

## A study of projective test responses and intervention strategies in children with unexplained pain symptoms

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### Abstract

Psychiatric morbidity is high in children with unexplained chronic pain and thus needs to be assessed and treated. Unexplained pain symbolizes emotional distress and conflicts in children. The most common somatic symptoms are headache, abdominal pain, and musculoskeletal symptoms.

**Aim:** The aim of this case series is to qualitatively analyze the responses obtained on projective tests and intervention strategies employed in children with unexplained pain symptoms.

**Materials and Methods:** Our cases included a total of 12 children and adolescents who were referred to us from the pediatric department for complaints of unexplained pain symptoms for a period of at least 6 months. The investigations done for these children were reportedly normal. After the initial rapport and initial intake, the children underwent projective testing. The projective tests used were Children apperception test, Thematic Apperception Test and Sentence Completion test.

**Results:** The findings observed were conflict with primary caregivers, over-involvement and overly critical parents, sibling rivalry and intrapersonal conflicts. Intervention strategies primarily focused on psychoeducation, addressing secondary gain, parents session to address their relationship with the child and cognitive behavioral strategies as applicable to the case.

**Conclusion:** Children with unexplained pain symptoms require detailed history taking and psychological evaluation. Projective tests facilitate conflict identification and early intervention to address psychological factors.

**Keywords:** Projective test, Unexplained pain symptoms, Management.

### Introduction

Somatic symptoms in children and adolescents can present with distressing bodily symptoms, especially pain which is unexplained by medical diagnosis. Pain symptoms especially limb pain, abdominal pain, and headache, are most commonly reported in children.<sup>1-3</sup> Less common symptoms include non-epileptic seizures, abdominal symptoms, syncope or giddiness, severe and chronic pain, urinary symptoms and loss of limb function or abnormal gait. These clusters of physical symptoms which are associated with emotional and behavioral changes are included under Somatic Symptom Disorder (DSM-5) replacing somatoform disorder.<sup>4</sup>

Functional somatic symptoms are prevalent in children aged 6-18 years. There is a strong association between psychological factors and the initiation and maintenance of symptoms. Some children have significant gain out of the symptoms in terms of increased attention, decreased criticism, avoidance and tangible rewards. The most common comorbid diagnoses are anxiety and depressive disorders with a few exhibiting learning disorders.<sup>5</sup> Some studies highlight varying comorbidities with a different pattern of somatic symptoms.<sup>6</sup>

Studies have described the temperamental attributes of these children to be caring, highly sensitive to the needs of others, perfectionist and anxious. There is a tendency to set high standards for themselves and get discouraged when they cannot achieve them.<sup>7</sup> Association between pain symptoms and life events at school and family have been reported.<sup>6</sup>

Conflicts have been identified on projective tests in these children and vary with symptom presentation. The defense mechanisms identified in children on projective tests include

denial, repression, reaction formation and rationalization.<sup>3</sup> Some children have a secondary gain out of the symptoms and few others may have worsening of physical symptoms with exacerbation of underlying psychological stressors.

Somatic symptoms tend to aggregate in families, and family variables may play a vital role in symptom development and perpetuation. Hence working with family is essential in the management of somatic symptom disorder in children and adolescents. Individual therapy based on Cognitive behavioral principle works on addressing the maladaptive cognitions and behaviors exacerbating the symptoms. Family therapy helps in dealing with illness behaviors, reinforcing factors and family dynamics contributing to the symptom pattern.<sup>7</sup>

Children with unexplained somatic symptoms require a structured approach and interviewing to identify psychological factors. Projective tests pave way for identifying conflicts in children who don't elaborate during direct interviewing. Hence this test aims to identify the pattern of responses among children with functional somatic symptoms.

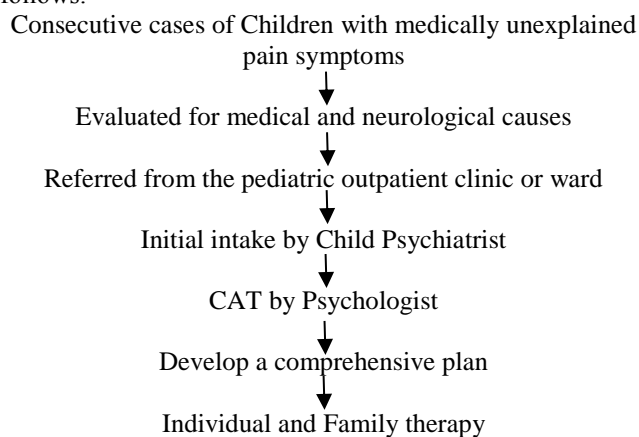
### Materials and Methods

We report the findings of a total of 12 Children with medically unexplained somatic symptoms who were referred to child psychiatry unit from the pediatric ward after detailed organic work up between Jan 2018 and June 2018. We included only those children with unexplained pain symptom lasting for at least 6 months whose organic workup didn't reveal any pathology.

Socio-demographic and clinical profile of children were noted. These children were interviewed along with one or

both parents (based on their availability) and then subjected to projective testing to identify the psychological conflicts. The projective test response elaborated here is that of Children apperception test (CAT), Sentence Completion test (SCT) and IQ was quantified using Binet Kamat test of intelligence. All Children were able to write in English except two whose responses were translated and back-translated. The test responses were elaborated in detail and conflict explained. Treatment principles employed are discussed while elaborating individual cases.

Only children who were available for follow up sessions along with either of the parent were taken up for individual or family therapy. Hence the findings of only 10 children are summarized below. Flow chart of the methodology is as follows:



The intervention was tailor-made to deal with the psychological conflict as elicited during the projective test. Parents were also oriented about the conflicts elicited in the test and the need for psychological intervention.

Six to eight sessions were conducted for each child which included initial intake (I session), assessment (II session) and intervention (3-6 sessions) and booster session (follow up to ensure improvement). The time taken for initial intake was around 30 minutes and the time taken for projective assessment and IQ took around 2-4 hours. The intervention sessions focused on two components; For parents - conflict explanation, psychoeducation about the model of illness and secondary gain, parenting techniques, behavioral modification strategies. For children - relaxation technique, learning strategies (where appropriate) and Cognitive restructuring. Each session lasted for 20 minutes.

The onset of symptoms was often seen following some emotional stress due to school-related or conflicts at home. Comorbid anxiety symptoms were present in 3 out of 10 children and 1 boy had a mild depressive episode. Temperament was described to be slow to warm in 6 children with features of anxiety and harm avoidance. Rejection sensitivity, fear of failure, high aspiration coupled with low self-esteem were the traits observed in our sample.

Family history was observed in 3 out of 10 children (anankastic personality disorder, generalized anxiety disorder, and alcohol dependence). There was no physical comorbidity in these children. School absenteeism was the most common

impairment as a result of physical symptoms in all the children. Intelligence was average in 9 children (as measured on BKT) except 1 child who had borderline intelligence with learning difficulty.

Conflicts as evident on projective testing were broadly classified under 2 categories which were further subdivided based on the predominance of conflict themes.

### Interpersonal Conflicts

#### Critical comments from authoritative/primary caregivers

**Case 1:** 12-year-old female child studying in 8<sup>th</sup> std was brought by parents for complaints of headache, involuntary movements of limbs and refusal to go to school for the past 1 month. Child's birth and developmental history were normal. Temperament was slow to warm with predominant features of anxiety. The symptoms had an onset after corporal punishment by a school teacher for academic failure.

Conflict areas were identified to be both at home and school through CAT and SCT. The themes identified included anger and fear towards female authoritative figures (school teacher and mother) and over critical mother. Her needs identified included achievement and harm avoidance. Defense mechanism used included repression and conversion and emotional responses were guilt and sense of inferiority. A representative sample of the response depicting the conflicts is as follows:

When the brother monkey and the small monkey were playing together, the mother monkey took the small monkey with her but the small monkey wants to play and was crying. Even then the mother monkey does not allow her to play so that the brother monkey also stopped playing and went with them. (Theme: conflict with female authoritative figure-mother) (Card 4) The focus of intervention involved educating the parents on psychological factors contributing to physical symptoms and reducing secondary gain for the symptoms. Mother was educated on unconditional positive regard and to avoid unconditional negative stroke. The child was taught relaxation techniques and alternate frame of reference with the challenge, to reduce anger and fear. There was a 90% improvement reported after 8 sessions.

Similar patients where fear for authoritative figures and critical parents was evident in the conflict are represented below.

**Case 6:** 10 years old male child studying in 5<sup>th</sup> standard was brought for complaints of recurrent abdominal pain and vomiting for 6 months

This lion is very arrogant and it will not apologize. It never respects others, this lion maintains leadership among others. This lion is very dominant. He does not want others to work without his permission. If they do, they will be punished by him. (Theme conflict with male authoritative figure- grandfather) (Card 3).

**Case 9:** 12-year-old male child studying in 7<sup>th</sup> standard was brought with complaints of headache for 1 year

Mother insisted his son play the guitar. But he hesitates to play guitar. And finally, he plays the guitar. (Conflict with mother (overinvolvement), ignoring of child wishes, needs is an achievement) (Card 1).

**Case 2:** 10-year-old male child studying in 4<sup>th</sup> standard was brought for complaints of persistent abdominal pain and vomiting every day in the morning for the past 2 years.

There were two dogs growing at home, the mother dog and its puppy. The puppy does not take bath, it looks dirty. So the mother dog pressures the puppy to take a bath. The puppy does not want to take bath, though it eventually takes a bath for his mother (theme is over the involvement of mother)(Card 10).

### Family Conflicts

**Case 4:** 11-year-old male child studying in 6<sup>th</sup> standard was brought with complaints of headache for 2 years. Headache was compressing in nature present mostly towards the evening. Temperament was slow to warm.

Conflicts identified were in areas of sibling rivalry, interpersonal relationship with mother and school-related bullying. His needs were achievement and dominance. Emotional responses were anger, fear and inferiority. Defenses used included repression and displacement.

There were two bears and their mother. The mother bear asks one of the bears to sleep inside and another one outside. The bear, sleeping outside became tensed, sad and did not know the reason for sleeping out. (Theme- sibling rivalry, anger towards mother) (Card 6).

The focus of the intervention was on building the relationship between family members (patient –Sister and Patient-mother), with a focus on trust and openness by listening, empathy, perspective taking and communication skills. A letter was addressed to the school teacher about bullying and also assertiveness skills were taught to handle bullying.

**Case 5:** 11-year-old male child was brought with complaints of headache for more than a year. Headache was persistent throughout the day and neurological evaluation was negative. There was worsening of headache following critical comments from parents.

Conflicts identified were triangular jealousy (interpersonal conflict between parents resulting in domestic violence, marital discord, and parents trying to take the son to their side). Mother developed jealousy and anger towards the son because he was found to be indirectly supporting the father. This anger and jealousy lead to verbal and physical abuse of the child. Needs identified were nurturance, autonomy, and succorance. Emotional responses included dejection and anger.

There were two bears one mother and one father bear. They had one child. The parent bears fight with each other. The mother bear likes baby bear very much. When the baby bear favors the father bear, the mother bear becomes angry with the baby bear. When the baby bear favors the mother, the father becomes angry with the child bear. (Theme is Triangular jealousy) (Card 2)

Parents were psycho-educated and insight into their problem behavior was given. Family therapy sessions focused on family dynamics and parenting strategies. Principles employed included listening, perspective taking, empathy, nurturance and communication skills.

### Intrapersonal Conflicts

#### Perfectionism Traits and High need for Achievement

**Case 3:** 7 years old female child studying in 3<sup>rd</sup> standard was brought with complaints of chest pain for a 1-month duration. She was enrolled in multiple extracurricular activities (few of which child was not happy to participate) and a high expectation on academics was laid with less time for leisure activities. The child also expressed anxiety to be the topper in all activities.

There was a small monkey who wanted to play one game with her friends but the brother monkey tells her to play many games and gain more knowledge. So she stops the first game and changes to another game which she soon stops before completing and changes to the third game and it goes on till the small monkey feels tensed and upset. (Theme over involvement by mother. Child is involved in many extracurricular activities which the child does not like) (Card 4).

**Case 7:** 11-year-old male child studying in 6<sup>th</sup> standard was brought with complaints of neck pain and pain in the limbs everyday morning before he goes to school for the past two years. Temperamental traits were need to be perfect and avoidance of situations for fear of being incomplete and making mistakes.

Once in a village there lived many people. The village name was pari. One day they found that some animals were missing. They tried hard to find them. After a few hours, they got the animals. They were so happy to have found the animals. So never give up when you lose something and try to solve it is the moral of the story. (*Fear of making mistake, Problem-focused coping strategies*) (Card 2).

**Case 8:** 10-year-old girl studying in 6<sup>th</sup> standard was brought with complaints of abdominal pain for a 1-year duration. Once there lived a grandfather and his granddaughter. Grandfather's dream was that his granddaughter must study well. The girl started studying hard from morning till night. One day the grandfather dreamt that his granddaughter got first marks in her class. He was very happy about the dream because he thought his dream about his granddaughter was fulfilled. (Card 4)

Conflicts are evident from the fact that the child emphasizes on goals and problems with avoidance of problem situations.

**Case 10:** 13-year-old male studying in 8<sup>th</sup> standard was brought with complaints of chronic headache for 3 years duration.

In the past he was having a problem playing an instrument. He did not have courage. He thought about how to overcome his problem. He strived everyday to overcome his problem. With time as he continues to practice, his interest would increase as will his courage. He would play very well in the future (Card 1)

(Need is an achievement, Conflict is intrapersonal he has good self-efficacy because of low self-esteem he unable to use properly to achieve what he wants immediately.

**Table 1:** Summary of projective test findings and intervention strategies

Age	Sex	Symptoms	Conflicts on TAT	Intervention
12 Case 1	Female	Headache for 6 months	Overcritical mother and fear towards female authoritative figure Needs – achievement and harm avoidance	Psychoeducation Parenting strategies CBT
10 Case 2	Male	Abdominal pain for 2 years	Overcritical and over involved mother Hostile environment Needs – achievement, autonomy, dominance	Therapy focused on unconditional positive reward Learning strategies
7 Case 3	Female	Chest pain for 6 months on and off	Fear of female authoritative figure and ambitious mother Needs – autonomy, independence, achievement and affiliation	Mother to improve quality time with child Reduce multitasking Leisure time
11 Case 4	Male	Headache for 1 year	Sibling rivalry Hostility towards mother Needs – achievement and dominance	Patient mother Patient sister relationship focused upon. Input into learning strategies
11 Case 5	Male	Headache for 6 months	Triangular jealousy Needs – nurturance, autonomy and succorance	Family therapy principles employed
10 Case 6	Male	Abdominal pain and recurrent vomiting for 6 months	Fear for male authoritative figure Needs – autonomy and affiliation Defenses – repression & reaction formation	Focus was on critical comments and restricted environment Learning strategies focused
11 Case 7	Male	Pain in legs, neck pain for 1 year	Conflict with mother Needs – achievement and self-efficacy; perfectionism	Challenging maladaptive thoughts Unconditional positive regard Leisure time
10 Case 8	Female	Abdominal pain for 1 year	Conflict is high ambitions and avoidance of problem situation Needs are harm avoidance and dependence.	Decrease secondary gain Challenge harm avoidance Deep breathing
12 Case 9	Male	Headache for 1 year	Conflict with parents (over criticality, ignoring child's needs) Needs are achievement, harm avoidance	Session with parents to reduce over involvement and over criticality Deep breathing
13 Case 10	Male	Headache for 3 years	Conflict is intrapersonal (has self-efficacy but unable to achieve goals due to low self-esteem) Parents over involvement	Parents educated on decreasing over involvement CBT addressed his self esteem

## Discussion

A psychosocial assessment is essential in formulating a diagnostic plan and helps in unraveling the psychological conflict. This goes a long way in predicting prognosis and reducing impairment. Our cases reflected the importance of projective tests in identifying psychological conflicts and implementing a psychosocial approach to unexplained pain symptoms in children and adolescents.

Our study had children presenting with abdominal pain and headache predominantly as evident in the literature.<sup>3</sup> In our study, intellectual impairment was not evident as the conflicting factor. Syndromal psychiatric illness was observed only in one child where triangulation was observed in the family (case 5).

A study by Stuart and Noyes,<sup>9</sup> hypothesized that somatizing behavior can be understood as a form of

interpersonal behavior predisposed by anxious and maladaptive attachment style. Poor coping styles and reinforcement-seeking behavior also contribute to the maintenance of somatic symptoms. Our study also reflects this finding of problem-focused coping, avoidance used by children and reinforcement of symptoms by attention from family members.

Some evidence suggests that medically unexplained symptoms are related to the prior experience of illness in the family and previous unexplained symptoms in the individual. This may reflect a learned process whereby illness experiences lead to symptom monitoring. In this context, the personality profile of mothers could serve as a model for the manifestation of symptoms.<sup>10,11</sup> Our study sample found a role model for somatic symptoms in two children (case no 3 and 7). Anankastic personality was observed in the mother of

the child (case 3 Tables 1).

Conflict areas as identified on the projective test include intrapersonal and interpersonal. Intrapersonal conflict focused on the need for achievement, low self-efficacy, need for perfectionism. A similar study<sup>3</sup> categorized children with unexplained pain symptoms into those with limited, normal and bright intellect and social abilities.

Interpersonal conflict areas were observed predominantly in our cases. Overcritical and over-involved mother, fear of authoritative figures, parental conflicts and sibling rivalry were evident in the study.

We also observed that the temperamental traits of children played a role in the maintenance of symptoms (exaggerated perception of somatic symptoms, sensitive to trivial comments, avoidance of conflict areas, problem-focused coping). A similar study highlighted that overwhelming anxieties, fear of rejection and performance pressure contributes to pain symptoms in children.<sup>12-14</sup>

Intervention primarily focused on psychoeducation of parents about the psychological model of the illness, explaining conflicts as evident on the projective test and emphasizing the need to decrease secondary gain and factors maintaining pain symptoms. Parenting strategies are refined wherever necessary with a focus on differential reinforcement for healthy and adaptive behaviors. The child is taught relaxation strategies (deep breathing), the cognitive challenge of coping and perfectionism traits and behavioral activation with a focus on recovery and decreasing prolonged periods of illness behavior and impairment. Illness beliefs of the parents were taken into consideration while addressing the child's symptoms. In a similar study, principles employed were symptom reduction, psychoeducation of family, emphasizing unconditional positive stroke, listening, empathy and communication.<sup>3,13-16</sup>

To conclude, the cases highlight the conflicts evident in children with unexplained pain symptoms and the need for individualized therapy. A formal assessment of temperament of the children with detailed family psychopathology including attachment style in a large sample would have thrown a light on the possible association with symptom presentation.

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