A STUDY OF CLINICAL AND SOCIO-DEMOGRAPHIC PROFILE OF CHILDREN WITH CONVERSION DISORDER IN A TERTIARY CARE HOSPITAL IN CENTRAL INDIA

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ABSTRACT

Background: Conversion disorder is defined by the presence of deficits affecting the voluntary motor or sensory functions lacking any known neurological cause. It occurs as response to any underlying stressful situation. It is clinically important to evaluate the presence, type, and temporal relation of the stressors, resulting in conversion especially among children. The objective of this study was to study the socio-demographic and clinical profile of conversion disorder in children and attempt to identify the stressors in these children.

Methods: This hospital based descriptive, cross sectionalwas conducted at a tertiary care hospital, central India. During study period of one year (January 2021 to December 2021), children with conversion disorder from 5 to 16 years of age, were enrolled for study from psychiatry OPD and IPD.

Results: A total of 146 patients of conversion disorder were included in our study. Conversion disorder was more common in age group of 11-13 years (37%), females (59.6%), urban background (56.8%), nuclear family (67.8%) andmiddle class socio economic status (43.2 %) belonged to. The most common presenting symptoms were Pseudoseizure (19.8%) followed by fainting attack/giddiness (17.8%). Most common precipitating/ antecedent stressorswereschool/ education related matters (45.8%) and family related issues (38.3%).

Conclusions: In the present study, various stressors found were mainly pertaining to academics, school, family/ relationship, socio-cultural and developmental. The varied clinical presentation

and multiple doctor consultation also pose an additional challenge. This study brings forth the importance of team approach and joint effort between parents, teachers, physician, pediatrician and mental health professionals, who need to be more cognizant.

Keywords: Conversion disorder, children, Stressor, clinical profile, socio-demographic profile

INTRODUCTION

The term "conversion disorder" was coined by renowned psychologist Sigmund Freud, who hypothesized that the symptoms of conversion disorder reflect unconscious conflict. The word *conversion* refers to the substitution of a somatic symptom for a repressed idea [1,2]. The diagnoses that dare not speak its name" that is how hysteria was known of and there is no history of conversion disorder without mentioning hysteria.

Conversion disorder, renamed as functional neurological symptom disorder in Diagnostic and Statistical Manual of Mental Disorders (DSM-5 [3] is defined as a deficit of sensory or motor function that cannot be explained by a medical condition and where psychological factors are judged to be associated with the deficit because symptoms are preceded by conflicts or other stressors [4].It tends to start in early adulthood and generally follows a stress factor. In International Classification of Disease (ICD), 10th edition, conversion symptoms are classified as dissociative disorders (e.g., dissociative motor disorder), with similar diagnostic criteria [5].Evidently it contributes a most important section of the psychiatric patient population particularly in the countries considered developing, whereas its incidence has been on the decline in the western countries [6].

Though the aetiology, pathogenesis, phenomenology and management of these disorders continue to stir up debate, the accurate diagnosis of these patients and how these patients are spread out in the population has significant implications for their proven course [7].

In conversion disorder, there may be one or more symptoms of various types like motor symptoms (weakness, paralysis, tremor, and gait abnormalities), sensory symptoms (altered skin sensation, vision, or hearing) and psychogenic or non-epileptic seizures. There are various stressors like high parental expectations, parental discord, adjustment problems with their peers, fear of failure, frequent change in school and difficulty in coping with the prescribed curriculum, which are responsible for such symptoms. Financial stress in the family, educational level of the parents, death of a close relative may also serve as contributory stressors for the child [8-9].

In India, high occurrence of conversion disorder has been reported in young adults, from poor lowincome joint families, and significantly higher in females Also, higher prevalence has been seen in illiterates, married housewives being the largest group [10].Often children do not have a language to express their innermost fears, feelings and needs as adults which may present. Very few Indian studies are done in socio-demography, clinical correlates and stressors of conversion disorder among children. This paucity of research poses a hindrance in better understanding of this disorder especially among children,in our regional and cultural background.

The purpose of this study was to assess the clinical and socio-demographic profile of children presenting with conversion disorder and attempt to identify the stressors in these children. This

would help in implementing appropriate counseling, behavior modification and psycho-education of the family and the child.

MATERIAL AND METHODS

This hospital based descriptive,cross sectionalstudy was done in the Psychiatry department of a tertiary care centre of central Indiaover a period of one year from January 2021 to December 2021. During the study duration, all patients between age group of 5 to 16 years, diagnosed with conversion disorder (as per ICD-10 dissociative disorders of movement and sensation including dissociative motor disorders, dissociative convulsions, dissociative anaesthesia and sensory loss and mixed dissociative/ conversion disorders)were included in the study. Patients from both IPD (indoor) and OPD (outpatient), who satisfied all the inclusion criteria, were enrolled in our study with the consent of parents or guardians. Patients with other known medical or surgical illness, not belonging to our study age criteria, with unclear/probablepsychiatry diagnosis and children with intellectual disability were excluded.

For socio-demography profile personal details of childrensuch as name, gender, education, residence andfamily details such parental education, occupation, living status (married and living together/separated/divorced), family type (nuclear versus joint), history of psychiatry disorder in family members and history of other major medical or surgical illness were recorded.

Clinical profile of the study subjects was obtained in a semi structured proforma, through a detailed psychiatry history of presenting complaints and antecedent stressor, includingbirth and developmental history, pre-morbid temperamental/ personality traits, repetitive patternof such behaviors and resulting impairment in functioning (like poor school performance and frequent absentees). These details were obtained from the children, parents, and accompanying informants (Accredited Social Health Activist or ASHA, teacher etc.). A thorough physical examination was performed in all children and whenever needed necessary investigations were done to rule out medical cause.

For psychiatry diagnosis, study subjects were interviewed on different occasion, by at least two psychiatrists to minimize subjective bias, transference and countertransference. The diagnosis was made clinically as per ICD-10 criteria.Institutional ethics committee permission was obtained prior to study.

Statistical analysis: Data were entered in excel spreadsheets. Categoricalvariables were presented as frequency and proportions, whereas continuous variables were presented as mean withstandard deviations.

RESULTS:

A total of 146children, from 5 to 16 years of age group with both gender clinically diagnosed with the conversion disorder as per ICD-10, were studied. Majority of the children (37%) were of 11-13 year age group followed by14-16years (26.7%). Marginally female predominance (59.6%) was observed and 56.8% were residing at urban area. Most of the children (43.2%) were from middle socio-economic class. Of all children, 67.1%were educated till primary education and 21.9% were illiterate. Majority (67.8%) belonged to nuclear family. Most of the parents (45.89%) of children had primary education followed by illiterate (33.5%). Majority of

children had one working parent (53.42%) followed by both parents working (41.7%). Of all, most of the parents (76.7%) were married and living together. The socio-demographic characteristics of the subjects with conversion disorder are summarized in Table 1.

Table 1: Socio-demographic profile of the children with conversion disorder

Socio-demographic profile		Number (N=146)	Percentage
Age (in years)	5-7	21	14.4%
	8-10	32	21.9%
	11-13	54	37%
	14-16	39	26.7%
Gender	Male	59	40.4%
	Female	87	59.6%
Residence	Urban	83	56.8%
	Rural	63	43.2%
Education (children)	Illiterate	32	21.9%
	Primary	98	67.1%
	secondary	16	10.9%
Socio-economic class	Low	40	27.4%
	Middle	63	43.2%
	Upper	43	29.4%
Type of Family	Nuclear	99	67.8%
	Joint	47	32.2%
Parental education	Illiterate	49	33.5%
	Primary	67	45.89%
	Secondary or higher	33	22.6%
Parental working status	Both parents working	61	41.7%
	One parent working	78	53.42%
	Both not working	7	4.8%
Parents living status	Married and living together	112	76.7%
	Single parent (separated/ divorced/ deceased)	34	23.2%

In the clinical profile of study participants, 81.5% had at least one family member with medical condition and 36.3% reported at least one family member diagnosed or taking treatment for a psychiatric disorder. Majority (64.3%) had some difficult temperamental or predominant personality traits. Similarly most of the cases (61.6%) were found to have repetitive pattern of similar behavior during the time of stress or otherwise. Of all children, 37.6%had significant impairment in scholastic, personal or occupational areas. Most of them (84.2%) had multiple

physician /psychiatrist's consultation and around 1/4th (24.6%) had Comorbid psychiatric disorders (Table 2).

Table 2: clinical profile of children with conversion disorder

History of medical illness in family	Yes	119	81.5%
	No	27	18.5%
History of psychiatry illness in family	Yes	53	36.3%
	No	86	58.9%
	Not known	7	4.8%
Temperament issues/ personality traits	Yes	94	64.3%
	No	52	35.6%
Repetition of similar behavior	Yes	56	38.3%
	No	90	61.6%
Impairment	Mild to moderate	91	62.3%
	severe	55	37.6%
Multiple physician/psychiatrists consultation	Present	123	84.2%
	Absent	23	15.7%
Comorbid psychiatric disorders	Present	36	24.6%
	Absent	110	75.3%

The most common presenting symptom in children with conversion disorderwas reported Pseudoseizure (19.8%) followed by fainting attack/giddiness (17.8%). Hyperventilation was present in 15% and stupor/ unresponsivenessin 10.9% of children. Other common clinical presentations were ataxia (9.6%), Paralysis/weakness of limb (5.5%), abnormal limb movements (4.1%), Psychogenic vomiting (3.4%), Dystonia (2%), psychogenic hiccup/ burping (2%) and Tics like movements (2%). We found 2 cases (1.4%) of each aphonia/ dysphonia, blepharospasm, dysphagiaand paresthesia. There were one cases of each amnesia, polyuria and involuntary vocalization (Table 3).

Table 3: Clinical presentation of conversion disorder

Clinical presentation	Number (N=146)	Percentage
Pseudoseizure	29	19.8%
Fainting attack/giddiness	26	17.8%
Hyperventilation/ shortness of breath	22	15.0%
Stupor / unresponsiveness	16	10.9%
Ataxia	14	9.6%
Paralysis/weakness of limb	8	5.5%
Abnormal limb movements (chorea like)	6	4.1%
Psychogenic vomiting	5	3.4%
Dystonia (eyes up rolling, neck tilting)	3	2%

Psychogenic hiccup/ burping	3	2%
Tics like movements (neck, shoulder)	3	2%
Aphonia/ dysphonia	2	1.4%
Blepharospasm	2	1.4%
Dysphagia	2	1.4%
Paresthesia (Tingling/numbness)	2	1.4%
Amnesia	1	0.7%
Polyuria	1	0.7%
Involuntary verbalization	1	0.7%

In our study,most common precipitating/ antecedent stressors in the study participants wereschool/ education related matters (45.8%) and family related issues (38.3%) and. Around one fourth of study participants had other stressors such as gadget addiction, physical illnessprohibition from excessive social media usage/gaming, religious beliefs and related events, change in living condition etc.Relationship issues were found in 10.2%. Many of the study participants reported more than one stressor. The detailed stressor related information is given in table 4.

Table 4: Precipitating factors/ antecedent stressors

Type of stressors/precipitating factors		Number	Percentage	Total Number*	Percentage*
School related	Exams approaching/ exam day	16	10.9%	67	45.8%
	Results declared/ poor academic performance	21	14.4%		
	Anticipated punishment at school	9	6.2%		
	School started after lockdown/ transition of "online to offline" classes	17	11.6%		
	others	4	2.7%		
Family related	Parental separation /divorce	2	1.4%	56	38.3%
	Family history of psychiatric illness	9	6.2%		
	Alcohol and other substance use in parents	13	8.9%		
	Domestic violence	4	2.7%		
	Death of family member/ close friend	2	1.4%		
	Financial problem	5	3.4%		
	Parental pressure for marriage/ discontinue studies	6	4.1%		
	Improper parenting (rigid, punitive or overprotective)	8	5.5%		

	Punishment by parents	7	4.8%		
Relation ship issues	Recent break-up	9	6.2%	15	10.2%
	Assault (physical /sexual)	6	4.1%		
Develop mental and peer related	Menarche/ secondary sexual growth	2	1.4%	9	6.2%
	Peer relationdifficulties / Bullying	7	4.8%		
Others	Prohibition from excessive social media usage/gaming etc.	14	9.6%	39	26.7%
	Physical illness	4	2.7%		
	Gadget addiction	9	6.2%		
	Children's demands not fulfilled	7	4.8%		
	Change in living condition (Hostel)	2	1.4%		
	Religious beliefs and events	3	2.1%		
No Stressor		1	0.7%	1	0.7%

Many study participants reported more than one stressor

DISCUSSION

This study was conducted to find the clinical-socio demographic profile and various stressors in children with conversion disorders. It is quite convenient to express bodily distress thanto express emotional distress as it is more socially acceptable and less threatening, especially in a country like India with a lot of stigma and prejudice attached to mental disorders. It may be more common among children hence it is imperative to studydemographic,social, clinical profile and various stressors related to conversion among children. During literature review, to the best of our knowledge, we found only 3 studies of clinical correlates of conversion disorders specifically among children [11-14], however a few authors studied conversion among all age group [6,15-17]. Other relatively similar research on somatoform disorder, somatic symptoms and related disorders were also reviewed [9, 18-22]

In our study, girl child were more likely (59.6%) to present with a conversion disorder as compare to boy child, similar to findings of other researchers [6, 11, 12, 13, 18 & 23]. The girl child usuallygrows in an atmosphere of inhibited emotional ventilation. This is coupled with the pressure of puberty possibly account for the higher occurrence of conversion disorders among girls [24].

In our studymajority of the children (37%) were of 11-13 year age group followed by 14-16 years (26.7%). It was similar to findings of Prabhuswamy [11] and Sethi [12]. We found that most of the participant's werefrom middle socio-economic class and nuclear family; concordant finding also reported by Jalan [18], Rafeeca [20] and Bammidi [17]. We observed that majority of the study children resided in urban areas (56.8%), similar to Prabhuswamy [11],Sahu [25]and

in contrast to Sethi [12] and Ghosh [13]. This could be due to the reasons of less awareness, longer distance and difficult transportation among rural population.

In our study most of study participants (67.1%) were educated till primary, probably due the fact that most common age group was 11-16; the approximate age for primary education in India. Most (67.8%) had nuclear family, similar to findings of Sethi [12], Bisht [9] and Jalan[18].

With regard to parental details we found that most of the parents (45.89%) had primary education followed by illiterate (33.5%).Majority of children had one working parent (53.42%) and both parents were working in 41.7% cases. Most of the parents (76.7%) were married and living together. We couldn't find references about these parental details. In our study, 81.5% had at least one family member with medical condition. "Role models" were reported by Deka (52.5%) [6] and Roy (56%)[16] intheir subjects.

In our study, 36.3% reported at least one family member diagnosed or taking treatment for a psychiatric disorder similar to findings of Sethi [12] who also reported 30% family members with history of psychiatric illness.Majority of our study participants (64.3%) had some difficult temperamental or predominant personality traits similar to Prabhuswamy [11].

We found that majority of our cases (61.6%) were having repetitive pattern of similar behavior during the time of stress or otherwise,which is in contrast to only 10% of participants by Ghosh [13]. It could be due to less sample size and retrospective nature of their study. Of all children in our study, 37.6% had significant impairment in scholastic, personal or occupational areas. Most of them (84.2%) had multiple physicians /psychiatrist's consultation comparable to the findings of Prabhuswamy (68%) [11] and Sethi (60%) [12]. Around $1/4^{th}$ (24.6%) of our participants had comorbid psychiatric disorders similar to other studies by Jalan (28%) [18], Malhotra (19.5%) [22] and Ghosh (35%) [13].

The most common presenting symptom of conversion disorder was pseudoseizure (19.8%) followed by fainting attack/giddiness (17.8%). Prabhuswamy [11], Sethi [12] and Ghosh [13] also reported Pseudoseizure as the most common presentation. Sethi et al (2010) proposed that dramatic presentation could be one of the reasons for this leading to early and more clinical attention [12], whereas as per Prabhuswamy [11] referral bias may also be contributory factor. Hyperventilation (15%) and stupor/ unresponsiveness (10.9%) were other common symptoms. Ataxia (9.6%), paralysis/weakness of limb (5.5%), abnormal limb movements (4.1%), psychogenic vomiting (3.4%), dystonia (2%), psychogenic hiccup/ burping (2%) and tics like movements (2%) and few others presentation were also seen, similar to other authors like Prabhuswamy [11], Sethi [12], Ghosh [13], Malhotra [22] and Rafeeca [20]. One interesting case of involuntary vocalization was there in our study, which developed the symptom of barking and making dog sounds after being attacked by a stray dog.

In our study, most common precipitating/ antecedent stressors in the study participants were school/ education related matters (45.8%) comparable to finding by Refeeca (48.2) [20]. Contrary to ours, Jalan [18] reported academic problems among 80% participants, whereas Richa reported in 31.7% of their subjects [19]. The reason could be difference in timing of study and

data collection as Jalan collected their data from January to June, during this periodmajority of school examinations are conducted in India. Other stressors found in our study were family related issues(38.3%), comparable to Jalan(26.15%) [18] and Malhi [26]. Other authors, like Rafeeca(59.8) [20], Richa(63.3%) [19] have reported quite higher percentages. A few other stressors like excessive social media usage, gadget addiction, religious beliefs and related events etc. were found in 26.7% study participants. Similar concerns were also mentioned by Rafeeca [20]. It is noteworthy that during our study period Covid-19 pandemic was present, resulting in higher usage of online platform including online classes of children, seminars etc., which could be the reason for these kind of stressors. In our study relationship issues were found in 10.2%, comparable to Ismail (15.8%) [15] and Reddy (14.55%) [27].

Puberty and associated changes can be very distressing to some children. Additionally peer pressure, social acceptance, physical appearance etc. can be challenging. We found 6.2% of our children with symptoms developing after such stressor. Many of our study participants reported more than single stressor, similar to Sethi [12].

CONCLUSION
Conversion disorders are more common among female children from nuclear family and middle class of socioeconomic status. In the present study, various stressors found were mainly pertaining to academics, school, family/ relationship, socio-cultural and developmental. The varied clinical presentation and multiple doctor consultation also pose an additional challenge. This study brings forth the importance of team approach and joint effort between parents, teachers, physician, pediatricianand mental health professionals, who need to be more cognizant and proactive in understanding that somatic symptoms may be the child's cry for help in situations where the child is unable to cope. Additionally, less understanding of conversion symptoms can lead to multiple consultations, unnecessary investigations and referralsputting a strain on our monetary burden on family and also on our limited health resources.

Conflicts of interest: There are no conflicts of interest

REFERENCES
1. Blitzstein SM. Recognizing and treating conversion disorder, Virtual Mentor 2008; 10:158-60.
2. Freud S, Strachey J, Freud A, The Neuro-Psychoses of Defense, Institute of Psychoanalysis editors. The Standard Edition of the Complete Psychological Works of Sigmund Freud. London: Hogarth Press and the Institute of Psycho- Analysis; 1962. p. 45-61.
3. American Psychiatric Association. DSM 5 Development. Highlights of Changes from DSM-IV-TR to DSM 5. Available from: http://www.dsm5.org/Documents/changes%20 from%20dsm-iv-tr%20to%20dsm-5.pdf. [Last accessed on 2014 Apr 28].

4. Ballmaier M, Schmidt R. Conversion disorder revisited. Funct Neurol 2005;20:105-13.

5. World Health Organization. The ICD-10 Classification of Mental and Behavioural Disorders. Geneva: World Health Organization; 2010.

6. Deka K, Pranit CK, Kavery B, Pranab K: Study of Clinical correlates and socio-demographic profile in conversion disorder. Indian J. Psychiatry 2007; 3:205-7

7. Isaac M, Chand PK. Dissociative and conversion disorders: defining boundaries. CurrOpinPsychiatr 2006

8. De la Fuente JM, Bobes J, Vizuete C, Teresa M, Morlan I, Mendlewicz J. Neurologic Soft signs in borderline personality disorder. J Clin Psych. 2006;67(4):541-6.

9. Bisht J, Sankhyan N, Kaushal RK, Sharma RC, Grover N. Clinical profile of pediatric somatoform disorders. IndianPediatr. 2008;45:111-5.

10. Vyas JN, Bharadwaj PK. A study of hysteria-AN analysis of 304 patients. Indian J Psychiatry. 1977;19:71–4.

11. Prabhuswamy M, Jairam R, Srinath S, Girimaji S, Seshadri SP. A Systematic Chart Review of Inpatient Population with Childhood Dissociative Disorder. Journal of Indian Association for Child and Adolescent Mental Health. 2006;2(3):72-77. doi:10.1177/0973134220060302

12. Sethi S, Gandhi R, Dharmendra. Clinical Features and Outcome of Conversion Disorders in Children and Adolescents. Journal of Indian Association for Child and Adolescent Mental Health. 2010;6(3):49-54. doi:10.1177/0973134220100302

13. Ghosh JK, Majumder P, Pant P, Dutta R, Bhatia BD. Clinical profile and outcome of conversion disorder in children in a tertiary hospital of north India. J Trop Pediatr. 2007 Jun;53(3):213-4. doi: 10.1093/tropej/fml088. Epub 2007 Apr 24. PMID: 17459885.

14. Chinta SS, Malhi P, Singhi P, Prabhakar S. Clinical and psychosocial characteristics of children with nonepileptic seizures. Ann Indian Acad Neurol. 2008 Jul;11(3):159-63. doi: 10.4103/0972-2327.42935. PMID: 19893662; PMCID: PMC2771977.

15. Ismail H, Qadri S, Hussain A, Ismail N. Demographic and clinical characteristics of patients presenting with conversion disorder in a tertiary care hospital in north India. Int J Res Med Sci 2021;9:535-7.

16. Ronald Roy K. A descriptive study on the clinical correlates of conversion disorder. International Journal of Research and Review. 2021; 8(12): 513-529. DOI: https://doi.org/10.52403/ijrr.20211263

17. Bammidi R, Ravipati LP, Bashar MD, Kumar KS. Clinical, sociodemographic profile and stressors in patients with conversion disorders: An exploratory study from southern India. Ind Psychiatry J 2020;29:222-7

18. Jalan RK , Adhikari J , Belbase M, Socio-demographic Characteristics and Psychosocial Stressors in the Children andAdolescents with Somatoform Disorders, JNGMC Vol. 17 No. 1 July 2019

19. Richa, Ghildiyal RG, Subramanyam A, Sharma P. Clinical profile of somatic symptom and related disorders in children. Int J ContempPediatr. 2018;5:214-25

20. RafeecaN H, Jayaprakash R, Kumar A S,Clinical Profile and Precipitating Factors of Somatic Symptom and Related Disorders in Children and Adolescents in a Pediatric TertiaryCare Setting,J Child Adolesc Psych Vol.5 No.5 2021

21. Gupta V, Singh A, Upadhyay S, Bhatia B. Clinical profile of somatoform disorders in children. Indian J Pediatr. 2011;78:283-6

22. Malhotra S, SinghG, Mohan A. (2005). Somatoform and dissociative disorders in children and adolescents: A comparative study. Indian Journal of Psychiatry. 47. 10.4103/0019-5545.46073.

23. Trivedi JK, Singh H, Sinha PK. A clinical study of hysteria in children and adolescents. Indian Journal of Psychiatry,1982; 24: 70-74.

24. De Sousa A, De Sousa DA. Child Psychiatry. 1 ed. Bombay: stBhalani Book Depot; 1987.

25. Sahu S, Menon P, Kumar S, Saldanha D. Sociodemographic profile of psychiatric disorders among children in a tertiary care hospital in Western India. International Journal of Contemporary Medical Research 2020;7(9):I1-I6

26. Malhi P, Singhi P. Clinical characteristics and outcome of children and adolescents with conversion disorder. Indian Pediatr. 2002;39:747-52

27. Reddy LS, Patil N M, Nayak RB, Chate SS, Ansari S. Psychological dissection of patients having dissociative disorder: A cross-sectional study. Indian J Psychol Med 2018; 40:41-6.