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Gaps Between Theory and Practice: A Critical Review of Uzodimma's Neuro-Musical Pathways Study

Ibadullah Tahir*, Hunain Shahbaz

Ayub Medical College Abbottabad Pakistan.

Letter to Editor

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***Corresponding author:** Ibadullah Tahir
Tel: +92-3170550576;
Email: ibadullaht123@gmail.com

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Dear Editor,

We recently read with much interest the article by Uzodimma entitled "Neuro Musical Pathways: A Study of Music Based Interventions in Treating Motor Dysfunction in Individuals Suffering from Parkinson's Disease within the Context of West Africa." In a region where too few studies have been conducted on the neurobiological aspects of NMT and how it might benefit Parkinson's patients, there is no other study currently published in this region. We appreciate that Uzodimma intends to use a biopsychosocial approach and promote culturally relevant music to assist individuals with gait and motor issues. Research shows that engaging multiple senses (including movement with rhythm and melody) enhances motor learning [1,2].

Core NMT technique, can help people with PD increase their stride length and gait velocity significantly by circumventing some of the effects of dopaminergic deficits [3,4], and empirical reviews report that NMT produces short term improvements to gait and balance [1,5] as well as many ancillary benefits, for example Group Singing, for promoting enhanced Speech and Mood. The strengths of this article, as viewed within this context, include highlighting the value of incorporating music therapy into a more comprehensive PD care paradigm as well as indicating what types of clients may benefit most from the incorporation of some forms of traditional West African music into their experience of Music Therapy; thus, the evidence suggests that Music Based Approaches may assist in improving several dimensions of client functioning motor, cognitive, and psychosocial at the same time [6,7].

On existing results from other studies. The most current literature is emphasizing the urgent need for properly conducted, controlled studies to validate the results of NMT research [1,8,9], which is critical as most of the findings reported to date support the use of NMT but were derived from small sample sizes and conducted only in limited timeframes. This continues to demonstrate the relative immaturity of the body of evidence regarding NMT. Adding to the necessity for improving NMT literature, will be specifying what empirical measures will be used to determine the success of an intervention. For example, tracking motor outcomes requires either validated clinical rating scales or using digital gait analysis tools, thus leaving the reader with no clear indication of outcome measurement methodology. Without empirical results or pilot data, the recommendations provided in this article are speculative.

The bipolar behavioral social work model has been explained and how it applies in practice at the same time, and how each component affects patient care and adherence. The authors of the article discussed that while all three models apply to patients from West Africa, they may be more culturally related than patients from other regions to where these biases exist (as documented in study [10]). Future studies must define the relationship between mental health support, community engagement, and health literacy as these are crucial to providing better access to healthcare and treatment.

A more detailed examination of the region where this can be applied is necessary. Each region has its own cultural complexities; therefore, while the author has identified the abundance of rich musical traditions within West Africa, the need for additional staff and rehabilitative infrastructure to implement NMT in Western Africa's communities cannot be overstated. The large range of cultural expressions throughout Africa makes it difficult to determine a "scalable unit", e.g, community health centres, as suggested by many within Implementation Science . However, developing local, interdisciplinary teams (neurologists, physiotherapists, and practitioners of music) will produce an increased likelihood of sustainability and decreased reliance upon outside specialists [10].

In order to advance this important area of research we have made a number of recommendations. First, longitudinal, randomized controlled trials should be conducted in the PD populations of West Africa; these trials should use objective gait metrics and have an adequate number of participants [8]. Second, analyses should be gender disaggregated because of the well documented sex differences in the presentation and progression of Parkinson's Disease. Third, the development and implementation of all phases of the study should involve collaboration among multiple disciplines so that clinical, cultural and psychosocial elements can be adequately considered. Finally, involving policymakers and patient advocacy groups must occur early on so that music interventions may be included within national PD rehabilitation guidelines [10].

In closing, Uzodimma's article presents an innovative and culturally significant perspective on neurorehabilitation. Its most significant strengths are the promotion of an underutilized form of therapy as well as an emphasis on holistic care.Unfortunately, as an unproven theory with no empirical evidence to support it, the ideas proposed must therefore remain as initial.

By employing rigorous research methodology, culturally appropriate ways to implement interventions, and an interdisciplinary approach to collaboration, additional research on the use of music for Parkinsonian rehabilitation can advance the role and importance of this activity for the population of West Africa. Furthermore, continued open mindedness within this rapidly growing area is both necessary and welcomed.

Statements and Declarations

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