



e-ISSN:2582-7219



# INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY RESEARCH IN SCIENCE, ENGINEERING AND TECHNOLOGY

Volume 7, Issue 6, June 2024



INTERNATIONAL  
STANDARD  
SERIAL  
NUMBER  
INDIA

Impact Factor: 7.521



6381 907 438



6381 907 438



ijmrset@gmail.com



www.ijmrset.com



# Physiotherapy for Paediatric Conversion Disorder: An Evidence-Based Approach

Sneha Hiren Bhalala

Assistant Professor, SPB Physiotherapy College, Surat, India

## ABSTRACT:

### Clinical Case:

A boy aged 14 years with conversion disorder who presented with an ataxic gait pattern experienced complete symptom resolution after engaging in physiotherapy (PT) as part of interdisciplinary treatment.

### Clinical Question:

Is there evidence to support the use of PT in children and adolescents with motor symptoms of conversion disorder?

### Evidence:

All the extant paediatric literature consists of case studies and case series. Some exciting research has been published in the adult literature that suggests the potential positive benefits of PT.

### Limitation of the Evidence and Future Research:

The paediatric literature is limited in quantity and quality. In the adult literature, most studies are limited in that they do not control for the type of motor symptoms and do not evaluate PT independent of interdisciplinary treatment. In future research, it would be pertinent to (1) evaluate PT independent of interdisciplinary treatment, (2) control for the type of motor symptoms, and (3) describe theoretical models.

### Recommendation for Clinical Question:

Expert consensus and emerging evidence suggest that PT may be beneficial in adults with conversion disorder, but the evidence in the paediatric population is insufficient.

**KEYWORDS:** adolescent; child; conversion disorder; rehabilitation; psychiatry

## I. INTRODUCTION

Kahaan is a 14-year-old who presented to a paediatric tertiary care centre with an acute-onset ataxic gait and reliance on a wheelchair. After thorough medical investigations, a psychiatrist diagnosed him with conversion disorder. He engaged in interdisciplinary treatment with the Paediatric Consultation-Liaison Psychiatry Program, including pharmacotherapy for anxiety (fluoxetine), cognitive-behavioural therapy with a child psychologist, and physiotherapy (PT). A physiotherapist conducted a thorough assessment to determine Kahaan's baseline level of function, validate his symptoms, and build rapport. The assessment included self-report measures and a comparison between explicit and implicit physical assessments, with and without caregivers present. At initial assessment, his score on the Functional Mobility Scale1 (FMS) was 5 out of 18. The physiotherapist explained that the problem was with the function of the nervous system and that there was no permanent damage; therefore, the potential for reversal existed. The physiotherapist confidently communicated an expectation that Kahaan would show improvement through intervention. Kahaan engaged in eight outpatient treatment sessions over the course of 3 months; each session included 1 hour of PT and 1 hour of psychological therapy. The role of PT was to help Jordan (1) return to independent mobility, (2) return to recreational and sports activities, and (3) prevent deconditioning. On the basis of clinical experience and published expert consensus,2 treatment included graded exposure to walking, graded exercise, play-based activities, and weekly goal setting. The physiotherapist avoided using medical jargon with Jordan, as well as mobility devices, and ignored abnormal movements and unhelpful thoughts and behaviours. Normal motor patterns and goal attainment were positively reinforced. The interdisciplinary team liaised with Jordan's school to advocate for accommodations to support attendance and independent mobility. At the end of his treatment, Jordan was able to walk independently with a normal gait pattern, and he attained his goal of being able to ride a bicycle. On discharge, his FMS score was 18 out of 18. PT was a part of interdisciplinary assessment and treatment within a biopsychosocial framework. This framework considers the biological, psychological, and social factors that may contribute to an illness and aims to target all factors during treatment in an integrated fashion.3 With this patient, the physiotherapist acted as an expert in assessing and treating motor function and mobility.



## II. CLINICAL QUESTION

Is there evidence to support the use of PT in children and adolescents with conversion disorder? Conversion disorder is a psychiatric disorder characterized by altered voluntary motor or sensory functions that are incompatible with a recognized medical condition.<sup>4</sup> Examples of common motor symptoms include an ataxic gait, weakness, or tremors. Symptoms are often triggered by a psychological stressor. In India, the incidence of conversion disorder is 1.7 cases out of 10,000 children, predominantly adolescent girls.<sup>5</sup> In clinical practice and the clinical literature, PT is often noted to be a component of the interdisciplinary treatment for the motor symptoms of conversion disorder.

## III. EVIDENCE

Electronic databases (Embase, MEDLINE, and PsycINFO) were searched using the relevant key words (i.e., paediatrics, physiotherapy, conversion disorder, functional motor, functional neurological, somatic symptom, and medically unexplained). This search targeted publications from 1947 through 2017 and included both adult and paediatric patient populations. To date, the literature for PT and conversion disorder in paediatrics is limited. A systematic review in 2015 revealed only 12 studies,<sup>6</sup> of which were case studies or case reports. Most of these reports described PT as part of the interdisciplinary treatment. Nearly all of the studies described patients with motor symptoms of conversion disorder; examples included dystonia, hemiparesis, and ataxic gait. Treatments varied concerning dosing (3 d–16 wk) and setting (outpatient and inpatient), and a few studies described the details of PT interventions or theoretical models. None of the studies used functional outcome measures. All the case studies (n = 10) reported that symptoms were completely resolved at follow-up. We know of no studies that have been published since this review. The literature on adult populations is more promising. A systematic review in 2013 described 29 studies;<sup>7</sup> 1 was a controlled study,<sup>8</sup> and all the others were case series or reports. The controlled study<sup>8</sup> was retrospective and examined the outcomes of a 5-day inpatient PT intervention with 120 patients. The results concluded that more than two-thirds of the patients who had received the intervention reported good outcomes on self-report measures, and these outcomes were largely maintained at 2-year follow-up. Since that review,<sup>7</sup> several notable reports have been published on adults with conversion disorder. The three known comparative studies<sup>9–11</sup> all reported good outcomes in function and mobility in more than half the participants. Matthews and colleagues<sup>12</sup> reported on a case series of 35 patients with gait disorders who received inpatient physiotherapy treatment (mean number of sessions = 11). Approximately half of the sample also received psychological or psychiatric treatment. Upon discharge, they note significant improvements in mobility, and report that patients whose symptoms were less chronic (less than one month) displayed more improvements in mobility. The most notable study is the first randomized controlled trial, which examined the effects of 3-week inpatient PT.<sup>13</sup> It reported statistically significant improvements in physical function as per the FIM and the FMS. No patients required gait aids at discharge from the inpatient programme. Another notable publication by Nielsen and colleagues described the consensus recommendations for PT in adults with conversion disorder.<sup>2</sup> It indicated specific techniques that seemed to be beneficial and suggested that PT should be at the forefront of treatment for motor symptoms of conversion disorder. Some treatment principles described were communicate clearly, expect improvement, project confidence, and set goals. This publication also suggested avoiding hands-on treatment, bed exercises, and adaptive equipment. Nielson and colleagues later published a randomized feasibility study with 60 patients who were diagnosed with functional motor symptoms. Treatment included 5 consecutive days of intensive physiotherapy including a total of 8 treatment sessions (45–90 minutes in length). They concluded that a randomized trial is feasible and the intervention acceptable, with only 5% of patients who withdrew.<sup>14</sup>

## IV. LIMITATION OF THE EVIDENCE AND FUTURE RESEARCH

The paediatric literature to date is limited in both the quality and the quantity of the research. It is primarily composed of case studies and case series. None of the studies we reviewed included functional outcome measures to describe a patient's response to treatment. Future research should include feasibility studies to prepare for a large-scale randomized trial. The adult literature is more robust but has several limitations. Studies have reported a wide variety of PT interventions, duration of treatment, and outcome measures. Some novel research has been published in the adult literature that suggests the positive benefits of PT.<sup>7–12</sup> Of note is one randomized controlled trial that demonstrated the benefits of PT as a stand-alone treatment, not as part of interdisciplinary treatment, and was specific to gait disorders.<sup>12</sup> Future studies should (1) consider the effects of PT intervention separately from interdisciplinary interventions, (2) consider the type of motor symptoms (because PT may have different effects with gait disorders than with tremors or dystonia), and (3) describe theoretical models for PT.



## V. RECOMMENDATION FOR CLINICAL QUESTION

Expert consensus suggests that PT should play a key role in conversion disorder with motor symptoms to prevent the secondary sequelae of prolonged immobility and to improve physical functioning.<sup>2</sup> Emerging evidence has suggested that PT may be beneficial for adults with conversion disorder, but little evidence exists to support PT in the paediatric population. Hypothetically, the role of PT in paediatric conversion disorder may be more promising because children may be more suggestible than adults and their symptoms less chronic.

## REFERENCES

1. Harvey AR, Morris ME, Graham HK, et al. Reliability of the Functional Mobility Scale for children with cerebral palsy. *Phys Occup Ther Pediatr*. 2010;30(2):139–49. <https://doi.org/10.3109/01942630903454930>. Medline:20367518
2. Nielson G, Stone J, Matthews A, et al. Physiotherapy for functional motor disorders: a consensus recommendation. *J Neurol Neurosurg Psychiatry*. 2014;86(10):1–7. <http://doi.org/10.1136/jnnp-2014-309255>. Medline:25433033
3. Kreipe RE. The biopsychosocial approach to adolescents with somatoform disorders. *Adolesc Med*. 2006;17(1):1–24. <https://doi.org/10.1016/j.admecli.2005.11.003>. Medline:16473291
4. American Psychiatric Association. *Diagnostic and statistical manual of mental disorders*. 5th ed. Washington (DC): American Psychiatric Publishing; 2013.
5. Grant C, Krasnik C. Conversion disorders in Canadian children & youth: a national survey of prevalence estimate and clinical features. *Paediatr Child Health*. 2015;20(5):e39–40. <https://doi.org/10.1093/pch/20.5.e39a>.
6. Fitzgerald TL, Southby AK, Haines TP, et al. Is physiotherapy effective in the management of child and adolescent conversion disorder? A systematic review. *J Paediatr Child Health*. 2015;51(2):159–67. <https://doi.org/10.1111/jpc.12630>. Medline:24923418
7. Nielsen G, Stone J, Edwards MJ. Physiotherapy for functional (psychogenic) motor symptoms: a systematic review. *J Psychosomatic Res*. 2013;75(2):93–102. <https://doi.org/10.1016/j.jpsychores.2013.05.006>. Medline:23915764
8. Czarnecki K, Thompson JM, Seime R, et al. Functional movement disorders: successful treatment with a physical therapy rehabilitation protocol. *Parkinsonism Relat Disord*. 2011;18(3):247–51. <https://doi.org/10.1016/j.parkreldis.2011.10.011>. Medline:22113131
9. McCormack R, Moriarty J, Mellers J, et al. Specialist inpatient treatment for severe motor conversion disorder: a retrospective comparative study. *J Neurol Neurosurg Psychiatry*. 2014;85(8):893–98. <https://doi.org/10.1136/jnnp-2013-305716>. Medline:24124043
10. Demartini B, Batla A, Petrochilos P, et al. Multidisciplinary treatment for functional neurological symptoms: a prospective study. *J Neurol*. 2014;261(12):2370–7. <https://doi.org/10.1007/s00415-014-7495-4>. Medline:25239392
11. Nielson G, Ricciardi L, Demartini B, et al. Outcomes of a 5-day physiotherapy programme for functional (psychogenic) motor disorders. *J Neurol*. 2015;262(3):674–81. <https://doi.org/10.1007/s00415-014-7631-1>. Medline:25557282
12. Matthews A, Brown M, and Stone J. Inpatient physiotherapy for functional (psychogenic) gait disorder: a case series of 35 patients. *Mov Disord Clin Pract*. 2016;3(6):603–6. <https://doi.org/10.1002/mdc3.12325>. Medline:30838253
13. Jordbru AA, Smedstand LM, Klungsoyr O, et al. Psychogenic gait disorder: a randomized controlled trial of physical rehabilitation with one-year follow up. *J Rehabil Med*. 2014;46(2):181–7. <https://doi.org/10.2340/16501977-1246>. Medline:24248149
14. Nielsen G, Buszewicz M, Stevenson F, et al. Randomised feasibility study of physiotherapy for patients with functional motor symptoms. *J Neurol Neurosurg Psychiatry*. 2017;88(6):484–90. <https://doi.org/10.1136/jnnp-2016-314408>. Medline:2769449



INTERNATIONAL  
STANDARD  
SERIAL  
NUMBER  
INDIA



# INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY RESEARCH IN SCIENCE, ENGINEERING AND TECHNOLOGY

| Mobile No: +91-6381907438 | Whatsapp: +91-6381907438 | [ijmrset@gmail.com](mailto:ijmrset@gmail.com) |

[www.ijmrset.com](http://www.ijmrset.com)