

# Functional neurological symptom disorder in a patient with hemibody weakness: A case report

SAGE Open Medical Case Reports  
Volume 12: 1–3  
© The Author(s) 2024  
Article reuse guidelines:  
sagepub.com/journals-permissions  
DOI: 10.1177/2050313X241267073  
journals.sagepub.com/home/sco



Jean Pierre Gafaranga<sup>1,2</sup>  and Marie Louise Kayitesi<sup>1</sup>

## Abstract

Functional neurological symptom disorder (FNSD) is a complex condition with multifactorial etiology in which psychological factors may play a significant role in some patients, and they are not universally present or necessary for the diagnosis. FNSD can occur in the absence of psychological distress and each patient's presentation should be evaluated individually, considering a wide range of potential contributing factors. This is the first report related to prevalence data from Rwanda. This report presents a case study of a 15-year-old female patient who presented hemibody weakness without a structural neurological explanation on the background of the direct exposure to parental conflict. She was ultimately diagnosed with an FNSD and responded effectively to five sessions of cognitive behavioral therapy. Additionally, follow-up appointments were conducted every 4 months over the course of 1 year. During this period, the patient successfully resumed her studies and demonstrated normal functioning in all essential areas of daily life. This is the first reported case in Rwanda among similar cases. Addressing these specific stressors played a crucial role in the patient's overall outcome, leading to improved quality of care and prevention of unnecessary medical costs and interventions.

## Keywords

Functional neurological symptom disorder, hemibody weakness, cognitive behavioral therapy, multidisciplinary collaboration

Date received: 1 February 2024; accepted: 20 June 2024

## Introduction

Functional neurological symptom disorder (FNSD), also previously known as conversion disorder, manifests in a range of symptoms characterized by both motor and sensory disturbances. Motor symptoms include weakness, paralysis, abnormal motions such as trembling or dystonic movements, irregular gait, and abnormal posture.<sup>1,2</sup> On the sensory front, individuals may experience alterations, reductions, or even complete absence of skin sensation, vision, or hearing.<sup>3</sup> This disorder can mimic various conditions, with episodes resembling epileptic seizures marked by abnormal generalized limb shaking and apparent loss of consciousness.<sup>4</sup> Additionally, episodes of unresponsiveness reminiscent of syncope or coma, reduced or absent speech volume, altered articulation, a sensation of a lump in the throat, and diplopia may occur.<sup>5,6</sup> To diagnose conversion disorder (also known as FNSD), it is imperative that these symptoms cannot be attributed to an underlying neurological disease. However,

the diagnosis should also rely on identifying positive neurological signs, including inconsistencies in symptoms and distractibility during clinical examinations. These criteria ensure a more accurate and robust diagnosis, as highlighted in recent studies.<sup>7,8</sup> This condition is believed to emerge from psychological distress or unresolved emotional conflicts manifesting as physical symptoms.<sup>9,10</sup>

<sup>1</sup>Department of Mental Health, University Teaching Hospital of Kigali, Kigali, Rwanda

<sup>2</sup>Department of Psychiatry and Behavioral Sciences, School of Medicine and Pharmacy, College of Medicine and Health Sciences, University of Rwanda, Kigali, Rwanda

### Corresponding Author:

Jean Pierre Gafaranga, Department of Psychiatry and Behavioral Sciences, School of Medicine and Pharmacy, College of Medicine and Health Sciences, University of Rwanda, Gasabo, Kigali 4285, Rwanda.  
Emails: j.p.gafaranga@ur.ac.rw; gafajepi@gmail.com; jeanpierre.gafaranga@chuk.rw



## Case presentation

A 15-year-old female, the eighth child in a family of nine (comprising six girls and three boys), living in a rural area with her elder brother, sought consultation with a psychiatrist at the University Teaching Hospital of Kigali (CHUK) on June 20, 2022, after being referred from a District Hospital. Her parents are separated, and her siblings have left the family home. She complained of progressive right-sided body weakness and pain that had persisted for over 6 months. The patient was walking with support and holding an object in her right hand to keep it partially open. She stopped studying in the second year of secondary educational level, with average school results (50%–60%). The patient reported stressful life events, including money problems in the family, seeing her parents go through a separation, seeing her father injure her mother two times on the lower limbs with the use of a machete, and feeling abandoned by her siblings who left the house. Upon further evaluation, she displayed some symptoms of anxiety and depression without any history of psychiatric disorder.

The patient initially sought consultation with a general practitioner who then referred her to a pediatrician. Despite undergoing 4 months of ineffective treatments, including multivitamins and physiotherapy, no improvement was observed, and the diagnosis remained unclear. Blood tests, such as complete blood count, electrolytes, blood glucose levels, thyroid function tests, vitamin B12, and folate, generated unremarkable results at the district hospital. Subsequently, a referral was made to a neurologist at the CHUK, where further investigations, including blood tests and a computed tomography scan, revealed no abnormalities. However, a high suspicion of FNSD was noted. This case highlights the challenges posed by limited resources, as there were only six neurologists in Rwanda serving a population of around 13 million. This shortage hindered the timely and accurate diagnosis, leading to unnecessary medical costs and interventions. Regarding epidemiological data, we lack statistics on the prevalence and incidence of FNSD in our country. Obtaining accurate data are challenging due to limited reporting and diagnostic capacity in Rwanda. Nevertheless, we emphasize the significance of raising awareness and enhancing diagnostic practices for FNSD.

The neurological examination revealed marked weakness on the right side and exaggerated deep tendon reflexes, along with a positive Babinski sign. However, these findings were incongruent and inconsistent with the patient's normal plantar reflex and deep tendon reflexes observed when she was distracted. The functional nature of the positive Babinski sign was further supported by a positive giveaway weakness test. Similar to the exaggerated deep tendon reflexes, the patient's responses appeared to be influenced by her level of attention during the neurological examination compared to when she was distracted. Her imaging and other relevant blood tests were unremarkable, ruling out structural lesions or neurological disorders. Therefore, the absence of any

structural neurological explanation of her symptoms was in favor of high suspicion of FNSD, and demonstrating that a patient is not intentionally producing symptoms can be nearly impossible, as intent may remain hidden despite thorough investigation. The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, Text Revision (DSM-5-TR) criteria's requirement for an association with psychological factors is problematic because it is not always present in patients with FNSD and can complicate diagnosis.<sup>11,12</sup> Additionally, the DSM-5-TR does not adequately consider the phenomenology of movement in FNSD, failing to guide clinicians in recognizing diagnostic signs and primarily focusing on excluding other diseases.<sup>13</sup> Both living in a stressful environment and being an above 10-year-old female patient are risk factors. Psychotherapy was initiated to address the emotional stressors.

## Outcome

The patient's symptoms gradually improved successfully for five cognitive behavioral therapy (CBT) sessions. The patient learned the coping strategies and addressed her emotional distress, her right-sided body weakness and pain diminished. She regained her full function in terms of walking without support, writing with her right hand, doing housework, smiling rather than crying, and resuming her studies with family and social support. The counter referral was done to a clinical psychologist at her nearest health facility for social reintegration. Furthermore, follow-up appointments were scheduled every 4 months for a duration of 1 year. During this time, the patient successfully resumed her studies and exhibited functioning in all essential areas of daily life.

## Discussion

FNSD is a challenging condition to diagnose and manage, as it requires a multidisciplinary collaboration.<sup>14,15</sup> The integration of neurology, psychiatry, and clinical psychology had been noted and the collaboration between these disciplines was very crucial for the diagnosis and management of the condition. Unnecessary medical intervention can be avoided, healthcare costs minimized and patient outcomes improved by early recognition and appropriate management.<sup>16</sup> The hemibody weakness was attributed to FNSD which responded well to psychotherapy.<sup>17</sup> The use of CBT is recommended by previous studies,<sup>18</sup> CBT responds positively to the patient's symptoms, and the successful weekly application of CBT was effective in five sessions, a minimal number compared to the more sessions required for some cases. We focused on the patient's reported stressful life events, such as witnessing parental conflict and feeling abandoned by siblings, as potential contributors to her psychological distress. However, we agree that a deeper exploration of the internal and sometimes unconscious benefits associated with the functional symptoms would enrich the understanding of the case. These psychological benefits, which may include attention, avoidance

of responsibilities, or relief from stressors, could play a role in the maintenance of functional symptoms and were often targeted during CBT interventions. Addressing these psychosocial factors contributed to the comprehensive understanding and management of the patient's condition.<sup>19</sup>

## Conclusion

This case report highlights the financial burden of unnecessary medical interventions and the challenges in identifying and managing FNSD in resource-limited settings. Early diagnosis is crucial for effective management and cost reduction. Understanding the interplay between psychological factors and neurological symptoms, where incongruence and inconsistency are revealed by distractibility, allows health professionals to provide timely and appropriate interventions. This approach can significantly enhance patients' well-being and quality of life.

## Acknowledgements

The authors would like to express their gratitude to the legally authorized representative of patient for providing consent to share her case for educational purposes.

## Author contributions

All authors made a substantial contribution to the concept or design of the work, or acquisition, analysis, or interpretation of data, drafted the article, or revised it critically for important intellectual content, approved the version to be published, and participated sufficiently in the work to take public responsibility for appropriate portions of the content.

## Data sharing statement

All relevant data supporting the conclusions of this article are included within the article.

## Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

## Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

## Ethical approval

Our institution does not require ethical approval or reporting individual or case series.

## Informed consent

Informed consent was obtained from a legally authorized representative for anonymized patient information to be published in this article.

## ORCID iD

Jean Pierre Gafaranga  <https://orcid.org/0000-0001-7528-4667>

## References

1. LaFaver K. Treatment of functional movement disorders. *Neurol Clin* 2020; 38: 469–480.
2. Edwards M. Functional (psychogenic) gait disorder: diagnosis and management. *Handb Clin Neurol* 2018; 159: 417–423.
3. Agarwal HS. Conversion disorder manifesting as functional visual loss. *J Emerg Med* 2019; 57: 94–96.
4. Gilmour GS, Nielsen G, Teodoro T, et al. Management of functional neurological disorder. *J Neurol* 2020; 267: 2164–2172.
5. Harvey PR, Theron BT and Trudgill NJ. Managing a patient with globus pharyngeus. *Frontline Gastroenterol* 2018; 9: 208–212.
6. Vandermeulen L, Van Melkebeke L, Bollen O, et al. Functional coma: case report and systematic review. *Tijdschr Psychiatr* 2022; 64: 696–700.
7. Kirkwood B and Mark VW. Consistency of inclusion criteria for functional movement disorder clinical research studies: a systematic review. *NeuroRehabilitation* 2022; 50(2): 169–178.
8. Baglioni V, Esposito D, Bernardi K, et al. Misdiagnosis of functional neurological symptom disorders in paediatrics: narrative review and relevant case report. *Clin Child Psychol Psychiatry* 2024; 29: 1026–1042.
9. Miller L, Archer RL and Kapoor N. Conversion disorder: early diagnosis and personalized therapy plan is the key. *Case Rep Neurol Med* 2020; 2020: 1967581.
10. Mink JW. Conversion disorder and mass psychogenic illness in child neurology. *Ann N Y Acad Sci* 2013; 1304: 40–44.
11. Stone J, LaFrance WC Jr, Brown R, et al. Conversion disorder: current problems and potential solutions for DSM-5. *J Psychosom Res* 2011; 71: 369–376.
12. American Psychiatric Association, DSM-5 Task Force. Diagnostic and statistical manual of mental disorders, text revision (DSM-5-TR). 5th ed. Washington, DC: American Psychiatric Association, 2013.
13. Alberto JE, Selma A, Alan C, et al. Current concepts in Diagnosis and Treatment of Functional neurological Disorders. *JAMA neurology* 2018; 75(9): 1132–1141.
14. Pourkalbassi D, Patel P and Espinosa PS. Conversion disorder: the brain's way of dealing with psychological conflicts. Case report of a patient with non-epileptic seizures. *Cureus* 2019; 11(1): e3902.
15. D'hoore E, Emmery P and Van Roie E. Een adolescente met conversiedoofheid [An adolescent with conversion deafness]. *Tijdschr Psychiatr* 2018; 60(4): 268–271.
16. Alshathri NA, Binsaleh S, Al Saadon A, et al. Conversion disorder upon emergence from general anesthesia – a case report and review of literature. *Saudi J Anaesth* 2021; 15: 441–443.
17. Perjoc RS, Roza E, Vladacenco OA, et al. Functional neurological disorder-old problem new perspective. *Int J Environ Res Public Health* 2023; 20: 1099.
18. Kamil SH, Qureshi M and Patel RS. Cognitive behavioral therapy (CBT) in psychogenic non-epileptic seizures (PNES): a case report and literature review. *Behav Sci (Basel)* 2019; 9(2): 15.
19. Morsy SK, Huepe-Artigas D, Kamal AM, et al. The relationship between psychosocial trauma type and conversion (functional neurological) disorder symptoms: a cross-sectional study. *Australas Psychiatry* 2021; 29(3): 261–265.