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Transcranial magnetic stimulation – here to stay

INVITERT KOMMENTAR

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In some parts of Norway, transcranial magnetic stimulation is used to treat depression, with good reason. A joint national effort is needed now to make this treatment accessible to everyone who could benefit from it.

Congratulations! The study by Marte Orbø et al., published in this edition of the Journal of the Norwegian Medical Association (1), asks the right questions and provides sensible answers. Norwegian doctors are interested in transcranial magnetic stimulation (TMS) but are calling for more information and national clinical guidelines. The Journal deserves praise for highlighting this topic and starting a debate on the use of this method in psychiatry in Norway. For those of us who have been studying neurostimulatory treatment for at least 15 years, this debate is long overdue.

Multicentre studies (2, 3), meta-analyses (4) and expert consensus articles (5) demonstrate that TMS is an effective treatment for depression. Randomised controlled trials show that approximately 60 % of patients respond to the treatment (i.e. at least a 50 % reduction in depressive symptoms). Half of these (30 %) experience remission (no longer meeting the criteria for depression) (6). The treatment effect lasts for at least a year in half of the patients (7). We do not need to discuss *if* TMS works – it does.

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Most patients receiving TMS have already tried psychotherapy and medication without success. The fact that this method can improve the mental health of up to 60 % of these patients is promising, but the figures also show that many do not show signs of improvement. The results from electroconvulsive therapy (ECT) are better: approximately 75 % of patients achieve a treatment response and 50 % experience remission (8). However, there are good reasons why ECT is not administered to all patients with depression. TMS is not a miracle cure and cannot replace ECT, but it provides patients and clinicians with a broader range of treatment options.

TMS is a well-established treatment method in many Western countries. Several Norwegian psychiatrists have started using it, despite the limited knowledge base and lack of national clinical guidelines in Norway. Ketil Ødegaard was likely the first to offer this treatment in Norway, starting in 2013 at Sandviken Hospital in Bergen, where more than 200 treatment series have been completed since then. That same year, a regional ECT/TMS registry was established in Western Norway Regional Health Authority (9). Our preliminary analyses of the data from this registry show that 30–40 % of patients respond, in accordance with findings from a study of Sweden's national registry (10).

In the meantime, other hospitals have either started or are in the process of starting the treatment, including in Haugesund, Kristiansund, Oslo, Sarpsborg and Trondheim. Research projects on TMS and depression are underway at the universities in Tromsø and Bergen. The question is not *if* the treatment should be established – it is already here! The question now is how to make the treatment accessible to more patients than just those fortunate enough to live in the 'right' places, and how to make it as effective and safe as possible.

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The participants in Ørbo et al.'s survey already provide some answers (1): we need more practical knowledge about how TMS works, and we need national clinical guidelines. These should cover, at the very least, who can offer TMS, what training/certification is necessary and which patients should/should not be offered the treatment.

Additionally, regional registers should be established at the institutions offering treatment, and ideally, we should have a national registry. This would ensure the quality of the treatment, provide data on which patient groups benefit the most from the treatment, and allow us to monitor adverse events and side effects. Sweden has had a national ECT/TMS registry for many years.

Last but not least, we need both clinical and basic research on TMS. Although we know that the method works, little is known about the underlying mechanisms. A deeper understanding of the brain's response during treatment could potentially pave the way for better treatments in the future.

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