

## PRIORITY BRIEFING

The purpose of this briefing paper is to aid Stakeholders in prioritising topics to be taken further by PenCLAHRC as the basis for a specific evaluation or implementation research project. The paper was prepared in 2-3 days.

### **Is an internet based (Behavioural Activation) treatment for post-natal depression (MUMiCBT) effective in reducing symptoms of depression?**

#### **Question ID: 7**

**Question type:** Intervention

**Question:** Is an internet based (Behavioural Activation) treatment for post-natal depression (MUMiCBT) effective in reducing symptoms of depression?

**Population:** post-natally depressed women aged 18 or older, defined as women who have (a) delivered a live baby within the previous 12 months, (b) meet DSM-IV (Diagnostic and Statistical Manual for mental disorders) criteria for depression - determined by SCID (Structured Clinical Interview for DSM Disorders), (c) are able to understand English. Exclusion criteria: women who (a) are currently psychotic, (b) suicidal, (c) engaged in another psychological treatment for postnatal depression, (d) abusing substances and not in treatment for this problem.

**Intervention:** A pilot version of the unsupported internet intervention has already been developed (MUMiCBT). This trial involves online Behavioural Activation (the internet intervention) specific for postnatal depression and *supported* by weekly 15-30 minute telephone calls from IAPT low-intensity workers. The programme also needs to be further developed and refined so that it is user friendly, with an engaging visual format that it is interactive and provides user friendly "homework" reminders and post-therapy treatment maintenance checks and prompts to re-engage with treatment when mood scales indicate risk for relapse. Currently the program is linear in nature - women have to complete each session. This means that women are often completing sections that are not immediately relevant to them. We would like to make the program modular in nature so that women would complete only those modules of relevance to them. They would fill out an assessment at the beginning that would identify their needs and then be directed to the relevant modules.

**Control:** We would like to compare the online intervention to treatment as usual (TAU). We will mimic real-world TAU (nationally this is equal to a GP visit and depression screen 6 weeks post-partum, health visitor check-up at 2 weeks post-partum and 9 months post-partum) + Netmums regular services (parenting resources, meet-a-mum feature, depression chat room moderated by health visitor), and therefore will not place constraints around engagement (post-enrolment in the trial) in psychological therapies for depression. We will also not place constraints on antidepressant use in either the TAU or treatment condition.

We will recruit women in two ways: through GP surgeries and through online advertisements (banner postings) on Netmums.co.uk. This latter recruitment strategy has been very effective.

**Outcome:** Our primary outcome will be severity of mood, as assessed by the Edinburgh Postnatal Depression Scale (EPDS). We will also gather data about the percentage of women who meet criteria for depression (DSM and SCID) and quality of life data using the EQ-5D. We will also gather data on engagement with and adherence to treatment, parenting stress levels, work and social impairment and levels of social support. The intervention is expected to be amenable to the lifestyle constraints of new mums (e.g., childcare, feeding schedules, transportation concerns) and poses fewer stigma implications. We would plan to look at this both qualitatively in a process evaluation, and quantitatively. Lastly, we would hope to gather health economics data to look at the feasibility of examining the cost effectiveness of MUMiCBT in a large, definitive trial.

\*Please note the details in the box are from the original submission and have been edited where necessary for clarity and precision

**Post-natal depression:** Postnatal depression (PND) is a type of depression some women experience after they have had a baby. It usually develops in the first four to six weeks after childbirth, but can take several months. There is often no reason for the depression. However, women are more likely to have PND if they: have had mental health problems, including depression before; have had depression or anxiety during pregnancy; do not have support from family or friends; or have had a recent stressful event - e.g. death of someone close, relationship ending, losing a job. There are many symptoms of PND, such as low mood, feeling unable to cope and difficulty sleeping, but many women are not aware that they have the condition. It is important for partners, family, friends and healthcare professionals to recognise the signs of PND as early as possible so that appropriate treatment can be given. It is very important to understand that having PND does not mean that a mother does not love or care for her baby. Also, although postnatal depression is more common in women, men can also be affected.

**Behavioural activation:** Many changes happen when a baby is born. Sometimes these changes can leave a woman feeling unsupported and disconnected from activities and ways of living that she previously enjoyed and found meaningful. Behavioural activation is a behaviour therapy where a therapist will guide the woman through a process of engaging with healthy behaviours. The person is encouraged to pursue healthy activities that reward them and keep a close record of their activities and resulting mood. This therapy is developed from CBT (cognitive behaviour therapy) and is based on the premise that not enough environmental reinforcement contribute to depression. The goal of the intervention is to increase environmental reinforcement and reduce punishment. This involves: finding ways to balance valued activities,

learning or changing ways of interacting with others to obtain support, and using strategies to improve activities with the baby.

### **The Health Problem:**

PND affects about one in 10 mothers in the UK yet only 15-30% seek treatment. Postnatal depression is recurrent. Some women will go on to experience further depressive episodes outside of the postnatal period, others will experience recurrences within the context of the perinatal period only. Importantly, a number of longitudinal studies have demonstrated that postnatal depression impacts maternal sensitivity to infant needs, and results in poor outcomes for the child, both cognitively and social/emotionally. Thus, postnatal depression has both acute and long-term impact.

In Devon and Cornwall there are on average 15,400 deliveries per year 3,500 at the RD&E, 3,800 at Derriford Hospital in Plymouth, 2,300 at Torbay Hospital, 1,600 in North Devon Hospital 4,200 at the Royal Cornwall Hospital in Truro (Information Centre for Health and Social Care). If 10% (approximately 1,540, as is reported anecdotally to be the case) of these deliveries score positively on the depression detection tool (Edinburgh Post-natal Depression Scale, EPDS). This translates (via the EPDS) to an estimate of approximately 1,078 (70%) of women in Devon and Cornwall receiving a diagnosis of post-natal depression per year.

It is recognized anecdotally that there is a considerable gap in perinatal mental health provision in Devon and Cornwall particularly for mothers with moderate to severe depression. There are ongoing efforts to put together a Devon-wide perinatal service but there are practical barriers to this, e.g. perinatal services straddle both Child and Adolescent Mental health Services and Adult Services and Health Visitor resources are diminishing.

IAPT (Improving Access to Psychological Therapies) services are providing greater access to CBT nationally, including providing CBT for women with postnatal depression. In some areas of the country, health visitors have been leading postnatal CBT groups. These groups are often contingent on having a child care crèche, and frequently have long waiting lists. Home based treatments are in decline. Anecdotal evidence suggests that IAPT workers have tight time schedules and high patient loads. Thus, if patients are not able to make appointments on a regular basis, they are frequently discharged so that services can be provided to individuals who can make regular meetings. This may be particularly problematic for postnatal women who struggle with transportation and childcare needs, and have to manage unpredictable infant schedules (e.g., feeding/sleeping patterns) and illnesses.

The question submitter has been involved in some pilot research locally using unsupported iCBT (internet based CBT). Results from the is pilot work suggest there was a favourable effect on symptoms of depression with an effect size of

0.53, however it should also be noted that the level of attrition was also high (70%).

### **Guidelines:**

NICE guidelines on Antenatal and Postnatal Mental Health (2007) have prioritized perinatal mental health. NICE specifies that women with perinatal depression should receive priority treatment. The guidelines suggest women should be seen within 1-3 months. NICE also recommends CBT for the treatment of postnatal depression however, they only recommend computerised CBT (CCBT) for mild depression, when planning a pregnancy and not for more severe depression or for mild depression experienced during pregnancy and whilst breastfeeding.

### **NHS Priority:**

#### **Regional**

##### **SW SHA Priorities framework 2008-11**

- Improve access to specialist mental health services...responding to the particular needs of mothers
- Adults with mild to moderate depression to have access to psychological therapy in every PCT
- Expand the use of telecare, telemedicine and assistive technology in three or more health communities

QIPP priorities include improving mental health and shifting settings of care.

#### **Local**

- All localities have improving mental health as a top priority

### **Existing Research:**

#### **Published research**

In the last five years there have been a number of reviews<sup>1,2,3,4,6</sup> and primary research studies<sup>5</sup> on the effectiveness of internet interventions for depression and anxiety in the last five years. However, none of these specifically looks at post-natal depression or behavioural activation (most investigate the use of computer CBT) suggesting this area currently represents a gap in the literature. The conclusions from these reviews are all similar that; i) computer/internet based interventions for depression and anxiety hold a lot of promise for therapy options; ii) that access to such therapy using the internet should not be used alone (as a sole treatment) but as an assistive practice in conjunction with usual care<sup>2,5</sup>; and iii) that further research is needed. Some reviews report effect sizes ranging from 0.42 to 0.65<sup>2,4</sup> indicating a positive influence of computer CBT on depression scores.

An HTA systematic review<sup>6</sup> of computerised CBT published in 2006 showed some evidence that computerised CBT (specifically the following packages - Beating the Blues, Overcoming Depression: a five areas approach, FearFighter, Cope and BT Steps) is as effective as therapist-led CBT for the treatment of depression/anxiety and phobia/panic and is more effective than treatment as usual in the treatment of depression and anxiety. The authors concluded that more research was needed to establish the position of computerised CBT within a stepped care programme, as well as its relationship to other efforts to increase access to CBT and psychological therapies. Research is needed to compare CCBT with other therapies that reduce therapist time, in particular bibliotherapy and to explore the use of CCBT via the Internet.

We have not performed an exhaustive search of alternative programmes/packages that exist online. There is a small body of research on behavioural activation. However, the literature does not seem to cover the use of behavioural activation in postnatal depression (it is mainly on depression more generally) and it does not address the use of web-based behavioural activation.

### **Ongoing research**

One study is being conducted in the US and Australia on 'Cognitive Behavioral Therapy Delivered Over the Internet for Women With Postpartum Depression'. The study is not randomised but is due to look at the effectiveness and acceptability of this intervention and the influence of patient characteristics on its effectiveness. The study is due to complete July 2012 but not yet opened for recruitment.

### **Feasibility:**

There are good links with Netmums.co.uk, who have helped to develop the program to date. A large number of women have signed up for the treatment (n=1700) in the pilot study, but there were very high attrition rates (60-70%). Understanding of the published literature suggests that providing telephone support may reduce attrition rates. Initial talks with IAPT services suggests that they are well-suited and willing to provide the telephone support in a larger trial and following completion of the research. A specialist low-intensity perinatal specific work force that could deliver the support component of the Netmums program has been suggested. This program would be based on a "centre of excellence" model. Local (Devon) low-intensity IAPT therapists could provide telephone support to the Netmums program nationally.

Results could be used to provide support for adopting the MUMiCBT program throughout the NHS. There have been preliminary conversations with IAPT leads, and they are interested in working to develop and test the treatment. One option they have discussed is developing regional centres of IAPT postnatal excellence that would deliver the telephone support nationally. The team plan to

involve service users and stakeholders throughout the project have established an initial group of four service users who have experienced postnatal depression. These women have agreed to contribute to the research.

The pilot study attracted women from a wide range of socioeconomic (SES) backgrounds. This could be important, since PND is more common in low SES women, low SES women tend to access interventions at a lower rate than other women, and low SES status magnifies the impact of PND on negative child outcomes.

There has been some interest from international collaborators about expanding this treatment, if successful, overseas. Input and support around this issue is needed.

### **References:**

1) Titov, N. (2011). "Internet-delivered psychotherapy for depression in adults." Current Opinion in Psychiatry **24**(1): 18-23.

**PURPOSE OF REVIEW:** The rapidly growing number of published research papers attests to the increasing interest in Internet-delivered psychotherapy (IPT). The present article reviews the current status of IPT for the treatment of adults with symptoms of depression. **RECENT FINDINGS:** Randomized controlled trials have confirmed the efficacy of guided IPT in treating people with diagnosed or elevated symptoms of depression with equivalent results obtained by programs based on cognitive behavioural or problem solving models. With guidance, effect sizes are comparable to those obtained in face-to-face psychotherapy and low-intensity interventions are as effective as those with higher levels of therapist contact. On current evidence, entirely self-guided programs appear to have fewer benefits, but deliver tangible benefits to completers. **SUMMARY:** Recent studies indicate the utility of IPT. Large-scale trials are needed to evaluate optimal strategies for disseminating IPT. Future studies should independently replicate findings and efforts are required to educate patients and health professionals about IPT.

2) Griffiths, K. F., L. Christensen, H. (2010). "The efficacy of internet interventions for depression and anxiety disorders: a review of randomised controlled trials." Medical Journal of Australia **192**(11 (suppl)): S4-11.

**OBJECTIVE:** To review the outcomes, nature and quality of published randomised controlled trials of preventive and treatment internet interventions for depression and anxiety disorders, and to document the availability of effective interventions. **DATA SOURCES:** Previous reviews of internet interventions for mental health and related conditions were updated using an extension of the original methodology. All studies included in the original reviews and more recent

eligible trials (published before June 2009) were included, together with any trials identified from a search of the health intervention web portal Beacon and the Journal of Medical Internet Research. STUDY SELECTION: A total of 29 reports describing 26 trials satisfied the inclusion criteria. DATA SYNTHESIS: All trials employed a cognitive behaviour therapy intervention program. Of the 26 trials, 23 demonstrated some evidence of effectiveness relative to controls. Effect size differences ranged from 0.42 to 0.65 for depression interventions involving participants with clinically significant symptoms of depression, and 0.29 to 1.74 for anxiety interventions involving participants with a diagnosed anxiety disorder. Of the five effective English-language programs, three are available to the public without charge and two can be accessed at a small cost through health practitioner referral. CONCLUSION: Internet interventions for depression and anxiety disorders offer promise for use as self-help applications for consumers or as an adjunct to usual care.

3) Wade, A. (2010). "Use of the internet to assist in the treatment of depression and anxiety: a systematic review." Primary Care Companion to the Journal of Clinical Psychiatry **12**(4).

OBJECTIVE: This systematic review aims to describe the Internet's potential role in assisting patients with depression and anxiety. DATA SOURCES: A MEDLINE search was conducted of articles published between 1998 and 2008 using the terms depression and anxiety and Internet, computers and depression and anxiety, Internet and compliance and depression, and Internet and adherence and depression. STUDY SELECTION: Publications cited include articles concerned with the Internet in screening, supporting, educating, and treating patients with depression and anxiety. DATA EXTRACTION: The efficacy of Internet-based interventions for depression and anxiety was reviewed, alongside the quality of available online information regarding these disorders. DATA SYNTHESIS: Little progress has been made in developing a universally accepted system for quality assurance of medical information Web sites. Furthermore, there is a lack of research describing the effect of self-diagnosis sites on meaningful outcomes, such as the proportion of patients who go on to receive successful treatment for their depression. Early studies of Internet-based cognitive-behavioral therapy for depression were promising; however, results of clinical trials for "e-therapy" have been variable due to methodological issues. A novel compliance support Web site for patients with depression and anxiety is being evaluated to establish whether providing such assistance can improve patient outcomes. CONCLUSIONS: The use of the Internet to assist patients with depression and anxiety is currently in its infancy. However, it appears that the Internet has great potential to support patients with depression and may consequently also be of benefit to physicians.

4) Andersson, G. C., P. (2009). "Internet-based and other computerized psychological treatments for adult depression: a meta-analysis." Cognitive Behaviour Therapy **38**(4): 196-205.

Computerized and, more recently, Internet-based treatments for depression have been developed and tested in controlled trials. The aim of this meta-analysis was to summarize the effects of these treatments and investigate characteristics of studies that may be related to the effects. In particular, the authors were interested in the role of personal support when completing a computerized treatment. Following a literature search and coding, the authors included 12 studies, with a total of 2446 participants. Ten of the 12 studies were delivered via the Internet. The mean effect size of the 15 comparisons between Internet-based and other computerized psychological treatments vs. control groups at posttest was  $d = 0.41$  (95% confidence interval [CI]: 0.29-0.54). However, this estimate was moderated by a significant difference between supported ( $d = 0.61$ ; 95% CI: 0.45-0.77) and unsupported ( $d = 0.25$ ; 95% CI: 0.14-0.35) treatments. The authors conclude that although more studies are needed, Internet and other computerized treatments hold promise as potentially evidence-based treatments of depression.

5) de Graaf, L. G., SA. Arntz, A. Riper, H. Metsemakers, JF. Evers, SM. Severens, JL. Widdershoven, G. Huibers, MJ. (2011). "One-year follow-up results of unsupported online computerized cognitive behavioural therapy for depression in primary care: A randomized trial. ." Journal of Behavior Therapy & Experimental Psychiatry. 42(1):89-95, 2011 Mar. 42(1): 89-95.

OBJECTIVE: To report the one-year follow-up results of computerized cognitive behavioural therapy (CCBT), offered online without professional support, for depression compared with usual GP care and a combination of both treatments. To explore potential relapse prevention effects of CCBT. METHODS: 303 depressed patients were randomly allocated to (a) unsupported online CCBT (b) treatment as usual (TAU), or (c) CCBT and TAU combined. We had a 12-month follow-up period. Primary outcome measure was the Beck Depression Inventory II. Self-reported health care use was also measured. KEY FINDINGS: At 12 months, no statistically significant differences between the three interventions are found in the intention-to-treat population for depressive severity, reliable improvement, remission, and relapse. In the first quarter, differences in health care consumption between the three interventions are significant (i.e. less GP contacts, less antidepressant medication, and less specialist mental health care in the CCBT group), but these differences disappear over time. CONCLUSIONS: Unsupported online CCBT is not superior to TAU by a GP for depression. With equal effects, CCBT alone leads to less health care consumption than TAU and CCBT&TAU. Overall effects are modest in all interventions, which can be explained by the finding that the use of health care services decreases despite the lack of substantial improvements.

6) Kaltenthaler, E., Brazier, J, De Nigris, E, Tumur, I and M. Ferriter, Beverley, C, Parry, G, Rooney, G, Sutcliffe, P (2006). "Computerised cognitive behavior therapy for depression and anxiety update: a systematic review and economic evaluation." Health Technology Assessment 10(33).

To evaluate computerised cognitive behavior therapy (CCBT) for the treatment of anxiety, depression, phobias, panic and obsessive–compulsive behavior (OCD). The software packages to be considered include Beating the Blues (BtB), Overcoming Depression: a five areas approach, FearFighter (FF), Cope and BT Steps. Other packages or programmes incorporating CCBT were also considered. Data sources: Electronic databases from 1966 to March 2004. Evidence submitted by sponsors for CCBT products. Review methods: A systematic review was performed to identify all studies describing trials of CCBT. The costeffectiveness assessment included a review of the literature and the evidence submitted by sponsors for each of the products. A series of cost-effectiveness models was developed and run by the project team for the five CCBT products across the three mental health conditions. Results: Twenty studies were identified in the clinical effectiveness review. The analysis of these results showed some evidence that CCBT is as effective as therapist-led cognitive behaviour therapy (TCBT) for the treatment of depression/anxiety and phobia/panic and is more effective than treatment as usual (TAU) in the treatment of depression/anxiety. CCBT also appears to reduce therapist time compared with TCBT. When reviewing cost-effectiveness studies, only one published economic evaluation of CCBT was found. This was an economic evaluation of the depression software BtB alongside a randomised controlled trial (RCT), which found that BtB was cost-effective against TAU in terms of cost per quality-adjusted life-year (QALY) (less than £2000), however it contained weaknesses that were then addressed in the costeffectiveness model developed for the study. The results of the model for the depression software packages in terms of incremental cost per QALY compared with TAU and the chance of being costeffective at £30,000 per QALY were for BtB £1801 and 86.8%, for Cope £7139 and 62.6% and for Overcoming Depression £5391 and 54.4%. The strength of the BtB software being that it has been evaluated in the context of an RCT with a control group. The subgroup analysis found no differences across the severity groupings. For phobia/panic software, the model showed an incremental cost per QALY of FF over relaxation was £2380. Its position compared with TCBT is less clear. When modeling OCD packages, using the practice-level licence cost meant that BT Steps was dominated by TCBT, which had significantly better outcomes and was cheaper. However, the cheaper PCT licence resulted in the incremental cost-effectiveness of BT Steps over relaxation being £15,581 and TCBT over BT Steps being £22,484. Conclusions: The study findings are subject to substantial uncertainties around the organizational level for purchasing these products and the likely throughput. This is in addition to concerns with the quality of evidence on response to therapy, longer term outcomes and quality of life. The position of CCBT within a stepped care programme needs to be identified, as well as its relationship to other efforts to increase access to CBT and psychological therapies. Research is needed to compare CCBT with other therapies that reduce therapist time, in particular bibliotherapy and to explore the use of CCBT via the Internet. Independent research is needed, particularly RCTs, that examine areas such as patient preference and therapist involvement within primary care.

