine 2.0'. Further, some general issues of e-health developments in clinical practice will need to be solved — like ethics, data security and professional standards. In the worst case, online therapies will be established subsequently as a cost-efficient substitute and not just as a 'bonus' to conventional psychotherapy so that the professional training and education will have to be reformed.

Objective and research questions

To investigate (1.) the current evidence base for Internet therapies and (2.) adherence in online psychotherapy compared with conventional interventions (face-to-face-psychotherapy) in order to (3.) derive implications for clinical research and practice in primary care, a rapid review of literature was conducted (for information on rapid reviews see below, method section). In detail, this review aimed to answer the following questions:

Pivotal question: Does the available research evidence indicate that Internet psychotherapy will be able to expand the access to psychotherapeutic services for many patients in German speaking European countries (after its implementation into health care)?

a) Effectiveness for certain indications: Is Internet psychotherapy an equally effective alternative to the face-to-face-psychotherapy in the treatment of the most prevalent mental disorders (i.e. mood and anxiety disorders)?

b) Adherence to Internet therapies: Are the reports of patients' adherence (i.e. low dropout rates) and the quality of therapeutic relationships (i.e. ratings of the working alliance) in Internet-based interventions comparable to those in conventional psychotherapeutic treatments? To what extent does the perceived quality of interactions affect main treatment outcomes (i.e. symptom reduction) in Internet therapies?

c) Patients' empowerment trough better accessibility: Will the Internet-based psychotherapy be equally accessible for patients from various socioeconomic backgrounds within different health care settings? If so, could e-mental-health programmes promote self-empowerment of patients (i.e. shared decision-making, autonomy and self-efficacy)?

METHODS

To investigate the potentials and limitations of Internet-based interventions in the treatment of mental disorders in primary care, a rapid review of the literature was conducted. Compared with the agreed methodology of systematic reviews in Health Technology Assessment (e.g. referred to Cochrane Library), the methodology of rapid reviews is not yet committed by published guidance (see Harker & Kleijnen, 2012). In dependence of the search method, rapid reviews are potentially less accurate than systematic reviews, but can be conducted more quickly and are more focused on specific problems in order to offer decision-makers an actual overview for specific practical issues on an innovative, emerging research topic. Because of the narrowed scope of this paper, a rapid review was chosen as a suitable procedure to generate preliminary conclusions and implications for further research in European health care.

This review aimed to evaluate the recent research evidence from a period of 10 years (31 December 2004 to 31 December 2014). The focus of this rapid review lay on the research evidence for the effectiveness of online interventions for prevalent mental disorders and on the adherence to treatment regimes. Research evidence was drawn primarily from existing meta-analysis, systematic reviews, clinical trials and the viable grey literature in English and German languages (e.g. data reports, and sociological and public health evaluations).

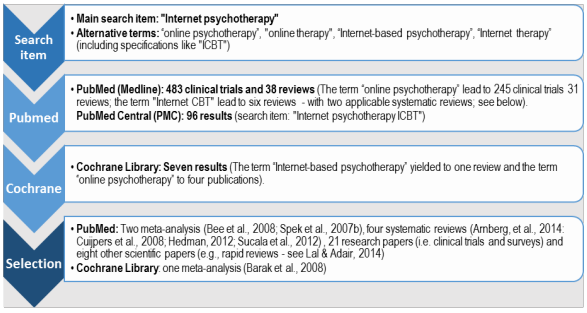
For this purpose, electronic databases, including Medline (PubMed), PubMed Central and Cochrane Library were searched. In addition, a hand search of journals related to health care (e.g. Springer publishing) and the search for grey literature was conducted via open access search engines and the database OpenGrey. The main search items included variations of the main treatment category — such as 'online therapy', 'online psychotherapy', 'Internet therapy', 'Internet-based psychotherapy', 'e-mental health' 'online intervention' — as well as global search terms like 'adherence', 'working alliance',

'therapeutic relationship', 'empowerment', 'primary care' and special disorders like 'major depression'. Additionally, the amount of grey literature (using the search terms 'online therapy' and 'Internet therapy') was searched to evaluate the publication bias. All results described in this review focused on Internet psychotherapy (ranging from computerised treatment modules, written and video- based communication) for adult patients. Studies with other scope (e.g. health promotion, lifestyle related problems such as smoking cessation or more severe diseases like drug addiction) as well as studies with under-age subjects (i.e. adolescents and children) were excluded. The selected clinical trials met common criteria on methodological quality for evidence-based intervention studies (e.g. randomised controlled trials). Furthermore, the selected studies had to be relevant for the investigated research question — that includes, studies testing specific treatment effects of Internet-based psychotherapy for the most diagnosed mental disorders (e.g. mood and anxiety disorders), which were suitable for conventional psychotherapy. Indications for adherence were derived from dropout rates in clinical trials. Because the construct 'empowerment' (especially when it is linked to self-help via Web 2.0) is difficult to measure, and studies on this topic are rare, empowerment was evaluated indirectly. Beginning with active participation, knowledge for informed decisions, willingness to participate in pilot studies, widened options for participation and empowerment could be described based on sample characteristics (e.g.: which kind of participants are using the possibilities of Web 2.0?). On the other hand, patients not being 'empowered' through new media treatment options could be underrepresented in samples or if included, rather tend to be non-adherent (e.g. measured by dropout rates) or less positively improved than patients familiar with Web 2.0.

RESULTS

This rapid review of the literature on Internet-based psychotherapies for adult patients resulted in different amounts of publications depending on the electronic database and variation of search items for the generic term for the intervention category (e.g. 'online psychotherapy'). Most results within electronic databases were achieved by using the search term 'Internet psychotherapy' (see flowchart 3 below). However, the majority of the publications found was out of scope or did not meet the main criteria (e.g. health promotion).

In addition, a supplementary search for the grey literature in the database OpenGrey in July 2015 using the search item 'Internet therapy' revealed nine results, whereas the search item 'online therapy' resulted in 25 publications. A comparison between the amount of publications found in



Flowchart 3: Search Procedure for publications on Internet therapies in electronic databases. Comments: Due to numerous associations between the tackled issues, complexity had to be reduced by study selection and additional search items like 'adherence' (preferring reviews and clinical studies reflecting heterogeneous characteristics of research corpora) to generate preliminary conclusions. Moreover, to include the specific perspective in German-speaking countries other resources like one review written in the German language (see Eichenberg & Ott, 2011) as well as books (see Bauer & Cordy, 2008; Berger, 2015) were chosen.

PubMed/Medline and unpublished research data did not indicate a high probability for publication bias.

Empirical evidence base — effectiveness and acceptability of Internet therapies

First, the search for research evidence revealed a wide range of different intervention types. As the most widely studied method of psychotherapy, cognitive behavioural therapy (CBT) was recommended for complementary use as an e-health option (Cuijpers et al., 2008). Current Internet therapies are based mainly on the principles of CBT, although psychodynamic approaches to Internet-based treatments have been developed recently. The effectiveness of these treatments was usually evaluated using self-assessment tools. Regarding specific disorders, e-mental health interventions most frequently targeted adults suffering from mood and anxiety disorders (Lal & Adair, 2014). For these indications, significant positive therapeutic effects were achieved using Internet-based CBT (ICBT; see Arnberg, Linton, Hultcrantz, Heintz, & Jonsson, 2014; Barak, Hen, Boniel-Nissim, & Shapira, 2008; Bee et al., 2008; Hedman, Ljótsson & Lindefors, 2012). A meta-analysis (see Barak et al., 2008) demonstrated the largest effect sizes were reached in clinical trials on the online treatment of post-traumatic stress disorder (PTSD) as well as in panic and anxiety disorders — with the largest effects for patients aged 25–39 years.

In addition, ICBT was proposed as a viable alternative to conventional CBT. In a study on the treatment of agoraphobia and panic disorder, Kiropoulos et al. (2008) compared the effects of ICBT (N = 68) with those of

conventional psychotherapy (N = 40). In both treatment groups, patients reported significant levels of symptom relief. Likewise, a study performed by Jasper et al. (2014) on the treatment of patients suffering from tinnitus revealed no significant difference in the therapeutic effectiveness between ICBT (N = 38) and conventional group-CBT (GCBT; N = 26). In both intervention groups, patients' symptoms improved significantly. These results from trials stand in line with previous research.

Like CBT, psychodynamic psychotherapy (PDT) was established as an effective approach for treating major depression. In analogy to ICBT, an Internet-based approach for PDT (guided Internet-based psychodynamic treatment; IPDT) has been developed: Johansson et al. (2012) investigated the effectiveness of IPDT for depression in a randomised controlled trial (RCT) in Sweden. In the treatment group, 27 patients were classified (58.7% of N = 46) as much or very much improved. IPDT has also been studied in the treatment of anxiety disorders. In a RCT on the treatment of generalised anxiety disorder, Andersson et al. (2012a) compared the therapeutic effects of IPDT (N = 27) with ICBT (N = 27) and a waiting list condition (N = 27). Both, IPDT and ICBT could significantly relieve symptoms, albeit with moderate effect sizes. As a limitation, Andersson et al. (2012a) mentioned the small number of pilot studies testing the effectiveness of IPDT. Nevertheless, providing alternatives to ICBT appears important, because previous patients' preferences for a particular therapeutic approach could co-determine the course psychotherapeutic treatments in online treatments as well (Johansson, Nyblom, Carlbring, Cuijpers, & Andersson, 2013).

To sum up, research evidence showed that different kinds of Internet-based therapies significantly reduced the symptoms of especially young adult patients with anxiety disorders like social phobia, depression (see Andersson et al., 2012a,b) and PTSD (see Lange, van de Ven, Schrieken, & Emmelkamp, 2001; Knaevelsrud & Maercker, 2007; Knaevelsrud et al., 2014).

Adherence to Internet therapies

Dropout rates varied widely between studies, indicating lack of adherence among participants. An early termination of participation in ICBT studies was particularly common among patients suffering from major depression, especially in the first half of the decade investigated in this review (see Andersson et al., 2005; Spek et al., 2007a). However, in recent publications, the dropout rates can be considered relatively low, indicating technological improvements and modifications in study designs (see table 3.2 below).

Concerning elderly patients being less frequent Internet users (e.g. persons '60 plus' years of age), for instance, a study by Knaelvesrud et al. (2014) on integrative testimonial therapy (IIT) was found. With IIT, an Internet-based trauma-focused writing therapy, patients were treated for a period of 6 weeks. The IIT consisted of two structured written tasks per week and written feedback from a therapist. The treatment group consisted of 30 subjects, aged 65–85 years, who were diagnosed as traumatised in their childhood during World War II. The treatment with IIT resulted in a significant reduction in PTSD symptoms and reports of strong therapeutic working alliances. Despite the patients' age span, the dropout rate was relatively low with 13.3%. Although the treatment was generally performed via the Internet, conventional communication forms like letters and facsimile were also allowed.

Table 3.2: Dropout rates of effective, guided Internet-based psychotherapies. Comments: The results of these current European studies on the treatment of mood and anxiety disorders indicate adherence. In all of the presented clinical trials, a significant symptom relief was achieved. Abbreviations: ICBT=Internet cognitive behavioural therapy, PTSD=post-traumatic stress disorder, IIT= integrative testimonial therapy, IPDT= Internet-based psychodynamic treatment.

Therapy concept / indication	Dropout rate / non-adherence in clinical trials
ICBT / study on the treatment of depression, generalised anxiety disorder and social hobia	The dropout rate in the intervention groups amounts to 14% (see Andersson et al., 2012b)
ICBT / study on the treatment of depression (compared with conventional psychotherapy)	The dropout rate in the ICBT-group (22%) was significantly higher than in the face-to-face psychotherapy group (7%) (see Preschl, Maercker, & Wagner, 2011)
ICBT / study on the treatment of PTSD	The dropout rate amounts to 16% in the treatment group (see Knaevelsrud & Maercker, 2007)
IIT - study on the treatment of PTSD in elderly patients	The dropout rate was relatively low with 13.3%; in sum, a strong therapeutic relationship was reported (see Knaelvesrud et al., 2014)
IPDT / study on the treatment of depression	In the IPDT group, 21.7% of the participating patients did not fully complete the self-help modules (see Johansson et al., 2012)

Building a therapeutic relationship in Internet therapies

This rapid review of the literature found various publications that stressed the importance of e-health for future interactions in health care. Due to the continued

diffusion of e-health- developments, therapists were reminded to be aware of the impact of the Internet on the doctor-patient relationship in order to understand how patients generally make decisions about their health issues (Santana et al., 2011). However, it remained unclear how e-health exactly will shape traditional communication and interaction forms between clinical professionals, the health system, the 'consumer' (i.e. patient) and their relatives (Weiner, 2012).

Due to a relatively small number of studies on this topic, little seems to be known about the therapeutic working alliance in ICBT (Andersson et al., 2012b). The presented findings stem from studies investigating the therapeutic relationship with the Working Alliance Inventory (Munder, Wilmers, Leonhart, Linster, & Barth, 2010). For instance, a positive and stable therapeutic working alliance in the treatment of PTSD has been determined in various ICBT trials (see Knaevelsrud & Maercker, 2007; Knaelvesrud et al., 2014; Wagner, Brand, Schulz, & Knaevelsrud, 2012). Moreover, in a study on the treatment of depression, no significant difference in the perception of the therapeutic working alliance was found between patients who received either conventional psychotherapy or ICBT (see Preschl et al., 2011). Moreover, in another study on the treatment of depression and anxiety disorders, Andersson et al. (2012b) found no significant correlation between the quality of the therapeutic working alliance and treatment results, which appears to be unusual for psychotherapy research. Based on their findings and previous research, Andersson et al. (2012b) concluded that the emergence of a therapeutic working alliance in Internet therapies — unlike with traditional psychotherapy — could play a minor role for treatment outcomes.

In another study on the treatment of tinnitus, Jasper et al. (2014) detected high levels of therapeutic working alliance in both the ICBT group (N = 38) and the GCBT group (N = 26). However, patients rated the quality of the working alliance generally higher under the treatment with traditional GCBT than under ICBT. In addition, patients in the ICBT group needed significantly more time to build a strong therapeutic relationship: In the first half of the therapy only a low level of working alliance was reported, followed by a very high increase in the second half of the therapy, although relationship quality in ICBT did not reach the level measured in GCBT. In line with this finding, a meta-analysis (see Spek et al., 2007b) provided evidence for the importance of therapeutic support, especially for the online treatment of depression and anxiety disorders: guided treatments significantly reduced symptoms of depression and were associated with high effect sizes, while unguided Internet therapies reached low effect sizes. Findings like these supported the repeatedly found preference for guided online therapies in the research literature.

DISCUSSION

The objective of this rapid review of the literature was to explore the evidence base for Internet-based psychotherapeutic interventions in order to discuss their proposed potential to close existing treatment gaps in European health care systems (e.g. better accessibility, shortened waiting time for a treatment place, more flexibility in case of barriers, etc.). Therefore, the use Internet-based psychotherapies could help to improve health care, if it has been shown to be effective for 1) different kinds of indications and 2) patient groups that are representative for primary care. The main issues regarding external validity and the empowerment approach are discussed.

External validity of studies on Internet therapy

A realistic prognosis on the usefulness of Internet therapies in solving current problems in psychotherapeutic care requires data from large and representative samples. Sucala et al. (2012) considered that many trials on Internet therapies could be affected by selection bias, which in turn could reduce enthusiasm about the previous positive findings. Indeed, subjects were often recruited via websites and emails, suggesting a certain familiarity with Internet use, which could lead to more positive appraisals of therapeutic relationships and interactions within Internet therapies (see Knaevelsrud & Maercker, 2006. Sucala et al., 2012). In many studies yielding high effect sizes in treatments, the age distribution within the sample was not representative for primary care. In most studies, young adults and middle- aged people have been treated: The average age ranged in many studies from 28 years (27.7 years, SD = 6.9; Wagner et al., 2012) to 37 years (36.7 years, SD = 10.9; Preschl et al., 2011), reflecting the needs and preferences of participants mostly in their early to late 30s. This age distribution could be the result of a harder reachability of elderly subjects. For instance, a study on PSTD (see Knaevelsrud & Maerker, 2007) included patients aged 18– 68 years; however, the average age was 35 years. Furthermore, the proportion of women participating in such studies was extraordinarily high compared with the gender distribution in primary care: for example in some studies 67.9 % (Preschl et al., 2011), 78% (Wagner et al., 2012) or 90 % (Knaevelsrud & Maercker, 2007) were female participants. Although women are more often diagnosed with mood and anxiety disorders than men (see BARMER GEK health report, 2012, p. 107), the external validity remains an issue due to selective samples. In addition, these findings were consistent with the online habits of young to middle-aged and well-educated women, of whom the majority of the study samples consisted. Accordingly, a telephone survey (see Pandey, Hart, & Tiwary, 2003) in New Jersey,

USA showed that, in particular, women with higher education and income levels sought health information via the Internet. The presented sample characteristics confirmed previous reviews that found samples were seldom representative (see Sucala et al., 2012) due to the majority of the female participants and persons with high educational status. For instance, in a study by Jasper et al. (2014) the percentage of college graduates amounted 47.4% (N = 38) in the ICBT group and 53.5% (N = 26) in the GCBT group. In another study (see Preschl et al., 2011) 41.5% (N = 53) of the subjects had a university degree. In addition to those who had a university degree (44% of the sample; see Knaevelsrud & Maercker, 2007), a further 34% completed high school ("Abitur"). In another study (see Johansson et al., 2013) 80% (N = 30, ICBT group) had attended university for at least 3 years. In line with that, Preschl et al. (2011) described the small sample size (N = 53), the high educational status (41.5% with university degree) and the high proportion of patients with treatment experience (more than half) as restrictions on the transferability of their study findings into clinical practice. Moreover, of the 12 studies included in the review of Sucala et al. (2012), most described scarce demographic data, such as ethnic affiliation. Another problem was the small sample sizes of clinical trials, even though relatively small sample sizes are common for face-to-face interventions as well. However, studies on online interventions could more easily generate large samples to contribute to a steadily increasing evidence base (Lal & Adair, 2014).

Empowerment

Looking back at the empowerment approach, the promotion of participation and transparency requires access to general health-related information and e-health tools (see Bauer & Kordy, 2008, p. 331 ff.). However, existing socioeconomic differences are often associated with unequal chances in accessing health information and services, as established in the WHO study of 2005 'Treatment Gap in Mental Health'. To investigate if an interactive video-based telepsychotherapy care could minimise barriers in a primary care setting, Deen, Fortney and Schroeder (2013) conducted a study. Their sample (N = 179) consisted of participants at an average of 47 years of age (Standard Deviation = 12 years). Although most patients were, like in other studies, female (82 %), only a small proportion of these patients in primary care made use of the offer to participate in an online therapy, although 88 % (N = 144) were diagnosed with major depression. Initially 76% of the participants showed an interest in online psychotherapy. However, at least 38% planned to participate in a telepsychotherapy session. Ultimately, 17% took part in a session, and 8% completed eight sessions. This single study may not be enough evidence for a problematic transferability of positive findings on Internet therapies into primary care. Nevertheless, future studies should focus more on primary care patients to clarify their specific needs and preferences to implement the declared aim of closing treatment gaps. One possible reason for the low participation could be lack of information or unfamiliarity with the medium leading to negative expectations and insecurity.

In Germany, in the 65 plus years age group, only 36% of people surveyed had used a personal computer at least once in the past 3 months. In comparison, 97–98% of individuals between 10 years and 44 years of age had used a PC in the same period. In the age group '65 years and older', at least 44% of men and 24% of women were active users on the Internet. Contrariwise, there was virtually no difference found between genders in the 10–44 years age group (Data Report / Datenreport, 2013, p. 338). Considering that there are major gender differences existing in Internet usage among the elderly, it remains questionable whether e-mental health services can solve the treatment gap (Tasseit, 2014). At present, there are still considerable sociostructural barriers to Internet access. The supposed commonness and open accessibility of the Internet excludes some socioeconomic groups. Therefore, the Social Report of the Federal Statistical Office concluded that in 2012 87% of citizens with a high level of education had used the Internet in the 3 months prior to the survey date. In persons with a medium education level, the proportion was 77%, and it was 61% in those with a low educational level (Data Report / Datenreport, 2013, p. 339). However, some studies dealt specifically with patients over 65 years of age. Nevertheless, selection bias due to educational levels and social background affects external validity, which can be illustrated by the previously mentioned IIT study (see Knaevelsrud et al., 2014). The underlying narrative approach requires certain levels of verbal skills, especially in written expression, which in turn depends on the level of education and social origin. Despite growing up during World War II, the patients had above average years of school education compared to their birth cohort in Germany (Mean = 11.57 years of school education; Standard Deviation = 1.5 years) compared with many peers in the middle of the 20th century. In contrast, in post-war Germany of the 1950s, the members of the working class usually attended a common school (´Volksschule´) and graduated at the age of 14 years leading to a maximum of 8 years of school education.

In the general population, the acceptance of Internet therapies has yet to be evaluated as well. In a survey (see Musiat, Goldstone, & Tarrier, 2014) investigating the acceptance of e-mental Health, the majority of the 490 participants reported negative views of online self-help and a limited willingness for future use. Almost half of the respondents had had mental problems in the past, and

22% suffered from acute mental problems. Accordingly, Musiat et al. (2014) suggested improving the reputation of e-mental health and providing users with appropriate information for informed decisions.

Open questions for clinical practice and patient care

1) Altering communication in health care: Due to currently mixed findings and an insufficient number of studies, it is yet unclear whether the therapeutic alliance in ICBT is just as important as in regular face-to-face psychotherapy (Jasper et al., 2014). Indeed, the findings of a review (see Sucala et al., 2012) indicated an equivalent therapeutic working alliance in both conventional and Internet-based therapies, though only 11 (1.3 %) of the 840 reviewed studies investigated the therapeutic relationship, including 6 studies with the therapeutic relationship as their main subject of research. Since implementing behavioural therapy in man-machine dialogues is relatively easy compared with psychodynamic therapies (Bauer & Kordy, 2008), interactions are usually highly standardised which could be an obstacle for client-centred therapeutic interactions — even the approach by Carl Rogers was translated in a computerised version (see Weizenbaum, 1965). Nonetheless, the harmonisation of the unclear role of working alliance in Internet therapies with basic theories of psychotherapy, such as the empirically well-grounded attachment theory, should be further investigated. Bowlby (1988) emphasised that the most important function of a psychotherapist is to serve as a secure base to encourage patients to reflect and actualise the coherence and validity of their inner working models. The type of attachment representation could significantly affect this process. Moreover, the attachment style of the therapist and the therapist's interaction with the attachment style of the patient is an important starting point in forming a working alliance (Dinger, Strack, Sachsse, & Schauenburg, 2009). Even though minimal contact opportunities and short treatment periods in structured self-help do not sufficiently cover these principles, it is still conceivable that successful testing and further development of the IPDT will affect the attitude of therapists towards Internet therapy. Behavioural therapists still demonstrate a more positive attitude towards Internet therapy than those specialising in psychoanalysis (Johansson et al., 2012). Whether the diffusion of IPDT will change the scepticism of psychodynamically oriented psychotherapists needs to be clarified. In any case, when therapists would be merely trained on the use of Internet interventions, clinical skills will suffer on the long run (Andersson, 2010).

2) Participation and empowerment: Other open questions concern the potential of improved accessibility to psychotherapy and new opportunities for patient participation on the Internet. The so-called e-patients have become a new factor influencing the health market — demanding communication, participation and transparency from health care (Belliger & Krieger, 2014, p. 133). Belliger and Krieger (2014) use the term e-patient as positive self- attribution: the 'e' in the word e-patient does not stand for 'electronic', but 'empowered' (Belliger & Krieger, p. 13 f.). In European countries, the Internet is used primarily for obtaining information about health issues rather than for e-mental health self-help activities (Santana et al., 2011), especially by young, well educated users (Borzekowski et al., 2009). Nevertheless, even 'non-users' are interested in using the Internet to gain information on health issues, but are hampered by lacking computer skills. Additionally, there are obstacles for those who have neither a smartphone nor access to the Internet (see Clarke & Yarborough, 2013). In respect of a shortened conception of empowerment, patients or clients transformed into consumers to prosumers; that is, independent and active, adequately informed, educated and well connected users of health related self-services. However, depending on a person's personal and financial situation, the required resources are not equally allocated. Furthermore, 'outsourcing' therapeutic interactions into the private sphere of patients could interfere with therapy outcomes, since one's own home does not provide equivalent protection like a professional environment. Other important limitations for better accessibility of psychotherapy are that Internet therapies are mainly suitable for people with mild to moderate mental disorders (Moock, 2014) and patients with one specific diagnosis (Lal & Adair, 2014). This reductionism is hardly consistent with the situation in primary care.

Conclusion and outlook

Although good therapeutic effects were achieved in various studies using Internet therapies, and positive attitudes towards the therapeutic interactions were reported (e.g. Sucala et al., 2012), it should be noted that reliable results exist only to a small extent and for few subgroups (Bee et al., 2008; Moock, 2014). Based on the research evidence from studies that, in particular, included young and above-average educated subjects who are mostly the most frequent Internet users (see e.g. Borzekowski et al., 2009), empowerment initiatives currently seem to mostly reach patients who are well informed users of Web 2.0. Therefore, whether the treatment gap in psychotherapeutic care can be solved with e-mental health, remains questionable. In order to determine the usefulness and suitability of Internet therapies in primary care, future studies should include heterogeneous patient populations (see Barak et al., 2008; Sucala et al., 2012).

Limitations of this rapid review

This rapid review of the literature has several limitations. First, the presented evidence base for the conclusions was neither exhaustive nor definitive and contained narrative elements, so biased data due to selection mode could not be excluded (e.g. conformation bias). Furthermore, the scope of this rapid review was especially considering the situation of health care settings in German-speaking European countries. In addition, the different concepts within e-mental health, such as Internet-based psychotherapy, were mainly summarised as 'online psychotherapy' or 'Internet therapy', falsely suggesting one homogeneous concept. In turn, an inconsistent use of several generic names for these therapies in research papers leads to different amounts of literature in databases. Therefore, the search strategy with variation of search items on the same topic appears necessary, but makes the procedure of rapid reviews more complex, enhancing the risk of bias. Other fruitful, but not in this review, mentioned approaches to explore biases in studies investigating the effectiveness of Internet therapies could be the Candor Hypothesis (tendency to answer the socially desirable in online-surveys) and the Dodo Bird Verdict that is a widely discussed psychotherapy research.

Practical implications

Health professionals should be aware of the latest e-mental health developments concerning new possibilities for participation and empowerment as well as challenges for the 'speaking medicine' in the context of Internet-based psychotherapies. Whether Internet therapies will help close existing treatment gaps in primary care remains an open question addressed to health professionals and scientists. Although these online interventions have been shown to be effective for some indications, their usefulness for a wider range of patient groups has still to be clarified. Concerning practice and education in health professions in general, several issues such as consequences for daily interactions due to the 'digital revolution' should not be left to chance. Further research efforts and clinical expertise are needed to answer these and other questions related to public mental health in the era of Web 2.0.

Conflict of interest

The authors declare no conflicts of interest.

References

Arnberg, F. K., Linton, S. J., Hultcrantz, M., Heintz, E., & Jonsson, U. (2014). Internet- Delivered psychological treatments for mood and anxiety disorders: A systematic review of their efficacy, safety, and cost-effectiveness. PLoS One, 20, 9(5):e98118. doi:10.1371/journal.pone.0098118.

Alpay, L., van der Boog, P., & Dumaj, A. (2011). An empowerment-based approach to developing innovative e-health tools for self-management. Health Informatics Journal, 17(4), 247–255.

Anderson, R. M., & Funnell, M. M. (2010). Patient empowerment - Myths and misconceptions. Patient Education & Counseling, 79(3), 277–282.

Andersson, G. (2010). The promise and pitfalls of the internet for cognitive behavioral therapy. BMC Medicine, 8, 82. doi:10.1186/1741-7015-8-82.

Andersson, G., Bergström, J., Holländare, F., Carlbring, P., Kaldo, V., & Ekselius, L. (2005). Internet-based self-help for depression - Randomised controlled trial. British Journal of Psychiatry, 187, 456–461.

Andersson, G., Paxling, B., Roch-Norlund, P., Östman, G., Norgren, A., Almlöv, J., . . .Silverberg, F. (2012a). Internet-based psychodynamic versus cognitive behavioral guided self-help for generalized anxiety disorder - A randomized controlled trial. Psychotherapy and Psychosomatics, 81(6), 344–355.

Andersson, G., Paxling, B., Wiwe, M., Vernmark, K., Felix, C. B., Lundborg. L., . . .Carlbring, P. (2012b). Therapeutic alliance in guided internet-delivered cognitive behavioural treatment of depression, generalized anxiety disorder and social anxiety disorder. Behaviour Research and Therapy, 50(9), 544–550.

Barak, A., Hen, L., Boniel-Nissim, M., & Shapira, N. (2008). A comprehensive review and a meta-analysis of the effectiveness of Internet-based psychotherapeutic interventions. Journal of Technology in Human Services, 26(2–4), 109–160.

BARMER GEK (2014). Gesundheitsreport 2014 - Nordrhein Westfalen – psychische Erkrankungen im Erwerbsleben. Wuppertal, Germany.

Bauer, S., & Kordy, H. (Hrsg.) (2008). E-Mental-Health – Neue Medien in der psychosozialen Versorgung. Heidelberg, Germany: Springer Medizin.

Bee, P., Bower, P., Lovell, K., Gilbody, S., Richards, D., & Gask, L. (2008). Psychotherapy mediated by remote communication technologies - A meta-analytic review. BMC Psychiatry, 8, 60. doi:10.1186/1471-244X-8-60.

Belliger, A., & Krieger, D. J. (Hrsg.) (2014). Gesundheit 2.0 - Das ePatienten-Handbuch. Bielefeld: transcript.

Berger, T. (2015). Internetbasierte interventionen bei psychischen störungen. Fortschritte der Psychotherapie (Bd. 57). Göttingen, Germany: Hogrefe.

Borzekowski, D. L., Leith, J., Medoff, D. R., Potts, W., Dixon L. B., Balis, T., . . .Himelhoch, S. (2009). Use of the internet and other media for health information among clinic outpatients with serious mental illness. Psychiatr Serv, 60, 1265–1268.

Bos, L., Marsh, A., Carroll, D., Gupta, S., & Rees, M. (2008). Patient 2.0 Empowerment. Proceedings of the 2008 International Conference

on Semantic Web & Web Services SWWS08, Hamid R. Arabnia & Andy Marsh (Eds), (pp. 164–167).

Bowlby, J. (2008/1988). Bindung als sichere basis: Grundlagen und Anwendung der Bindungstheorie. München: Ernst Rheinhardt. Bowlby, J. (1988). A secure base: Parent- child attachment and healthy human development. New York, NY: Basic Books.

Clarke, G., & Yarborough, B. J. (2013). Evaluating the promise of health IT to enhance/expand the reach of mental health services. General Hospital Psychiatry, 35(4), 339–344.

Cuijpers, P., van Straten, A., & Andersson, G. (2008). Internet-administered cognitive behavior therapy for health problems – A systematic review. Journal of Behavioral Medicine, 31(2), 169–177.

Datenreport (2013). Ein Sozialbericht für die Bundesrepublik Deutschland. Bonn, Germany: Bundeszentrale für politische Bildung.

Deen, T. L., Fortney, J. C., & Schroeder, G. (2013). Patient acceptance of and initiation and engagement in telepsychotherapy in primary care. Psychiatric Services, 64(4), 380–384.

Dinger, U., Strack, M., Sachsse, T., & Schauenburg, H. (2009). Therapists´attachment, patients´interpersonal problems and alliance development over time in inpatient psychotherapy. Psychotherapy Theory, Research, Practice, Training, 46(3), 277–290.

Eichenberg, C., & Ott, R. (2012). Klinisch-psychologische Intervention im Internet - Ein Review zu empirischen Befunden störungsspezifischer Angebote. Psychotherapeut, 1, 58– 69.

Eichenberg, C., Wolters, C. & Brähler, E. (2013). The Internet as a mental health advisor in Germany - Results of a national survey. PLoS ONE 8(11), e79206. doi:10.1371/journal.pone.0079206.

Harker J., & Kleijnen, J. (2012). What is a rapid review? A methodological exploration of rapid reviews in health technology assessments. International Journal of Evidence-Based Healthcare, 10(4), 397–410.

Hedman, E., Ljótsson, B., & Lindefors, N. (2012). Cognitive behavior therapy via the Internet: A systematic review of applications, clinical efficacy and cost-effectiveness. Expert Review of Pharmacoeconomics & Outcomes Research, 12(6), 745–764.

Jasper, K., Weise, C., Conrad, I., Andersson, G., Hiller, W., & Kleinstäuber, M. (2014). Internet-based guided self-help versus group cognitive behavioral therapy for chronic tinnitus - A randomized controlled trial. Psychotherapy and Psychosomatics, 83(4), 234– 246.

Johansson, R., Ekbladh, S., Hebert, A., Lindström, M., Möller, S., Petitt, E., . . . Andersson, G. (2012). Psychodynamic guided self-help for adult depression through the internet - A randomised controlled trial. PLoS ONE 7(5), e38021. doi: 10.1371/journal.pone.0038021

Johansson, R., Nyblom, A., Carlbring, P., Cuijpers, P., & Andersson, G. (2013). Choosing between Internet-based psychodynamic versus cognitive behavioral therapy for depression - A pilot preference study. BMC Psychiatry, 13, 268. doi:10.1186/1471-244X-13-268. Kiropoulos, L. A., Klein, B., Austin, D. W., Gilson, K., Pier, C., Mitchell, J., & Ciechomski, L. (2008). Is internet-based CBT for panic disorder and agoraphobia as effective as face-to-face CBT? Journal of Anxiety Disorders, 22(8), 1273–1284.

Knaevelsrud, C., & Maercker, A. (2006). Does the quality of the working alliance predict treatment outcome in online therapy for trauma patients? Journal of Medical Internet Research, 8(4), e31.

Knaevelsrud, C., & Maercker, A. (2007). Internet-based treatment for PTSD reduces distress and facilitates the development of a strong therapeutic alliance - A randomized controlled clinical trial. BMC Psychiatry, 7, 13. doi:10.1186/1471-244X-7-13.

Knaevelsrud, C., Böttche, M., Pietrzak, R., Freyberger, H. J., Renneberg, B., & Kuwert, P. (2014). Integrative Testimonial Therapy (ITT) - A therapist-assisted internet-based writing therapy for traumatized child survivors of the 2nd World War with posttraumatic stress. Journal of Nervous and Mental Disease, 202(9), 651–658.

Lal, S., & Adair, C. E. (2014). E-mental health - A rapid review of the literature. Psychiatric Services, 65(1), 24–32.

Lange, A., van de Ven, J. P., Schrieken, B., & Emmelkamp, P. M. (2001). Interapy - Treatment of posttraumatic stress through the Internet - A controlled trial. Journal of Behavior Therapy and Experimental Psychiatry, 32(1), 73–90.

Löhr, H. D., Rosenvinge, J. H. & Wynn, R. (2011). Integrating psychoeducation in a basic computer skills course for people suffering from social anxiety - participants' experiences. Journal of Multidisciplinary Healthcare, 4, 311–319.

Moock, J. (2014). Support from the Internet for individuals with mental disorders - Advantages and disadvantages of e-mental health service delivery. Frontiers in Public Health, 2, 65. doi: 10.3389/fpubh.2014.00065.

Munder, T., Wilmers, F., Leonhart, R., Linster, H. W., & Barth, J. (2010). Working Alliance Inventory-Short Revised (WAI-SR) - Psychometric properties in outpatients and inpatients. Clinical Psychology & Psychotherapy, 17(3), 231–239.

Musiat, P., Goldstone, P., & Tarrier, N. (2014). Understanding the acceptability of e-mental health - Attitudes and expectations towards computerised self-help treatments for mental health problems. BMC Psychiatry, 14, 109. doi:10.1186/1471-244X-14-109.

Pandey, S. K., Hart, J. J., & Tiwary, S. (2003). Women's health and the Internet - Understanding emerging trends and implications. Social Science and Medicine, 56(1), 179–191.

Preschl, B., Maercker, A., & Wagner, B. (2011). The working alliance in a randomized controlled trial comparing online with face-to-face cognitive-behavioral therapy for depression. BMC Psychiatry, 11, 189. doi:10.1186/1471-244X-11-189.

Santana, S., Lausen, B., Bujnowska-Fedak, M. Chronaki, C. E., Prokosch, H. U., & Wynn, R. (2011). Informed citizen and empowered citizen in health - Results from an European survey. BMC Family Practice, 12, 20. doi:10.1186/1471-2296-12-20.

Spek, V., Nyklícek, N., Smits, N., Cuijpers, P., Riper, H., Keyzer, J., & Pop, V. (2007a). Internet-based cognitive behavioural therapy for subthreshold depression in people over 50 years old - A randomized controlled clinical trial. Psychological Medicine, 37(12), 1797–1806.

Spek, V., Cuijpers, P., Nyklicek, I., Riper, H., Keyzer, J., & Pop, V. (2007b). Internet-based cognitive behaviour therapy for symptoms of depression and anxiety - A meta-analysis. Psychological Medicine, 37(3), 319–328.

Sucala, M., Schnur, J. B., Constantino, M. J., Miller, S. J., Brackman, E. H., & Montgomery, G. H. (2012). The therapeutic relationship in e-therapy for mental health - A systematic review. Journal of Medical Internet Research, 14(4), e110. doi:10.2196/jmir.2084.

Tasseit, S. (2014). Alkoholismus und Sozialstruktur. Regensburg, Germany: Roderer.

Wagner, B., Brand, J., Schulz, W., & Knaevelsrud, C. (2012). Online working alliance predicts treatment outcome for posttraumatic stress symptoms in Arab war-traumatized patients. Depression and Anxiety, 29(7), 646–651.

Weiner, J. P. (2012). Doctor-patient communication in the e-health era – Commentary. Israel Journal of Health Policy Research, 1, 33. doi:10.1186/2045-4015-1-33.

Weizenbaum, J. (1965). ELIZA - A computer program for the study of natural language communication between man and machine. Communications of the Association for Computing Machinery, 9, 36–45.