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The Use of Internet-Enabled Cognitive Behavioral Therapy in the Treatment of Depression and Anxiety amongst Older People

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Abstract: This article reports on the experience of internet-enabled cognitive behavioural therapy (IECBT) for older people diagnosed with depression and anxiety. IECBT involves synchronous real-time communication between the therapist and patient via instant messaging and has been found to be effective in the treatment of patients over eighteen diagnosed with depression. While younger populations are an obvious focus for studies into the potential of internet-based therapies, older people's experience of such therapies can be overlooked due to assumptions about their relatively lower rates of internet use. However, rapid increases in this generation's levels of internet access make this an important avenue of enquiry. In addition, such therapies may offer a route to address the underdiagnosis and undertreatment of depression and anxiety among older people. Once older people are diagnosed, evidence suggests that they tend to prefer psychological therapies, and these can be effective in this age group. This article therefore builds on the positive findings about IECBT as a treatment option in general by, for the first time, analysing quantitative data relating to older people's use of this form of therapy. It analyses secondary data on patient characteristics, take-up of treatment, and treatment outcomes, finding that older men are over-represented among IECBT patients and that rates of self-referral are higher in this age group.

Keywords: Depression and Anxiety, Cognitive Behavioral Therapy, Internet

Introduction

Depression and anxiety are common and are disabling disorders in older people (Schoevers et al. 2003). Yet in spite of evidence suggesting that older people with these conditions can respond well to treatment, there is a persistent lack of recognition and response from medical professionals (Overend et al. 2015). This can have long-term consequences for older people and their carers, alongside increasing the use of health and social care services. This article reports on one particular treatment option, internet-enabled Cognitive Behavioral Therapy (IECBT): a therapist-delivered form of CBT in which the therapist and patient communicate through typed conversation in real time. This article reports on the preliminary descriptive analysis of secondary data from a company which has been delivering IECBT in the UK over the past two years. By extracting routinely collected data on patients over sixty-five and comparing that to data for younger age groups, this article gives an overview of the profile of these older patients, their diagnoses, and recovery rates. These initial findings suggest various avenues for further research in this developing field.

Depression and Anxiety amongst Older People

Depression and anxiety are prevalent and have numerous difficult consequences for older people, carers, and services (Lenze et al. 2001; Dickens et al. 2012). Understanding conditions such as

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depression and anxiety amongst older people is complex, not least because anxiety and depression often occur together (Mehta et al. 2003). Mental health problems may occur for the first time in later life, they may be the continuation of a chronic condition, or they can be seen as the result of exposure to risk factors throughout the life course “in a chain of events which ultimately leads to the onset of depressive symptoms” (Almeida 2014, 137). Studies of mental disorders can be characterised by their heterogeneous findings. Comparisons between older and younger age groups have reached contradictory conclusions in terms of whether or not conditions increase in prevalence or become more severe with age (Volkert et al. 2013). Similarly, studies assessing the prevalence of mental health problems within older people use inconsistent measures and can have very different findings. In a recent meta-analysis, Volkert et al. (2013) found that in relation to major depression, rates varied from 3.29 percent for current and 16.52 percent for lifetime, indicating that older people’s disease burden is often a continuation of earlier experiences. Similarly, there is also considerable variability in assessments of anxiety-related conditions in the older population. Grenier et al. (2011) found that the twelve-month prevalence rate of sub-threshold anxiety, in which reported symptoms are either not numerous or severe enough to meet the clinical threshold, reached 26.2 percent in older people, while the rate for those who met the clinical diagnostic criteria was 5.6 percent. Nevertheless, they noted that there were more similarities than differences across the two groups in terms of their health and health behaviours.

While assessing the prevalence of mental disorders among older people is therefore not straightforward, it is indisputable that their presence can have a considerable and negative impact on wellbeing, both of sufferers and of carers. Depression has been associated with loss and a sense of loneliness (Overend et al. 2015), and often accompanies physical illness (Mitchell and Harvey 2014). Pfaff et al. (2009) found that older people with multiple medical conditions and a high degree of functional limitation were more than three to four times as likely to experience depression. Depression is also linked to increased mortality (Almeida et al. 2010). Callahan (2001, 772) comments that, “Later life depression steals quantity and quality of life from older adults and it results in more functional impairment than most other chronic medical conditions.” Caring for someone with a mental disorder can be taxing for carers, who in turn may find their own mental health jeopardised (Shah, Wadoo, and Latoo 2010). Older people experiencing depression are more likely to use health and social care services, and there is a greater likelihood that unscheduled care will be required (Dickens et al. 2012).

Treatment of Depression and Anxiety

The first challenge before treatment can take place is recognition of a mental disorder, both by the person suffering and by the medical practitioner. However, depression and anxiety remain underdiagnosed among older people (Chew-Graham, Baldwin, and Burns 2004). There can be several underlying reasons for this. Older people may perceive mental illness as a stigmatising label and, hence, be unwilling to define their symptoms in this way (Overend et al. 2015). Previous poor experiences of care may also deter older patients from reporting how they feel. Symptoms of depression may present differently than in a younger population (Chew-Graham, Baldwin, and Burns 2004). A more somatic presentation can be common in later life (Wilkowska-Chmielewska, Szelenberger, and Wojnar 2013; Hegeman et al. 2015). Medical practitioners may attribute symptoms to possible dementia rather than mental illness (Chew-Graham et al. 2012) or may fail to appreciate cultural variations in the language and description of mental disorder (Lawrence et al. 2006).

Both older patients and medical practitioners may have low expectations of what constitutes good mental health in later life or be fatalistic about how much can realistically be achieved. Burroughs et al. (2006) draw on the concept of “therapeutic nihilism” to explore the way in which depression comes to be seen by both parties as an inevitable consequence of ageing and its

challenges and, hence, almost justifiable. However, once diagnosed, there is evidence to suggest that older people can respond well to treatment, although there is again considerable heterogeneity in findings.

The two main approaches to treatment are pharmacological and talking therapies. Pharmacological treatments can be effective (Tedeschini et al. 2011), but there can also be adverse effects (Coupland et al. 2011) and older patients have been shown to express fears that such medication may be addictive (Unützer et al. 1997). Among talking therapies, cognitive behavioral therapy (CBT) is possibly the most widely researched (Hoffman et al. 2011) and has an extensive evidence base. It has been shown to be effective with older adults (Cuijpers et al. 2014). CBT is an approach which focuses on changing patients' disordered thinking and beliefs in order to bring about long-lasting emotional and behavioral change (Beck 2011). Older patients tend to express a preference for psychotherapy as opposed to medication (Raue et al. 2009), but there may be difficulties of access, particularly for older people with limited mobility.

Difficulties in accessing talking therapies are by no means confined to older people. The Improving Access to Psychological Therapies programme (IAPT) was introduced in the UK in 2008 to facilitate the take-up of talking therapies. The Department of Health (2011) stated that a key aim of the subsequent national roll-out of the programme was ensuring that people over sixty-five were able to access services. This recognised the fact that early evaluation showed that only 4 percent of those accessing IAPT services were older adults, whereas a rate of 12 percent would have been expected, although there were considerable variations between sites (Department of Health 2011). Chaplin et al. (2015), however, identify continuing under-representation of older adults, which arguably reflects age discrimination.

Internet-Enabled Cognitive Behavioural Therapy (IECBT)

There are different ways of delivering CBT apart from the traditional face-to-face method. Recent years have seen a burgeoning of different forms of technologically-based therapies. These operate on a spectrum of therapist input. At one end are computer-based CBT programmes, which are entirely based on the self-help model. On the middle of the spectrum, computer-based modules are supplemented with therapist support in using the programme. At the other end of the spectrum, therapy is delivered online with full therapist involvement. Studies have found that solely computer-based CBT can be effective for older people (Dear et al. 2015), although others have found that therapist input achieves better outcomes (Andersson and Cuijpers 2009; Baumeister et al. 2014).

The form of therapy reported here, IECBT, mirrors face-to-face therapy in that it involves synchronous real-time communication between therapist and patient in therapy sessions. However, communication in IECBT takes place via typing in a secure virtual therapy room. The transcript of each session, conducted in this way, is encrypted and held on a secure site for both therapist and patient to access at any time. In addition to a weekly CBT appointment, therapist and patient can also communicate asynchronously in writing between therapy appointments. A randomised control trial compared the delivery of IECBT with treatment as usual in 300 participants who were diagnosed with major depressive disorder. The 113 participants that were in the intervention group and ninety-seven in the control group were followed up four months after the intervention. In the intervention group, forty-three patients (38%) recovered from depression [Beck Depression Inventory score < 10 (Beck, Steer, and Brown 1987)] versus twenty-three (24%) in the control group (odds ratio 2.39, 95% CI 1.23–4.67; $p = 0.011$), and forty-six (42%) versus twenty-six (26%) at eight months (2.07, 1.11–3.87; $p = 0.023$). Kessler et al. (2009, 628) concluded that: "CBT seems to be effective when delivered online in real time by a therapist, with benefits maintained over 8 months." This study builds on these findings by examining the particular experience of older adults in using IECBT, a line of enquiry which has not yet been undertaken elsewhere.

Methods

The aim of this study was to examine the use of IECBT for older people, particularly those experiencing anxiety and depression. This involved researchers from a university in the east of England working in collaboration with a UK company delivering IECBT. The company has been commissioned to deliver online therapy by thirty-eight Clinical Commissioning Groups (CCGs) to date as part of IAPT provision. Patients can be referred to the company by medical professionals, such as general practitioners (GPs), or they are able to self-refer (depending on location). Once referred, patients complete a comprehensive self-assessment and are allocated to a therapist, who triages them in order to determine diagnosis and suitability for treatment. The company maintains wide-ranging data relating to patient characteristics, diagnosis, treatment, and treatment outcomes, as required by IAPT. All patients registering with the service consent to their anonymised data being used for research purposes. In general, patients receive between four and twelve sessions of IECBT of either thirty or sixty minutes.

This study reports on an analysis of secondary data relating to older people's use of IECBT. It uses descriptive statistics focused on routinely collected data on patient's demographic characteristics, diagnoses, and outcomes. The measures used are those required as part of IAPT's minimum data set. All patients complete the PHQ-9 (Kroenke, Spitzer, and Williams 2001) and GAD-7 (Spitzer et al. 2006), which are used to assess clinical outcomes. The study compares the data for older patients with younger patients. Comparison between age groups is also made in regards to outcomes but conclusions from this analysis are limited by the fact that the pretreatment characteristics of the two age cohorts differ. Anonymised data relating to patients receiving therapy from the company were analysed independently by the research team at the university. The study went through the university's ethics process.

Findings

Demographics

The company had a total of 12,044 patients aged eighteen and over between Q1 2014 and Q3 2016. Of these, 277 (2%) were aged sixty-five and over. Among those aged sixty-five and over, women marginally outnumbered men, accounting for 53 percent of patients. In this age group, self-referral was the most usual route into the service, accounting for 71 percent of the total (Table 4). Most older patients categorised their ethnicity as white (70%), but a large proportion (29%) opted out of the question.

A notable difference between patients aged sixty-five and over and those aged eighteen to sixty-four is that there was a larger proportion of men in the older age group. Whereas 45 percent of the older age group were men, they comprised only 30 percent of the younger age group. This perhaps reflects the greater tendency for older men, rather than older women, to use the internet. Another notable point was that self-referral was a less common entry route among younger people, accounting for 56 percent of the total, as opposed to 71 percent for the older patients. The largest group of patients in this age group categorised their ethnicity as white (68%), around the same proportion as the older age group. But a greater proportion (10%) described their ethnicity according to other categories, such as Asian, black, and mixed, and a smaller percent opted out of the question.

Conditions and Outcomes

Older patients presented with a wide range of diagnoses and, among those who self-referred, the range was wider than among referrals (see Table 1 for details).² The additional diagnoses among the self-referred, i.e., those for self-referred patients but not for referred patients, were: agoraphobia (with or without panic disorder), chronic fatigue syndrome, chronic intractable pain, disappearance and death of family member, dysthymia, hypochondriacal disorder, irritability and anger, mental disorder (not otherwise specified), obsessive-compulsive disorder, panic disorder (episodic paroxysmal anxiety), post-traumatic stress disorder, problems in relationship, recurrent depressive disorder, somatoform disorders, and specific (isolated) phobias. Among those aged eighteen to sixty-four, the gap between the number of therapies requested for referrals and self-referrals was less marked.

Table 1: Diagnoses for Patients Aged Sixty-five and Over

Therapy Requested	Route into Treatment	
	Referral	Self-referral
Adjustment disorders	✓	✓
Agoraphobia (with or without panic disorder)		✓
Anxiety disorder (unspecified)	✓	✓
Bipolar affective disorder	✓	✓
Chronic fatigue syndrome		✓
Depressive episode	✓	✓
Disappearance and death of family member		✓
Dysthymia		✓
Generalised anxiety disorder	✓	✓
Hypochondriacal disorder		✓
Irritability and anger		✓
Mental disorder, not otherwise specified		✓
Mixed anxiety and depressive disorder	✓	✓
Obsessive-compulsive disorder		✓
Panic disorder (episodic paroxysmal anxiety)		✓
Post-traumatic stress disorder		✓
Problems in relationship		✓
Recurrent depressive disorder		✓
Somatoform disorders		✓
Specific (isolated) phobias		✓

A total of 5,830 patients of all ages were recorded as having a primary diagnosis of either depression or anxiety. Of these 113 (2%) were patients aged sixty-five and over, replicating the split in the age of patients overall. Among these older patients, more were diagnosed with anxiety (62%) than depression (38%) (Table 2). In patients with either anxiety or depression, it was most common to be on a Step 3 pathway (Table 3). For those with depression, it was more common to

² Note: All data on conditions refers to a slightly narrower timescale than the demographic data covering the period Q3 2014 to Q3 2016.

be on a Step 2 pathway than for those with anxiety. Compared to the eighteen to sixty-four age group, older people were more likely to be on a Depression Step 2 pathway (12% versus 4%) and less likely to be on an Anxiety Step 3 pathway (46 % versus 56%).

Table 2: Patients with Anxiety and Depression

Age		Anxiety	Depression	Total
65 plus	Frequency	70	43	113
	Percentage	62	38	100
18–64	Frequency	4021	1696	5717
	Percentage	70	30	100

Table 3: Pathways for Patients with Depression and Anxiety

		Depression Step 2	Depression Step 3	Depression Step 3+	Anxiety Step 2	Anxiety Step 3	Anxiety Step 3+	Total
65 plus	Frequency	14	26	3	12	52	6	113
	Percentage	12	23	3	11	46	5	100
18–64	Frequency	239	1338	119	571	3230	220	5717
	Percentage	4	23	2	10	56	4	100

A total of 6,359 patients with anxiety or depression were discharged having entered treatment between Q1 2014 and Q3 2016. A smaller number (4,809) was discharged having started at caseness. All of these patients finished treatment. Of these, 75 patients (2%) were aged sixty-five and over. Among these older patients who started at caseness, 57 percent moved to recovery, 65 percent showed clinical improvement, and 49 percent showed reliable recovery (Table 4).

These recovery rates are broadly similar to the figures for the younger age groups (Table 4), although since the demographic details and pre-treatment conditions of the two groups differ, limited conclusions can be drawn from such comparison.

Table 4: Outcomes for Patients with Depression and Anxiety

Age		Discharged having started at caseness and finished	Discharged having started at caseness and moving to recovery	Discharged having started at caseness and showing clinical improvement	Discharged having started at caseness and showing reliable recovery
65 plus	Frequency	75	43	49	37
	Percentage of those discharged at caseness and finished	100	57	65	49
18–64	Frequency	4734	2258	3134	2098
	Percentage of those discharged at caseness and finished	100	48	66	44

Note on definitions: Definition of outcomes used here replicate those used by IAPT (2014).

“Moving to recovery” counts the number of people that were above the clinical cut-off before treatment but below following treatment. IAPT looks at change in a person, not just in a

syndrome. For this reason, an individual is defined as a case if (s)he scores above the clinical threshold on depression and/or anxiety at pre-treatment. Recovery occurs if that person subsequently scores below the clinical threshold on depression and anxiety.

“Reliable Improvement” requires that any improvement in scores on the appropriate outcome measures between pre- and post-treatment exceeds the measurement error of the scales. IAPT looks at change in a person, rather than just a syndrome. For this reason, the reliable improvement classification is based on changes in both depression and anxiety. Reliable improvement is a variable that contributes to the calculation of reliable recovery but can also be reported on its own when one is interested in assessing how many people showed any degree of real benefit while being treated in an IAPT service.

Discussion

Older people represent a small but significant minority of those receiving IECBT. Of those completing treatment, 2 percent were sixty-five and over. Initially, it may therefore seem as if IECBT would have very limited utility for older people. However, when the low representation of older adults among all those accessing IAPT services is considered, this figure is less surprising. For example, Prina et al. (2014) found that in the Eastern region of the UK, only 4 percent of IAPT users were older people. While IECBT may not be a suitable treatment for all older people, our findings suggest that there are those for whom it may be a valuable approach.

Older adults are commonly assumed to be less familiar with computer technology and internet access. Yet internet use is growing rapidly among this group. Edwards, Duffy, and Kelly (2016) found that internet use across Europe tripled in the sixty-five-plus group between 2002 and 2010. Internet-based interventions have promise for groups whose access to conventional treatment may be restricted through limited mobility (Boeschoten et al. 2012). The fact that IECBT offers treatment at one remove, given its reliance on written communication, may be appealing to those who have concerns about the potentially stigmatising impact of mental health problems. The combination of accessing treatment from home, coupled with a lack of face-to-face contact, may confer a greater sense of privacy.

It is interesting that a greater than expected proportion of older men have used IECBT. This reflects the fact that more men than women among the over sixty-five people use the internet (Edwards, Duffy, and Kelly 2016). However, it is also significant as men have often been found to experience more difficulties in help-seeking for mental health conditions (Mackenzie, Gekoski, and Knox 2006). Men are often found to be reluctant to seek face-to-face support for mental health problems (Wilkins and Kemple 2011), so men, in particular, may find the arm’s-length nature of the online consultation appealing. IECBT, therefore, may offer an opportunity to reach a group who are less likely to respond to conventional mental health care services.

The data on the primary diagnosis of older patients who are referred versus those who self-refer shows that the latter group displays a wider range of conditions than the former. One interpretation here is that older people may perceive their mental health differently from medical professionals. Medical professionals appear to have a narrower focus on what constitutes potentially treatable mental health conditions in older people, hence the more limited list of diagnoses. Given the opportunity to self-refer, older patients present with symptoms which elicit a wider range of diagnoses, which then go on to be treated.

When the outcomes of patients presenting with anxiety and depression are considered, older people’s rates of recovery seem in line with those of other groups, suggesting that IECBT can be an effective treatment medium. This supports findings in other studies that computerised CBT in various forms can have good success in treating mental health conditions in older people.

This study has several limitations. It uses descriptive statistics only on a relatively small group of older patients using IECBT. The older patients are not necessarily representative of all older people with mental health conditions; indeed, they are likely to be those most comfortable

and familiar with internet use. In addition, comparisons with younger age groups must be drawn cautiously. Nevertheless, this study suggests that IECBT can be a promising intervention for this population.

Conclusion

IECBT appears to be an effective method of treatment for older people experiencing anxiety and depression. It offers an experience of relative anonymity alongside the ability to access treatment from one's own home. For this reason, it may be an appealing form of treatment for older people, particularly those who might otherwise be reluctant to seek help. This preliminary study suggests a number of potential avenues for further research, for example exploring the reasons why older men are over-represented among IECBT patients, why rates of self-referral are higher among those aged sixty-five and over, compared to younger cohorts, and why the range of diagnoses for those who self-refer is wider in this age group. The impact of therapy sessions being conducted via written communication that can be subsequently accessed by the therapist and patient is another area of particular interest in regards to older patients.

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