

Nigerian Medical Practitioner




[Home](#)
[Current](#)
[Archives](#)
[About ▼](#)
[Home](#) / [Archives](#) / [Vol. 79 No. 5-6 \(2021\)](#) / [Articles](#)

Transcranial Electrical Nerve Stimulation for Dementia: A Systematic Review of Randomized Control Trials

T. Adeniji

A.Y. Oyeyemi

Keywords: "Transcranial Direct Current Stimulation", "Transcranial Alternating Current Stimulation" "dementia"

Abstract

Non-invasive brain stimulation is recently gaining interest in brain modulation but transcranial electrical stimulation is yet to receive wide acceptance as a means of managing dementia among the aged. This study reviewed transcranial electrical nerve stimulation and its effectiveness in managing patient with dementia. The study was carried out over a three months period beginning from April 13th to July 4th, 2020 PubMed, Cochrane, Science direct, Pedro and Google scholar were searched using keywords including "Transcranial Direct Current Stimulation", "tDCS", "dementia", "cognitive impairment". Separate searches was conducted in the same database by replacing Transcranial Direct Current Stimulation (tDCS) with Transcranial Alternating Current Stimulation (tACS). Out of the search hit of 321, 12 germane studies that met the inclusion criteria were pooled and appraised and information therein was synthesized. Out of the 10 papers on tDCS, 7 are on Alzheimer dementia and 4 of the 7 studies supported its efficacy in Alzheimer dementia with clinically important significant improvement observed in cognitive functions. The prefrontal context is the common stimulation area in managing Alzheimer and other type of dementia using

tDCS at a current intensity of 1.5 to 2.0 mA. The other three studies out of the 10 papers on tDCS found improvement in cognitive functions including communicating intention processes in vascular and behavioural variant of frontotemporal dementia. One of the two studies on tACS found improvement in biomarkers of Alzheimer's disease at 40Hz (gamma range), and another found improvement in cognitive functions in patients with dementia related to Parkinson's disease at the frequency of 30Hz (Theta range), and this affect is attributable to enhancement in endogenous brain oscillation. This review suggests that Transcranial Electrical Nerve Stimulation is effective in remediating symptoms in mild to moderate dementia as a stand alone or as adjunctive treatment.



Published
2021-08-23

Issue
Vol. 79 No. 5-6 (2021)

Section
Articles

Copyright belongs to the journal.

Journal Identifiers

eISSN: 0189-0964



HOW TO USE AJOL:

- [for Researchers](#)
- [for Librarians](#)

- [for Authors](#)
- [FAQ's](#)

RESOURCES:

- [for Journals](#)
- [for Researchers](#)
- [for Authors](#)
- [for Policy Makers](#)

GENERAL:

- [About Open Access](#)
- [Journal Quality](#)
- [More about AJOL](#)
- [AJOL Usage Stats](#)
- [AJOL's Partners](#)
- [AJOL supported by](#)
- [Terms and Conditions of Use](#)
- [Whistle-blowing Policy](#)
- [Contact AJOL](#)

AJOL is a non-profit, relying on
your support.

Donate



583 African Journals

- [By Category](#)
- [Alphabetically](#)
- [By Country](#)
- [List All Titles](#)
- [Free To Read Titles](#) 6

Featuring journals from 35 Countries:

-  [Algeria](#) (8)
-  [Benin](#) (1)
-  [Botswana](#) (3)
-  [Burkina Faso](#) (3)
-  [Burundi](#) (1)
-  [Cameroon](#) (9)
-  [Congo, Democratic Republic](#) (1)
-  [Congo, Republic](#) (1)
-  [Côte d'Ivoire](#) (4)
-  [Egypt, Arab Rep.](#) (19)
-  [Eritrea](#) (1)
-  [Eswatini](#) (3)

-  [Ethiopia](#) (35)
-  [Gambia, The](#) (1)
-  [Ghana](#) (29)
-  [Kenya](#) (30)
-  [Lesotho](#) (1)
-  [Libya](#) (3)
-  [Madagascar](#) (1)
-  [Malawi](#) (4)
-  [Mauritius](#) (3)
-  [Mozambique](#) (1)
-  [Nigeria](#) (244)
-  [Rwanda](#) (9)
-  [Senegal](#) (6)
-  [Sierra Leone](#) (1)
-  [South Africa](#) (100)
-  [South Sudan](#) (1)
-  [Sudan](#) (3)
-  [Tanzania](#) (25)
-  [Togo](#) (1)
-  [Tunisia](#) (2)
-  [Uganda](#) (13)
-  [Zambia](#) (2)
-  [Zimbabwe](#) (12)

Current Issue

ATOM 1.0

RSS 2.0

RSS 1.0