

Does pharmacological treatment of depression in people with a primary brain tumour bring any benefits? A Cochrane Review summary with commentary

Mazlina Mazlan and Julia Patrick Engkasan*

Department of Rehabilitation Medicine, Faculty of Medicine, Universiti Malaya, Kuala Lumpur, Malaysia

Abstract.

BACKGROUND: Persons with primary brain tumour can suffer from depression. Depression may hinder rehabilitation intervention leading to further deterioration of patient's health and functioning.

OBJECTIVE: The Cochrane Review aimed to assess the effectiveness and adverse effects of pharmacological treatment of depression in people with a primary brain tumour.

METHODS: A Cochrane Review by Beevers et al. was summarized with comments.

RESULTS: The review did not find any eligible studies from the 2090 studies screened which included randomized controlled trials, cohort studies and case-control studies.

CONCLUSIONS: There is no high-quality evidence as to whether pharmacological treatments for depression in people with primary brain tumours are either effective or harmful.

Keywords: Brain tumour, depression, medications, pharmacology

The aim of this commentary is to discuss from a rehabilitation perspective the published Cochrane Review “Pharmacological treatment of depression in people with a primary brain tumour” (Beevers et al., 2020) by Beevers, Hussain, Boele, & Rooney, 2020^a, under the direct supervision of the Cochrane Gynaecological, Neuro-oncology and Orphan Cancer Group. This Cochrane Corner is produced in

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^aThis summary is based on a Cochrane Review previously published in the Cochrane Database of Systematic Reviews 2020, Issue 7. Art. No.: CD006932. DOI: 10.1002/14651858.CD006932.pub4. (see www.cochranelibrary.com for information). Cochrane Reviews are regularly updated as new evidence emerges and in response to feedback, and Cochrane Database of Systematic Reviews should be consulted for the most recent version of the review.

The views expressed in the summary with commentary are those of the Cochrane Corner author(s) and do not represent the Cochrane Library or Wiley.

*Address for correspondence: Julia Patrick Engkasan, Department of Rehabilitation Medicine, Faculty of Medicine, Universiti Malaya, Kuala Lumpur, Malaysia. E-mail: julia@ummc.edu.my.

Background:

Depression is a common complication in people with brain tumours and up to 20% had depression in the first eight months of diagnosis (Rooney et al., 2011). Depression is associated with multiple consequences such as physical functional impairment (Rooney et al., 2011) and a greater frequency of medical complications (Litofsky & Resnick, 2004). Furthermore, it can negatively affect the rehabilitation process leading to further deterioration of their health and functioning.

Although antidepressants are recommended as a first-line treatment for moderate to severe depression in national guidelines, there is clinical uncertainty of its effectiveness in people with a primary brain tumour. There is also a possibility that the side effects of antidepressants may outweigh the benefits.

Pharmacological treatment of depression in people with a primary brain tumour

Beevers, Z., Hussain, S.,

Boele, F.W., & Rooney, A.G., 2020

Objective: The aim of this Cochrane Review was to assess the effectiveness and adverse effects of pharmacological treatment of depression in people with a primary brain tumour.

What was studied and methods: The population addressed in this review was adults with histological diagnosis of any primary brain tumour and diagnosed of depression by any validated method. Studies recruiting exclusively people with metastatic tumours were excluded. The interventions studied were any drug prescribed to treat depression. The intervention was compared to any other treatment apart from pharmacotherapy. The review authors searched for studies that had been published on Cochrane Central Register of Controlled Trials (CENTRAL), MEDLINE, Embase, and PsycINFO up to 30 September 2019. The authors had previously searched the British Nursing Index, LILACS (Latin American and Caribbean Health Science Information database), PSYINDEX, the NHS National Research Register, the NHS Centre for Reviews and Dissemination's Database of Abstracts of Reviews of Effects, and Web of Knowledge up to July 2009. They also hand searched following journals up to November 2019: *Journal of Neurology*, *Neurosurgery and Psychiatry*; *Journal of Neuro-Oncology*; *Journal of Clinical Oncology*; *Neuro-Oncology*.

The primary outcome studied was change in depression at final follow up as measured by the following: mean change in depression scale score of

any validated instrument, the proportion of participants meeting predefined criteria for improvement in scale score, or changes in the proportion of participants with a categorical diagnosis of depression ('present' or 'absent'). The secondary outcomes were health-related quality of life, general emotional distress, and length of time from diagnosis of a primary brain tumour to death.

Results: The review did not find any eligible studies from the 2090 studies screened which included randomized controlled trials, cohort studies and case-control studies. All the cohort studies discussed in the review reported usual clinical care rather than systematically evaluating a specific treatment for depression, while all clinical trials discussed in the review recruited both depressed and non-depressed participants.

Conclusions: The authors concluded there are no high-quality evidence as to whether pharmacological treatments for depression in people with primary brain tumours are either effective or harmful.

Implications for practice in neurorehabilitation:

The lack of evidence for pharmacological treatment of depression in people with a primary brain tumour should be discussed with the patients and their family in clinical practice. The clinicians could prescribe anti-depressants for their patients who have depression in order to improve their participation with rehabilitation. If a drug treatment is prescribed, a close follow-up is necessary to detect any adverse effects. This review also emphasises the need for prospective studies and randomized controlled trials addressing the risks and benefits of antidepressants.

Conflict of interest

The authors declare no conflicts of interest.

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References

- Beevers, Z., Hussain, S., Boele, F.W., & Rooney, A.G. (2020). Pharmacological treatment of depression in people with a pri-

- mary brain tumour. *Cochrane Database of Systematic Reviews*, 7, CD006932. DOI: 10.1002/14651858.CD006932.pub4.
- Rooney, A.G., McNamara, S., MacKinnon, M., Fraser, M., Rampling, R., Carson, A., et al. (2011). Frequency, clinical associations, and longitudinal course of major depressive disorder in adults with cerebral glioma. *Journal of Clinical Oncology*, 29, 4307-4312.
- Litofsky, N.S., & Resnick, A.G. (2009). The relationship between depression and brain tumours. *Journal of Neuro-Oncology*, 94, 153-161.