

Original Research Article

Clinical profile of somatic symptom and related disorders in children

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ABSTRACT

Background: Somatic symptom disorder is characterized by somatic symptoms that are either very distressing or result in significant disruption of functioning, as well as excessive and disproportionate thoughts, feeling and behavior regarding those symptoms. The objective of this study was to study the clinical profile of patients presenting with somatic symptom and related disorders and to attempt to identify the stressors in these children.

Methods: An open labelled, unidirectional and prospective study was conducted at a tertiary care hospital on 60 children in 5 to 16-year age group over a period of 18 months.

Results: The overall prevalence of somatic symptom and related disorders was 60 (0.2%). In the present study, 35 (58.3%) were males and 25 (41.7%) were females. 50% patients belonged to the >8 years and ≤12-year age group. 51.7% had average IQ. 31 (51.7%) patients belonged to lower middle class. Out of the total 60 patients, 46 (76.7%) belonged to a nuclear family. Parents with a post graduate degree had less number of children (3.3%) presenting with somatic symptoms. The most common presenting symptom reported was generalized pain by 30 (50.0%) among somatic symptoms and Pseudo seizures (33.3%) among conversion symptoms. Family issues (most common stressor) was found in 38 (63.3%) subjects. 30 (50.0%) patients had authoritarian parents. 46.7% of those counselled did not require any further intervention. As per the life events scale, the mean was 4.43.

Conclusions: In the present study, the most important areas in which stress was apparent was in school and family. Our study highlights the need for a joint effort by parents, pediatricians, psychiatrists and teachers to help our children cope with the stress of today's fast paced competitive world.

Keywords: DSM 5, Somatic symptoms, Stressors

INTRODUCTION

In all social groups, due importance is given to the physical health of children and adolescents. But the developmental, behavioural and emotional aspects of children are not getting due attention. Between 10% to 30% of patients coming to see their paediatricians have a social, emotional, or psychological component to their physical concerns.¹ The community prevalence of mental health disorders is 20% among children and adolescents across the globe.²

Somatic symptom disorder is characterized by somatic symptoms that are either very distressing or result in significant disruption of functioning, as well as excessive and disproportionate thoughts, feeling and behaviour regarding those symptoms. In children, the most common symptoms are recurrent abdominal pain, headache, fatigue and nausea.

In conversion disorder, there may be one or more symptoms of various types like motor symptoms (weakness, paralysis, tremor, 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, expulsion from school, frequent change in school and difficulty in coping with the prescribed curriculum which are responsible for such symptoms. Financial stress in the family, loss of a job, educational level of the parents, death of a close relative may also serve as contributory stressors for the child.

Neurological soft signs are anomalies only evidenced by specific motor, sensory or integrative testing when no other sign of a neurologic lesion is present.³ It has been seen that there is a relation between neurological soft signs and psychiatric disorders, but it has never been studied before in relation to somatic disorders in children.

Studies in childhood population are sparse and little is known about somatic symptom disorders in children and adolescents.⁴ Emotional factors and advantages of playing the “sick role” play a part in continuance of symptoms. In fact, these symptoms going unrecognised in childhood can lead to adult psychiatric illnesses and complications.

The purpose of this study is to study the clinical profile of patients presenting with somatic symptom and related disorders and attempt to identify the stressors in these children. This would help in implementing appropriate counselling, behaviour modification and psycho-education of the family and the child.

METHODS

The study was carried out in the Pediatric and Psychiatric Outdoor and Indoor services of one of the tertiary care centres after obtaining permission from the Institutional Ethics Committee. Study design being an open labelled, unidirectional and prospective study. Using appropriate statistical methods, sample size calculated was 60.

Inclusion criteria

- Children with age between 5 years to 16 years satisfying the DSM 5 Criteria for Somatic Symptom and related disorder
- Parents or guardians willing to sign the consent form.

Exclusion criteria

- Children with acute exacerbation of chronic disease
- Children with IQ <85.

Appropriate investigations pertaining to the symptoms were done for all the suspected cases. IQ testing was done by the Psychiatric Department using standardised tests appropriate for the age.

Clinical profile of the study subjects was analysed and a detailed history including presenting complaints, duration of symptoms, socio economic status, medical history, psychiatric history, socio demographic background, birth history, developmental history, personal and family history, school performance and school absence details were recorded from the parents, children and accompanying informants. A thorough physical examination was performed in all children including a general and systemic examination.

The socio-economic status of the family was determined as per modified Kuppuswamy score for social classification. All children and their parents were evaluated by a mental health professional. Complete psychiatric evaluation was done in the form of exploration for stressors in the child’s domestic or school environment Parenting style questionnaire scoring was used (Appendix I).

In this the parents were interviewed about the way they handle their child and scores were given for each question like ‘0’ if the answer is ‘No’, ‘1’ if the answer is sometimes and ‘2’ if the answer is ‘Yes’. Parents were also interviewed on the Life events scale (Appendix II) that includes questions regarding the significant events in a child’s life which may have affected the child. The scoring was done by the parents according to how stressful it was for their child like ‘0’ if ‘not at all’, ‘1’ if ‘to some extent’, ‘2’ if ‘to a greater extent’ and ‘3’ if ‘to a considerable extent’. According to the total scores the stress levels was assessed.

Neurological soft signs are anomalies only evidenced by specific motor, sensory or integrative testing when no other sign of a neurologic lesion is present. Presence of neurological soft signs was described in diagnosed cases of somatic symptom and related disorders. PANESS (Physical and neurological examination of subtle signs) scoring system was used for neurological soft signs (Appendix III). Diagnosis was done using DSM 5 criteria for somatic symptom and related disorders (Appendix IV).

Statistical analysis

Appropriate statistical software, including but not restricted to MS Excel, PSPP version 0.8.5 was used for statistical analysis. Graphical representation was done in MS Excel 2010. Results were graphically represented where deemed necessary.

RESULTS

Of the 28,892 patients attending the Outpatient Department and, or admitted in the Pediatric and Psychiatric services during the study period, 60 children were included in the study as they fulfilled the inclusion criteria. The overall prevalence of somatic symptom and related disorders was 60 (0.2%). The prevalence for

outpatient and indoor admissions in Pediatric and Psychiatric Services was 41 (0.16%) and 19 (0.52%) respectively. Association was found to be statistically significant ($p < 0.05$). Of the total 60 patients enrolled for the study, 35 (58.3%) were males and 25 (41.7%) were females. The male: female ratio was 1.4:1 (Table 1).

Table 1: Age distribution among study subjects.

Age groups (in years)	Males		Females		Total
	No.	%	No.	%	
5 to ≤ 8	7	20.0	10	40.0	17
>8 to ≤12	18	51.4	12	48.0	30
>12 to ≤ 16	10	28.6	3	12.0	13
Total	35	100.0	25	100.0	60

Majority of our patients (50%) belonged to the >8 years and ≤12-year age group (Table 1). 43.3% of present study subjects presented in March. On studying the IQ of the study group, 51.7% had average IQ followed by 25% having a high average IQ. According to modified Kuppaswamy score, 31 (51.7%) patients belonged to the lower middle class. Out of the total 60 patients, 46 (76.7%) belonged to a nuclear family and 14 (23.3%) belonged to joint families. Parents with a post graduate degree had less number of children (3.3%) presenting with somatic symptoms. Such symptoms are reported maximally in 24 (40%) children with a birth order of 1 and 2 respectively. The most common presenting symptom reported was generalised pain by 30 (50.0%) children followed by abdominal pain by 29 (48.3%) children. 20 (33.3%) children had Pseudo seizures (Table 2).

Table 2: Symptoms reported by study subjects.

Symptoms	No. of children	Percentage
Headache	27	45.0
Abdominal pain	29	48.3
Chest pain	23	38.3
Generalised pain	30	50.0
Vomiting	16	26.7
Low backache	10	16.7
Feeling of suffocation	7	11.7
Hyperventilation	7	11.7
Fainting attack	10	16.7
Ataxia	12	20.0
Pseudo seizure	20	33.3
Amnesia	5	8.3
Dysphagia	3	5.0
Aphonia	3	5.0
Hallucination	14	23.3

The most common stressor in the study subjects was family issues (conflict in the family, anxious family, recent family crisis, similar complaint in family, communication problem in family, sibling rivalry) found in 38 (63.3%) subjects, followed by parental issues

(parental discord, parental re-marriage, divorce, separated parents, drug abuse, alcoholism, loss of job, mother abuse, both parents working, over ambitious/over disciplinary/over protective parents, conflict with parent) found in 37 (61.7%) patients. 28 (46.7%) children had stress due to poor inter personal relation (Table 3).

Table 3: Stressors.

Stressors	No. of children (n=60)	Percentage
Family issues	38	63.3
Parental issue	37	61.7
School issues	19	31.7
Change of place	6	10.0
Death of close relative/friend	10	16.7
Poor inter personal relations	28	46.7
Modelling behaviour	2	3.3
Adjustment problems with peers	18	30.0

School Issues (school change, failure in school, learning difficulty and refusal by school) were found as a stressor in 19 (31.7%) patients. In 88.3% cases, family, parental and school issues were the main reasons for somatic symptom and related disorder. Out of 38 patients having stress due to family issues, 29 (76.3%) patients have conflict in the family and communication problem in family. In parental issues, conflict with parents was seen in 31 patients (83.8%) followed by 29 (78.4%) with parental discord followed by overambitious parents seen in 26 (70.3%) patients. Within the school issues, most common was learning difficulty seen in 16 (84.2%) patients.

Table 4: Distribution according to the parenting style.

Type of parent	No. of children	Percentage
Authoritarian	30	50.0
Permissive	16	26.7
Authoritative	14	23.3
Total	60	100.0

Somatic symptom and related disorder was reported most by children of authoritarian type of parent. 30 (50.0%) patients had authoritarian parents, followed by 16 (26.7%) patients with permissive type of parents. Only 14 (23.3%) patients had authoritative type of parents (Table 4).

Neurological soft signs were not present in any of the present study subjects. Out of all the patients who were subjected to counselling, 46.7% of them did not require any further intervention. 30% of the patients in addition to counselling were given multivitamins as placebo therapy and 23.3% were given anti-depressants. As per

the Life Events Scale, the mean of the number of life events was 4.43. On the life events score the mean was 220.5.

DISCUSSION

This study was conducted to find the stressors in children who present with somatic disorders so that appropriate behavioural counselling and psychoeducation can be done for the family and the child. The prevalence for Outpatient and Indoor admissions in Pediatric and Psychiatric services was 41 (0.16%) and 19 (0.52%) respectively in the present study. Of the total 60 patients enrolled for the study, 35 (58.3%) were males and 25 (41.7%) were females. The male: female ratio was 1.4:1. In the present study, males outnumbered females. In a similar study conducted by Gupta V et al, males outnumbered females with a ratio of 2.2:1.⁵ Male preponderance could be attributed to more male children being brought for medical care compared to female children as parents are more likely to seek treatment for their sons rather than daughters. However, in some other studies female preponderance was observed.^{4,6,7}

In the present study, 50% of subjects were in the >8 years to ≤ 12 years age group (Table 1). The mean age in the present study was 10.42 years with a range of 5 to 15 years. In all studies reviewed the mean age is between 10 to 14 years.^{4,5,7,8} In this phase of life there are many emotional and physiological changes that generate stress. During adolescence, they seek more independence, look for new experiences and engage in more risk-taking behaviour. Parents have more arguments as the child reaches adolescence. Teenagers want to spend less time with family and more with friends and peers which has both positive and negative influences. Susceptibility to peer pressure increases significantly during adolescence.

In the present study, 43.3% presented in the month of March. March is the month of final exams in our country leading to increased stress during that period and increased pressures from the parents on the child to perform better. In a similar study conducted by Smith PG et al in Australia, 50% of the study group presented in the spring. Spring is the time of the end of the year school exams in Australia.⁹

The mean of IQ was 96.2 in patients with somatic symptom disorders in a study conducted by Malhotra S et al as compared to 100.2 in the present study.¹⁰ Both superior intelligence and borderline IQ are associated with greater reactivity to environmental events and these impair the ability of the child to cope effectively. Hence IQ is linked to the development of conversion symptoms in children.¹¹

In the present study, 51.7% of the population belonged to lower middle class according to the modified Kuppaswamy score. Similar to the present study Malhi P et al found the mean socio-economic index was 3.4 which

indicates a lower middle class family.⁸ As is evident from other studies too, higher levels of somatic complaints are seen in children belonging to lower socioeconomic status which can be explained by the strain of ongoing hardships to achieve higher social and financial status.^{12,13}

In the present study, 76.7% were from nuclear families and 23.3% were from joint families. Similar to the present study, Gupta V et al found 29 (64.4%) children were from nuclear families and 16 (35.6%) from joint families.⁵ In today's times; the joint family system is on the decline with the emergence of more nuclear families. With both parents working they are often unable to devote enough time to their children, are frustrated and short tempered at the end of a long working day and may not meet the emotional demands a growing child.

Only 3.3% had somatic and conversion disorders when parents were post graduates. Thus, in parents with a post graduate qualification we observed a lower percentage of cases with somatic symptom and related disorders as compared to the illiterate or school educated group of parents.⁸ Parental educational level is linked to the parents providing a more stimulating physical, cognitive, and emotional environment in the home, and accepting their child's inherent capabilities, areas of interest and shortcomings.¹⁴

Educated parents are more likely to encourage and expose the child to various stimuli to ensure overall development of the child based on his areas of interest.

In the present study, 21.7% were single children and 80% had a birth order less than or equal to 2. In a study conducted by Smith PG et al, 55.7% had a birth order ≤ 2 and 15.3% were only children.¹⁵ In a study conducted by Bisht J et al, 82.2% had a birth order less than or equal to 2.⁴ A smaller family size may lead to more attention being showered on the child, more parental pressure and increased discipline.

Among somatic symptoms, the commonest seen were generalised body pain (50%), followed by abdominal pain (48.3%) which was similar to another study.⁵ Among conversion symptoms, the commonest ones were pseudo seizures (33.3%) followed by hallucinations (23.3%), ataxia (20%) and fainting attacks (16.7%). Similar to the present study, pseudo seizures have been found to be the most common symptom of conversion disorder in the study conducted by Malhi et al, Ghosh et al and Deka et al.^{8,16,17}

In the present study the most common stressors in the study subjects were family issues in 38 of the 60 cases (63.3%), parental issues in 61.7% of the study subjects. Poor inter personal relations were seen in 28 (46.7%) out of 60 study subjects. School issues were found as a stressor in 19 (31.7%) patients. A high frequency of family crisis (97%), unresolved grief reactions (58%) and family communication problems (85%) have been

reported by Maloney et al.¹⁸ Another similar study reported stress related to school and studies.

Other factors were conflict with parents / family members and sibling rivalry.^{5,7} These findings underline the importance of exploration of home and school environment in these patients for effective management. Schools are important social systems and the classroom climate is important for the child's mental wellbeing. Regular parent teacher meetings would help in identifying and exploring each child's strengths and weaknesses. Warm, authoritative and responsive parenting is usually crucial in building resilience. A parent's reaction to stress affects the way a child reacts to stress. Non-corporal disciplining of the child is essential. Parental discord and arguments are detrimental for the child. Parents have high expectations from their children. There is a lot of stress on the child to perform well in the exams. Parents should take out time for their children, encourage them to talk about their problems and also help in academic growth and all-round development of the child. Coordination is required between the parents, teachers and family to give the child a positive environment for mental and emotional growth.

In the present study, somatic symptom and related disorders were reported most by children of authoritarian type of parent, that is parents who are demanding but unresponsive to their child's emotional need. 30 (50.0%) patients had authoritarian parents, followed by 16 (26.7%) patients with permissive type of parents. A Permissive parent gives their child a high level of freedom and does not restrain their behaviour unless physical harm is involved. Only 14 (23.3%) patients had authoritative (demanding and responsive to the child's emotional need as well as warm and supportive) type of parents.

In a similar study by White RS et al, it was found that authoritarian parenting style was a significant predictor of somatic symptoms ($p < 0.05$).¹⁹ Disciplined, supportive, caring parents with a flexible attitude when indicated, would help children mature into balanced healthy adults.

In the present study neurological soft signs were not seen in any of the study subjects.

Out of all the patients who were subjected to counselling, 46.7% of them did not require any further intervention. It was advocated that stressors should be found out and cognitive behaviour therapy along with counselling should be provided. The family should be made to understand that medications are not always required.

In the present study 41.7% of the study subjects had between 4 to 6 life events, the mean being 4.43. The mean life events score was 220.5. In a study by Malhotra S et al on incidence of childhood psychiatric disorders in India, the mean life events was 6.20 and life events score was 235.65.²⁰

CONCLUSION

A child's mental and emotional needs are as important as his physical needs. Somatic symptoms represent the child's cry for help in situations where the child is unable to cope. The child does not have a language to express his innermost fears, feelings and needs. We need to reach out and help understand them. The direct and indirect resource consumption by these patients can be enormous. Such children are exposed to both under and over treatment, unnecessary investigations and referrals due to lack of proper understanding about these disorders. This is stressful for the child and the family and also puts a strain on our limited health resources.

In the present study, the stressors leading to such disorders were mainly pertaining to parental, family as well as school related issues. This study brings forth the concept of team approach between the Paediatrician, the Psychologist, the parent and the school teacher who need to be more alert, aware, and proactive where a child's needs are concerned.

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APPENDIX I

Parenting Style Questionnaire Scoring

This questionnaire consists of 62 items used to measure characteristics of authoritative, authoritarian and permissive parenting styles. 27 of these items relate to authoritative parenting style; 20 items relate to authoritarian parenting style, 15 items relate to permissive parenting styles. This is a questionnaire, which is based on 5 point Likert Scale with '1' being "I never exhibit this behaviour" and '5' being "I always exhibit this behaviour".

Gender: _____ **Date of Birth:** _____

Directions: This questionnaire is about your parenting practices. Think about what you usually do as a parent in the raising of your child or children and select the response that best indicates how often you usually do the following things: (If you have one child, respond, as you usually do to that child in general.)

1. Never 2. Once in a while 3. About half of the time 4. Very often 5. Always

- I encourage my children to talk about their troubles.
- I guide my children by punishment more than by reason.
- I know the names of my children's friends.
- I find it difficult to discipline my children.
- I give praise when my children are good.
- I spank when my children are disobedient.
- I joke and play with my children.
- I don't scold or criticize even when my children act against my wishes.
- I show sympathy when my children are hurt or frustrated.
- I punish by taking privileges away from my children with little if any
- I spoil my children.
- I give comfort and understanding when my children are upset.
- I yell or shout when my children misbehave.
- I am easy going and relaxed with my children.
- I allow my children to annoy someone else.
- I tell my children my expectations regarding behaviour before they engage
- I scold and criticize to make my children improve.
- I show patience with my children.
- I grab my children when they are disobedient.
- I state punishments to my children, but I do not actually do them.
- I am responsive to my children's feelings or needs.
- I allow my children to help make family rules.
- I argue with my children.
- I appear confident about my parenting abilities.
- I give my children reasons why rules should be obeyed.
- I appear to be more concerned with my own feelings than with my children's feelings.
- I tell my children that we appreciate what they try to accomplish.
- I punish by putting my children off somewhere alone with little if any
- I help my children to understand the effects of behaviour by encouraging them to talk about the consequences of their own actions.
- I am afraid that disciplining my children for misbehaviour will cause them
- I take my children's desires into account before asking them to do
- I explode in anger towards my children.
- I am aware of problems or concerns about my children in school.
- I threaten my children with punishment more often than I actually give it.
- I express affection by hugging, kissing, and holding my children.
- I ignore my children's misbehaviour.
- I use physical punishment as a way of disciplining my children.
- I carry out discipline after my children misbehave.
- I apologize to my children when making a mistake in parenting.
- I tell my children what to do.

- I give into my children when they cause a commotion about something.
- I talk it over and reason with my children when they misbehave.
- I slap my children when they misbehave.
- I disagree with my children.
- I allow my children to interrupt others.
- I have warm and intimate times together with my children.
- When two children are fighting, I discipline the children first and ask
- I encourage my children to freely express themselves.
- I bribe my children with rewards to get them to do what I want.
- I scold or criticize when my children's behavior doesn't meet my
- I show respect for my children's opinions by encouraging them to express
- I set strict well-established rules for my children.
- I explain to my children how I feel about their good and bad behaviour.
- I use threats as punishment with little or no justification.
- I take into account my children's preferences in making plans for the
- When my children ask why they have to conform, I state: "Because I said so" or, "I am your parent and I want you to."
- I appear unsure about how to solve my children's misbehaviour.
- I explain the consequences of my children's behaviour.
- I demand that my children do things.
- When my children misbehave, I channel their behaviour into a more acceptable activity.
- I shove my children when they are disobedient.
- I emphasize the reasons for rules.

APPENDIX II

Life events scale for indian children Department of Psychiatry Post Graduate Institute of Medical Education and Research, Chandigarh

- Name _____ Age _____ Sex _____
- School _____ Class _____
- Informant’s Name _____ Age _____ Sex _____
- Relationship _____

Instructions

- Can you recall any significant events in child’s life which may have affected the child? Specify with year and month.
- How stressful do you think these events were for your child?

0	1	2	3
not at all	to some extent	to a greater extent	to a considerable extent

Given below is a set of events that take place normally during the course of life. Some of these may also apply to you. Kindly indicate by yes or no, whether the event has occurred ever or in the last year and approximate date/month/year, if it has occurred. Also indicate how stressful it was for your child.

	Stress fullness score	Yes/no	Date/month/year	0,1,2,3
1. Decrease in number of arguments with Brothers and sisters	18	-	-	-
2. Beginning another school year	21	-	-	-
3. Visit of relatives	30	-	-	-
4. Decrease in number of arguments between parents	28	-	-	-
5. Move to a new house	31	-	-	-
6. Change in parent’s financial status	34	-	-	-
7. Outstanding achievement of brother or sister	35	-	-	-
8. Acquisition of TV by family/going for a picnic or excursion	43	-	-	-
9. Increase in number of arguments with brothers and sisters	39	-	-	-
10. Outstanding personal achievement	40	-	-	-
11. Not being sent to school (against Child’s wish)	42	-	-	-
12. Serious illness of brother/sister requiring hospital treatment	42	-	-	-
13. Loss of job by parent	43	-	-	-
14. Mother beginning full time work	45	-	-	-
15. Witnessing a serious mishap (traffic accident, fire) or death procession	55	-	-	-
16. Examinations	45	-	-	-
17. Close brother or sister leaving home	49	-	-	-
18. Change of school	49	-	-	-
19. Change in father’s job requiring increased absence from home	48	-	-	-
20. Physical punishment by parents	48	-	-	-
21. Problem with teacher or school work	49	-	-	-
22. Quarrel between parents/parent and neighbour/relative	47	-	-	-
23. Prison sentence of parent	50	-	-	-
24. Death of a grandparent	51	-	-	-
25. Birth of a brother or sister	50	-	-	-
26. Increase in number of arguments with parents	51	-	-	-
27. Increase in number of arguments between parents	54	-	-	-
28. Expulsion from School	58	-	-	-
29. Beginning school	58	-	-	-
30. Excessive use of alcohol by parent leading to undesirable behaviour	60	-	-	-
31. Death of Child’s close friend or Relative	60	-	-	-
32. Change in Child’s popularity with friends	57	-	-	-
33. Being Kept down a year at school	60	-	-	-
34. Attaining menarche/puberty	63	-	-	-
35. Being responsible for another child’s Death (accidental or homicidal)	68	-	-	-
36. Being sent to a hostel	67	-	-	-

37. Seeing the sexual activity of parents	67	-	-	-
38. Serious illness of parent requiring hospital treatment	67	-	-	-
39. Psychiatric disturbance of parent	69	-	-	-
40. Being a battered child	74	-	-	-
41. Marriage of parent to step parent	72	-	-	-
42. Discovery of being an adopted child	72	-	-	-
43. Serious illness of child requiring hospital treatment	73	-	-	-
44. Death of a brother or sister	77	-	-	-
45. Acquiring a visible deformity	76	-	-	-
46. Sexual assault on child	78	-	-	-
47. Divorce of parents	83	-	-	-
48. Separation of parents	86	-	-	-
49. Death of a parent	94	-	-	-

APPENDIX III

PANESS Scale for neurological soft signs

Exam	Component	Scoring	Scoring Notes
Lateral preference	Eye Foot Hand	Right, left, mixed	≥3 pantomimes performed with non-dominant hand, code as “mixed”, use left handed norms.
Gaits	Walking: on heels on toes on sides of feet Forward tandem Backward tandem	Errors: 0, 1, 2 Overflow: right, left or both	Walking on sides of feet: Only code errors for children ≥9 years; children ≤8 years code 0 Backward tandem: Only code errors or children ≥10 years, children ≤9 years code 0
Stations	Stand: Tandem, one foot in front of the other Feet together, eyes closed, arms and fingers outstretched Feet comfortable, eyes closed, tongue protruding Finger-to-nose Stand on 1 foot (both right and left foot) Hop on 1 foot (both right and left foot)	Time: 0 (20 sec.), 1 (10–19 sec.), 2 (<10 sec.) Tongue/finger choreiform: 0, 1, 2 Finger-to-nose: 0 (normal), 1 (clumsy, mild dysmetria, mild limb tremor), 2 (intention tremor, past-pointing)	Hops: maximum of 25 if ≤8 years and 50 if ≥9 years
Timed motor exam: repetitive movements	Foot tap Hand pat Finger tap	Time to do 20 touches (recorded in seconds)	Hand Pronation/Supination: code mirror overflow only for children ≥9 years
Timed motor exam: patterned movements	Heel-toe tap Hand pronate/supinate Finger sequences Tongue wiggles	Right and left overflow: 0, 1 (proximal, orofacial, mirror and jaw synkinesis) Left, right, tongue dysrhythmia: 0, 1	Finger sequences: code mirror overflow only for children ≥13 years

Note. PANESS = Physical and Neurological Examination of Subtle Signs; all tasks are given to all ages, however for some tasks age does play a factor when translating raw numbers into PANESS scores.

APPENDIX IV

DSM 5 CRITERIA

Diagnostic Criteria 300.82 (F45.1)

- A. One or more somatic symptoms that are distressing or result in significant disruption of daily life.
- B. Excessive thoughts, feelings, or behaviours related to the somatic symptoms or associated health concerns as manifested by at least one of the following:
- Disproportionate and persistent thoughts about the seriousness of one's symptoms.
 - Persistently high level of anxiety about health or symptoms.
 - Excessive time and energy devoted to these symptoms or health concerns.
- C. Although any one somatic symptom may not be continuously present, the state of being symptomatic is persistent (typically more than 6 months).

Specify if:

With predominant pain (previously pain disorder): This specifier is for individuals whose somatic symptoms predominantly involve pain.

Specify if:

Persistent: A persistent course is characterized by severe symptoms, marked impairment, and long duration (more than 6 months).

Specify current severity:

Mild: Only one of the symptoms specified in Criterion B is fulfilled.

Moderate: Two or more of the symptoms specified in Criterion B are fulfilled.

Severe: Two or more of the symptoms specified in Criterion B are fulfilled, plus there are multiple somatic complaints (or one very severe somatic symptom).