

REVIEWER'S REPORT

Manuscript No.: IJAR-55442

Title: Comparative Perspectives on Aerobics and Yoga in Enhancing Physical and Cognitive Development of Children with Down Syndrome: A Thematic Review.

Recommendation:

Accept after minor revision

Rating	Excel.	Good	Fair	Poor
Originality		✓		
Techn. Quality			✓	
Clarity	✓			
Significance		✓		

Reviewer Name: Dr. Sudheer Aluru

Detailed Reviewer's Report

This manuscript presents a **thematic narrative review** comparing aerobics and yoga as physical activity-based interventions for enhancing physical, cognitive, and psychosocial development in children with Down syndrome (DS). The topic is **timely, relevant, and appropriate** focusing on special education, developmental disabilities, rehabilitation, or inclusive education.

The manuscript is **conceptually sound, well-structured, and clearly written**, with appropriate use of literature and policy contextualization (NEP 2020, RPwD Act 2016). Unlike empirical studies, the authors correctly position this work as a **thematic/narrative review**, which reduces methodological risk.

However, the manuscript would benefit from **greater methodological transparency, deeper critical synthesis, and clearer articulation of its review framework** to strengthen academic rigor and credibility.

Major Comments

1. Review Methodology Is Insufficiently Described

While the paper is described as a "thematic review," there is **no description of how literature was identified, selected, or synthesized**.

Concerns:

- No databases mentioned (e.g., PubMed, Scopus, ERIC)
- No inclusion/exclusion criteria
- No timeframe or keyword strategy
- No explanation of how themes were derived

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Required revision:

- Add a short subsection (even 1 paragraph) titled “**Review Methodology**” describing:
 - Type of review (narrative/thematic)
 - Databases searched
 - Time period covered
 - Inclusion focus (children with DS, physical activity, yoga/aerobics)
 - How themes were identified

This is essential for scholarly transparency, even in non-systematic reviews.

2. Limited Critical Appraisal of Evidence

The manuscript primarily **summarizes positive findings** of aerobics and yoga without sufficient critical evaluation.

Concerns:

- No discussion of:
 - Small sample sizes
 - Heterogeneity of interventions
 - Variability in outcome measures
 - Limited DS-specific randomized evidence

Required revision:

- Include a brief **critical appraisal paragraph**, noting:
 - Strengths and weaknesses of existing studies
 - Gaps in evidence specific to DS
 - Over-reliance on extrapolation from broader developmental disability literature

This will elevate the paper from *descriptive* to *analytical*.

3. Overgeneralization of Cognitive Outcomes

Some cognitive claims (e.g., improved memory, problem-solving, learning readiness) are stated confidently, but the **evidence base in children with DS is relatively limited and indirect**.

Required revision:

- Use cautious language such as:
 - “associated with”
 - “suggested to support”
 - “may contribute to”
- Clarify when findings are:
 - DS-specific
 - Extrapolated from broader developmental disability or general child populations

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4. Thematic Synthesis Table Needs Strengthening

The thematic synthesis table is helpful but oversimplifies complex outcomes. **Suggestions:**

- Add a column or footnote noting:
 - Strength of evidence (e.g., moderate, emerging)
 - Nature of outcomes (physical vs behavioral vs proxy cognitive outcomes) This

would significantly improve scholarly depth.

Minor Comments

1. Consistency and Language

- Minor typographical issues (spacing, "Aerobic exercise")
- Ensure consistent pluralization (aerobics vs aerobic exercise)

2. Policy Discussion

- The NEP and RPwD discussion is valuable but could be slightly condensed to maintain focus on empirical evidence.

3. Conclusion

- Strong overall, but could explicitly restate:
 - That this is a thematic synthesis, not a meta-analysis
 - That recommendations are informed by trends, not effect sizes