National Institute for Health and Care Excellence

IP1768 Transcranial magnetic stimulation for obsessive-compulsive disorder

IPAC date: 14 May 2020

Com. no.	Consultee name and organisation	Sec. no.	Comments	Response Please respond to all comments
1	Consultee 1 NHS professional	Overview	the reference to the Canadian psychiatric Association statement on OCD and rTMS is dated 2013, TMS is a rapidly evolving field I would suggest that this data is very out of date and not consistent with the current research literature.	Thank you for your comment. The cited 2013 reference is summarised in the overview under 'Existing assessments of this procedure'. It is a rapid response report published by the Canadian Agency for Drugs and Technologies in Health. More recent literature is also cited.
2	Consultee 1 NHS professional	General	My experience of using TMS and theta burst in the clinical treatment of patients with obsessive-compulsive disorder which has not responded to traditional treatments is that it can be a very effective treatment and give considerable relief particularly from obsessions. My experience has been that rTMS works best for obsessions rather than the compulsions however it does, (where there is significant improvement) allow patients to be in a more positive cognitive state in order to tackle the compulsions with further CBT.	Thank you for your comment.
3	Consultee 1 NHS professional	General	we have used two protocols with good efficacy, this is inhibitory rTMS 1 Hz for 8 or 20 minutes over the right orbitofrontal cortex. We also use inhibitory 1 Hz treatment for 20 minutes over the supplementary motor area, placement of the electrode is FC1 and FC2. We have also had a very good response to	Thank you for your comment. The draft guidance recommends more research, which would include duration and frequency of stimulation.

			the use of continuous theta burst (inhibitory) for 40 seconds over the supplementary motor area at FC1 and FC2.	
4	Consultee 1 NHS professional	General	Where patients have responded to TMS for their obsessive-compulsive disorder they are hugely appreciative of the relief from their symptoms. it is important in my clinical view that clinicians have access to potential treatments for OCD where standard treatments have failed.	Thank you for your comment.
5	Consultee 2 Patient	General	I'm 22 & first showed signs of OCD when I was 8. I was officially diagnosed with severe OCD aged 16/17 along with moderate depression & severe anorexia. I was treated for anorexia as an inpatient aged 17/18 but at the age of 21/22 was still suffering with depression & OCD & also newly diagnosed anxiety. I'd been on medication since age 17 & had been having therapy since the age of 14/15, yet my life was still controlled by my mental health. I tried hypnosis, CBT, compassionate therapy, acupuncture, NLP, different medication & more but nothing would shift my rituals. I was beginning to think it was my fault & that I wasn't putting enough effort into recovery or something, although I kept explaining to my parents & healthcare professionals it felt like my brain physically couldn't change, it was almost like something was stuck. I was washing my hands countless times a day, it took me almost an hour to get ready for bed, most of the time I was unable to leave the house without one of my parents or boyfriend, driving was becoming more & more stressful & my social life was virtually no existent. It was actually my dietician that suggested TMS treatment back in 2018 as she had just been to a conference where they talked about the benefits of it in treating anxiety etc that had not responded to other therapies. I live in Warwickshire & we discovered that the centre of neuromodulation who provide TMS treatment on the NHS is located just 30 minutes away in Northamptonshire. I got a referral from my eating disorder consultant & the go ahead from my GP. We went to book an assessment, only to find	Thank you for your comment. The Committee very much welcomes hearing from patients who have undergone this procedure and considered your experience and views in their deliberations.

			because my GP was located in Warwickshire I would have to apply for funding through the CCG or self-fund the treatment. Each treatment is between £50-£150 & it was unknown how many sessions I would need, 10, 20, 30 or more. We have medical insurance through BUPA, but they would not fund the treatment as they didn't recognise it. We ended up self-funding my assessment just to get the ball rolling & it was established I was suitable for the treatment. As you can imagine I was desperate to get started as this could be the thing that sets me free from this living hell of OCD. However, little did I know that I had months of waiting for funding to be applied for, approved & put in place through the CCG. This was a very stressful time as my OCD was getting worse, especially over Christmas & the winter months. To think if my GP was located just a couple of miles in Northamptonshire I wouldn't have had to go through the stress of applying & waiting for funding but would have been entitled to it through the Northamptonshire NHS.....	
6	Consultee 2 Patient	**General**	Eventually I started my TMS treatment in around February 2019 for anxiety & depression, but most of all my OCD. I received around 50 sessions of TMS using a number of different protocols. & although I saw slight improvements in my mood & general anxiety & symptoms such as night sweats, the OCD continued to take over my life. [redacted] (who is so understanding, knowledgeable & kind) suggested a QEEG brain scan in London to see what part of my brain is actually causing the OCD, as it is obviously not the same as the standard/common protocols they have used. This scan wasn't covered on the NHS or insurance so my parents paid £250. The scan revealed the answers we were looking for. For years I had felt like my brain was physically stuck on a circuit that I couldn't actually break on my own but was made to feel like I just wasn't trying hard enough to 'challenge' the OCD. Anyway, this scan revealed that part of my brain was stuck on a loop that was causing the OCD & it was one of the only places I had not received the TMS treatment. Taking these scans back to	Thank you for your comment. The Committee very much welcomes hearing from patients who have undergone this procedure and considered your experience and views in their deliberations.

			the professor he was able to prescribe a course of targeted TMS treatment to disrupt this stuck circuit. After a period of around 2 weeks of treatment, for the first time in years I felt able to return to CBT therapy. & for the first time ever, I was able to engage in the therapy & was freed from my OCD! It was amazing. Never before had I been able to fully engage in CBT, but the TMS unlocked me from this trap. If it wasn't for the brain scan or targeted TMS treatment then I would still be under the full control of my OCD, but today it is only a very small part of me thanks to [redacted]. For years I suffered with OCD, feeling like it was my fault I still had it because I wasn't fully engaging in therapy or maybe I would just have to live like it forever. But TMS has changed my life for the better. I can go out without my parents or boyfriend, I can drive confidently without reacting to obsessive thoughts, I can get ready for bed in 10 minutes & washing my hands no longer takes up hours of my day! I hope that one day the scan will be part of standard procedure/the initial assessment at the start of treatment because it would have saved a lot of time, money & resources to hit the right spot first time rather than educated guesses. I can't thank [redacted] & the nurses enough for the time, care & attention they gave me through some of the hardest months of my life. I hope one day this treatment will be more readily available to others & it will be less of a pain to get funding for. I hope people like me who still suffer with OCD despite being on medications & having years of therapy will find this treatment because for me it was the last, much needed piece of the jigsaw puzzle to get me better.	
7	Consultee 3 NHS Professional	1.1	This comment is with regards to the draft recommendation: Clinicians face great difficulty in managing OCD. Treatment modalities available (i.e. medications & psychological therapies) have limited efficacy especially when managing treatment resistant OCD. Therefore, according to the available published research; I believe that TMS should be recommended by NICE as one of the treatment options for	Thank you for your comment. Cost is not within the remit of the IP programme.

			treatment resistant OCD. Below are some of the reasons that support this: - RCT studies demonstrated efficacy of TMS in improving OCD symptoms. - Established safety of TMS. - Limited side effects of TMS compared to medications used to treat OCD (TMS is very well tolerated) - From a cost point of view; the availability of TBS (Theta Burst Stimulation) protocols that cuts time of each TMS session to only few minutes (i.e. around 3 minutes) will reduce the cost of delivering TMS considerably.	The Committee considered this comment but decided not to change the guidance.
8	Consultee 4 NHS Professional	General	There is a great deal of unexplained heterogeneity within the 'OCD grouping, to the extent that the same treatment cannot be assumed to benefit all members of the diagnostic group. Only 40% of patients who receive evidence-based treatments (SRIs, CBT with ERP) tend to respond despite a prolonged course of treatment. The shortage of effective treatments, represents a key and pressing challenge. The use of off-label experimental compounds (often used in treating other mental health conditions e.g. mood stabilisers, impulse control disorders) have been investigated in OCD; but have generally yielded mixed results.	Thank you for your comment. Section 1.2 of the guidance states that research should report details of patient selection.
9	Consultee 4 NHS Professional	General	There is growing evidence that rTMS can be a highly effective treatment and it seems to hold huge promise in the treatment of OCD. Encouragingly, open-label trials and RCTs where TMS has targeted regions implicated in the corticostriatal models of OCD including the orbitofrontal cortex (Ruffini et al. 2009), medical prefrontal cortex (Dunlop et al. 2016; Modirrousta et al. 2015), pre-supplementary motor area and supplementary motor areas (Mantonvani et al 2010; Gomes et al. 2012; Hawken et al. 2016); have reported clinically	Thank you for your comment. Ruffini et al. (2009) is included in the appendix of the overview. It is a small RCT, which is included in the systematic review by Rehn et al. (2018).

			significant reductions in symptom severity scores (measured by using the YBOCS) and in some cases persistent benefical effects. The recent decision by the FDA to approve rTMS as a treatment for OCD reflects the growing consensus that brain stimulation therapies such as OCD can serve as a third pillar of psychiatric treatment alongside pharmacotherapy and psychological therapy.	Dunlop et al. (2016) has been added to the appendix of the overview. Modirrousta et al. (2015) is included in the appendix of the overview. It is a case series of 10 patients. Mantonvani et al. (2010), Gomes et al. (2012) and Hawken et al. (2016) are included in the appendix of the overview. They are small RCTs, which are included in the systematic review by Rehn et al. (2018).
10	Consultee 4 NHS Professional	**General**	There are a number of potential benefits for the patient group if NICE were to approve rTMS. 1) There are limited evidence-based treatments for this patient group; and experimental compounds (e.g. drugs that modulate glutamate transmission) show mixed results for patients who are resistant to traditional 1st line drugs (SRIs) rTMS therefore represents a novel approach to treatment and can target specific brain regions which have strong evidence in underpinning the pathology of the disorder The ability to offer a different treatment which shows evidence of being effective for individuals with OCD is very welcome for this patient group who can become increasingly disabled/impaired by the effects of this chronic relapse-remitting illness 2) The treatment is generally well tolerated and is safe; this is of vital importance for individuals with OCD as this group of	Thank you for your comment. The Committee considered this comment but decided not to change the guidance.

			individuals often have difficulties tolerating SRIs (which should be given at the maximum tolerated dose for a long duration) or struggle with ERP work. 3) OCD is a heterogeneous disorder; and hence different modalities of treatment are likely required to treat the disorder (especially as there is such a paucity of evidence for identifying who receiving evidence-based treatments are likely to respond or not) 4) rTMS can be combined with ERP (as per one of the trials which influenced the FDA decision) and medication (i.e. rTMS does not limit the ability to use other evidence-based treatments) 5) Opening access; a number of patient whom I treat are learning of the FDA approval and media articles in relation to TMS and OCD. I do feel that certain individuals with OCD who are able to afford this treatment are doing this privately (thereby disadvantaging the majority of patients who are not in the financial position to do this). 6) In relation to treatment-response; even in studies which may have demonstrated non-sustained improvement; rTMS can play an extremely important role in reducing the patient's distress/level of impairment during a critical window when the individual might be more capable and successful in applying the principles of exposure and response prevention (which might reduce long-term OCD symptoms and protect against relapse) As a NHS consultant with expertise in OCD and neurostimulation, I think it is extremely important to consider that the paucity of treatment options hampers the ability to treat patients/reduce distress/impairment	

11	Consultee 5 Company The Magstim Company Ltd	**General**	Out of current rTMS research areas, obsessive compulsive disorder appears to have some of the strongest indications of efficacy. However, much like initial rTMS depression research, many studies have been potentially limited by short treatment durations and lower treatment intensities than that which may be optimal. Below is a 2020 reference that may be of interest, if not already viewed: Khurshid, K. A. (2020). High frequency repetitive transcranial magnetic stimulation of supplementary motor cortex for obsessive compulsive disorder. Medical Hypotheses, 137, 109529.	Thank you for your comment. Khurshid KA (2020) was identified in the updated literature search and has been added to the appendix of the overview.
12	Consultee 6 Private sector professional The Smart Clinics	**General**	Hello, I don't see any issue relating to possible unlawful discrimination and rTMS. Thank you,	Thank you for your comment.
13	Consultee 7 Royal College of Psychiatrists	**Page 1, box 2, line 3**	**I have serious concerns that the consultation process was flawed.** The document says, *NICE's interventional procedures advisory committee met to consider the evidence and the opinions of professional experts, who are consultants with knowledge of the procedure.* However, when we look at the available documents, the names of the only three professionals whose consultation is listed all appear to be employed by SMART TMS, a private TMS provider who advertise TMS for all sorts of psychiatric disorders - I can see no clear evidence of any expert clinicians	Thank you for your comment. The Royal College of Psychiatrists was asked to nominate professional experts for this procedure in October 2019, but we did not receive a response. One of the professional experts who completed a questionnaire is a consultant psychiatrist and a member of the Royal College of Psychiatrists.

			– in particular no psychiatrists with recognised expertise in treating OCD - being involved. This is relevant, as OCD is a common and highly functionally disabling disorder. Severe OCD is on a par with schizophrenia in terms of distress, functional disability, and suicide. Only 50% patients respond to available evidence-based treatments. Treatment resistant OCD, which is the most severe, chronic and disabling form, does not currently have any NICE-approved treatments. Adjunctive antipsychotic may be effective in treatment resistant OCD and are mentioned as an option in various evidence-based treatment guideline. They are also commonly used for resistant OCD in clinical practice. However, the effect size is small, and the drugs are associated with side effects. As an alternative, off label high doses of SSRI are also commonly tried. There is thus a clear and pressing need for more efficacious, better tolerated treatments. It is in this context, taking account the clinical needs of patients with OCD, that the available evidence for TMS needs to be interpreted. For this reason, it is extremely important that professionals with specialist expertise in treating OCD- and not simply technical knowledge of the tMS procedure as stated in the documented. – are involved in the consultation process. I see no evidence that this was the case. Had specialists been involved, they may well have drawn different conclusions about the adoption of rTMS as an available NHS treatment for OCD.	The Royal College of Psychiatrists was included as a consultee and invited to be involved in the consultation process. The comments received as part of this process will be considered by the committee before the final guidance document is produced. The role of the Interventional Procedures Advisory Committee is to objectively assess evidence on the safety and efficacy of the procedure. It does not have a remit to determine the placement of a procedure in the pathway of care for a disease or condition.
14	Consultee 7 Royal College of Psychiatrists	**Page 4, line 7**	***The evidence upon which the rapid review of rTMS in OCD was based is only partial. This casts doubt on the reliability of the findings.*** The review is based on a small number of studies (900 patients from 1 systematic review and meta-analysis, 6 RCTs, 1 case series and 1 review of seizures reported after deep rTMS) selected from a much larger database of studies, listed	Thank you for your comment. The evidence selection process is described in detail in the **Programme Manual**. The main aim of evidence selection is to highlight the most valid and

			in the extraction table (table 2) in the appendix. The criteria for study selection are not stated.	relevant studies for detailed presentation to the Committee. These studies are presented as part of the evidence summary tables in the overview that is prepared for the procedure. To conduct rapid assessments of novel procedures, the interventional procedures programme limits the studies presented in detail in these tables to those most likely to be relevant and informative. In this case, they included a recent (2018) systematic review and meta-analysis that incorporated a lot of the studies listed in the appendix.
15	Consultee 7 Royal College of Psychiatrists	**General**	**There is no attempt to analyses the effect of rTMS on different OCD subgroups – in particular its effect in treatment resistant OCD.** This is an important omission, as there is a more pressing need for treatment for resistant OCD, and therefore the data pertaining to this particularly morbid subgroup merits careful consideration and nuanced discussion.	Thank you for your comment. The overview states that most patients in the studies summarised in table 2 had chronic and resistant OCD with symptoms that had failed to respond to medication.
16	Consultee 7 Royal College of Psychiatrists	**Page 3, section 2.2**	**This statement is misleading**. The review does not mention the fact that as yet there is no evidence based and NICE-recommended treatments for treatment resistant OCD, which is a major clinical issue for patients and clinicians.	Thank you for your comment. Section 2.2 states 'NICE's guideline on obsessive-compulsive disorder and body dysmorphic disorder describes the treatment of the disorder. Treatment options include psychological interventions and drug treatment (typically, selective serotonin reuptake inhibitors).'

17	Consultee 7 Royal College of Psychiatrists	**Page 2, section 1.1**	**Owing to the above shortcomings, there is a real risk that the key recommendation that evidence on rTMS efficacy in OCD is inadequate in quantity and quality and therefore that this procedure should only be used in the context of research is not convincing and may be inaccurate. There is now a very large database of over 40 published studies (as listed in the appendix) investigating rTMS in OCD. A full review of the data including a fresh meta-analysis should be conducted to determine its efficacy in OCD with confidence, including specific consideration of efficacy in the treatment resistant subgroup.** Considering that A) most of the RCTs (albeit some small in size, with varying protocols) appeared to show efficacy for the treatment AND many recently published meta-analyses, including the cited Rehn et al 2018 study, as well as many other meta-analyses published in quality journals eg Zhou et al J Aff disorders 2017, appear to confirm at least the short-term therapeutic effects of rTMS., and B) Given that in many of the studies the patients were known to be treatment resistant (i.e. suffering from chronic, highly disabling and distressing and otherwise untreatable disorder the strength of evidence is likely to be at least as strong as the evidence supporting any other known treatment for resistant OCD, such as adjunctive antipsychotic (a relevant comparator) - and appears *likely to be better tolerated*. Indeed, the level of evidence supporting rTMs for OCD may well also surpass the strength of evidence supporting other forms of treatment, such as some forms of psychotherapy currently recommended by NICE for OCD in its 2005 guidelines.	Thank you for your comment. Zhou et al. (2017) is included in the appendix of the overview. The Committee considered this comment but decided not to change the guidance.

			In sum, this cursory approach has failed to capture the clinical complexities of the disorder and its management and the review appears to be based upon an incomplete evaluation of the existing evidence base. Moreover, it is hard to understand how the committee could have decided that this treatment should remain experimental, based upon the data reviewed.	
18	Consultee 7 Royal College of Psychiatrists	**Page 2, section 1.2**	**The statement about future research is not strong enough.** Based upon the positive findings published so far, there is a clear need for large scale trials of rTMS in OCD, including in specific subgroups of patients, to determine its efficacy and optimal position in the clinical care algorithm	Thank you for your comment. Section 1.2 of the draft guidance has been changed to state that trials should be adequately powered. The committee agreed that more research is needed, which underpinned the recommendation that the procedure should only be done in the context or research.

"Comments received in the course of consultations carried out by NICE are published in the interests of openness and transparency, and to promote understanding of how recommendations are developed. The comments are published as a record of the submissions that NICE has received, and are not endorsed by NICE, its officers or advisory committees."