# Original Article

# Somatoform disorders among children and adolescents in a tertiary hospital

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## Abstract

***Background:*** *Somatoform disorders are common problem among children and adolescents. As children's verbal skills are relatively poorly developed to express their psychological problem, it is not surprising that they display somatic symptoms in response to life stresses.* ***Objectives:*** *The study aimed to explore the difference of somatoform disorders and symptoms between boys and girls the causal association of psychosocial factors.* ***Materials & Methods:*** *This is a cross-sectional descriptive study conducted at weekly Child Psychiatry Clinic of Psychiatry OPD and Pediatrics OPD in Bangabandhu Sheikh Mujib Medical University (BSMMU) of 6-16 years' age group from June to December' 2003. Total 450 respondents, 350 from Pediatric OPD & 100 from Child Psychiatry Clinic of Psychiatry OPD, were included in this study.* ***Results:*** *No significant gender difference was found in the diagnostic categories of somatoform disorders. Both boys and girls reported higher rates of undifferentiated somatoform disorders, 33.33% and 37.50% respectively. Abnormal psychosocial factors were found in majority of the cases and the most common was parental overprotection (26.42%). Overall, associated abnormal psychosocial situations were significantly higher among girls than that of boys (P<0.01). It was also revealed that higher rate of abnormal psychosocial factors was found to have causal relationship of higher rate of somatoform disorders among girls than that of boys.* ***Conclusion:*** *Findings suggested that somatoform disorders in children and adolescents were frequent in clinical settings and more in girls than that of boys due to more associated abnormal psychosocial situations among girls.*

***Keywords:*** *Adolescents, Children, Somatoform Disorders.*

***Date of received:*** *09. 10. 2017*

***Date of acceptance:*** *03. 04. 2018*

***KYAMC Journal.2018;9(2): 69-72.***

## Introduction

Somatoform means `bodylike' and refers to physical symptoms that have no physiological basis. That means, the persons complain of persistent medical problems for which no underlying physical cause can be found.' Somatization is common among adolescents.[2] A study suggests that somatization is not associated with class, gender, intelligence or ethnicity.[3] A study indicated that 14% of primary care patients met criteria for somatoform disorders, as defined in DSM-III R.[4] In the course of a WHO study, in five western German primary care settings, a 4-week prevalence of 28.5% was found for somatoform disorders and it was higher in female patients than in males and the ratio was 2:1.[5] A study conducted in National Institute of Mental Health, Dhaka showed that 6.60% of patient attending out-patient department, suffered from somatoform disorders and male: female ratio was 1.4:1.[6] Another study in Bangladesh showed that medically unexplained somatic symptoms were very common and these were more in women.' In ICD-10, somatoform disorders comprise-somatization disorder, undifferentiated somatoform disorder hypochondrial disorder, somatoform autonomic dysfunction, persistent somatoform pain disorder, other somatoform disorder and somatoform disorder unspecified.[8]

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Childhood is the short time of life and it is determined by the age group, which is from 1 year to 15 years of age.[9,10] Adolescence can be loosely defined as the time between childhood and adulthood that begins with the onset of puberty, around 13 years of age and ends somewhere around 18 or 19 years of age.[11,8] For the convenient of this study, 6-16 years' age group was included (6-12 years for children & 13-16 years for adolescents). Because, assessment instrument for somatoform disorders, The Development and Well-Being Assessment (DAWBA)[12], was validated for 6-16 years' ace group. Children often complain of somatic -rather than psychological symptoms. The most common complaints include abdominal pain (stomachache), headache, cough, limb pain, back pain, dizziness and fatigue.[13] In adolescence, girls begin to report more somatic symptoms than boys. Overall, '13.3% of the girls and 11.5% of the boys reported at least one somatic complaint and 1.4% of the children had more than one somatic complaint.[14] A study conducted in a private Child & Adolescent Consultation Centre in Dhaka city showed that somatoform disorders were found 20.5% child & adolescent patients.[15] In childhood and adolescence, poly-symptomatic presentations (92%) are reported commoner than mono-symptomatic (8%) ones.[16] Somatoform disorders in young adults are frequent, impairing and often associated with the development of other mental disorders!'

Both chronic adversities and acute life events can play a part. Abuse only seems relevant in a small minority of cases; bullying and academic stresses are probably more common contributors.[17,18] In a community based study in Bangladesh, some factors associated with somatoform disorders were identified. Those were parental, overprotection (33.93%), inappropriate academic pressure (16.07%), inappropriate parental pressure (10.11%), failure in examination (10.11%), and change in school (8.93%), intra-familial discord among adults (8.93%).[15]

## Materials and Methods

This is a cross-sectional descriptive study conducted at weekly Child Psychiatry Clinic of Psychiatry OPD and Pediatrics OPD in Bangabandhu Sheikh Mujib Medical University (BSMMU) of 6-16 years' age group from June to December' 2003. Total 450 respondents, 350 from Pediatric OPD and 100 from Child Psychiatry Clinic of Psychiatry OPD, were included in this study. Children and adolescents with organic disorders, pervasive developmental disorders, mental retardation and psychotic disorders were excluded from the study. Fifty three cases were found during the study period. Multi-axial diagnosis of ICD-10[8], the Development And Well-Being Assessment (DAWBA)[15] and Socio-demographic questionnaire were used as instruments. Respondents were selected by random systematic sampling. Prior to supplement of semi-structured questionnaire, informed written consent was taken from them and/or one parent. Semi-structured questionnaire was used to collect data from selected respondents. The structured interview was carried out by somatoform section of The Development And Well-Being Assessment (DAWBA)[12] to assess the cases of somatoform disorders. The samples were tested clinically by criteria of ICD-10[8] for clinical use. Analysis was done by SPSS. The validity of the test was done by using $x^2$, (chi-squared) test.

## Results

Fifty three cases were found out of 450 respondents. Among them 23 were children and 30 were adolescents. Table-I shows that 11.78% cases of somatoform disorders were found. (4.67% boys and 7.11% girls). Statistical analysis showed that $x^2$ (chi-squared) test was significant ($P < 0.05$). Table-II shows that adolescents were found more in both boys and girls. Table-III Shows that undifferentiated somatoform disorder (35.85%) was the commonest diagnosis in both boys and girls, (33.33% and 37.50% respectively). Table-IV shows that total 246 symptoms were found, in which 96 (39.02%) were in boys and 150 (60.98%) were in girls. Overall somatic symptoms were 1.6 times higher in the girls than that of boys. The difference was very significant at 1% level ($P < 0.01$). Table-V shows that the abnormal situations were more in girls than that of boys. Among those, abnormal qualities of upbringing were more as a single category (22) and more in girls (17). In this study, according to ICD-10, associated abnormal psychosocial situations were constellated into five main categories. In Table-VI, it is found that parental overprotection as a single associated abnormal psychosocial situation was found most frequently (26.42%), followed by inappropriate academic pressure (16.98%) and inappropriate parental pressure (15.09%).

**Table I:** Frequency of somatoform disorders among boys and girls

| | Total respondents (n=450) | | | Somatoform disorders (cases) (n=53) x1 | | | |
|---|---|---|---|---|---|---|---|
| | Boys | Girls | Total | Boys | Girls | Total | |
| P.OPD | 192 (54.9%) | 158 (45.1%) | 350 | 14 (4%) | 21 (6.0%) | 35 | NS |
| CP Clinic | 53(53%) | 47(47%) | 100 | 7 (7%) | 11 (11 %) | 18 | NS |
| Total | 245(54.44%) I 205 | | 450 | 21 (4.67%) | 32 (7.11%) | 53 | P< 0.05 |

P.OPD = Paediatric Out Patient Department, CP Clinic= Child Psychiatry Clinic

**Table II:** Socio-demographic characteristics of boys and girls.

| Variables | | Boys (n=21) | Girls (n=32) | Total (n=53) |
|---|---|---|---|---|
| Age | Child (6-12yrs) | 9 | 14 | 23 |
| | Adolescent (13-16yrs) | 12 | 18 | 30 |
| Habitat | Urban | 13 | 20 | 33 |
| | Rural | 7 | 9 | 16 |
| | Semi-Urban | 1 | 3 | 4 |
| Religion | Muslim | 21 | 30 | 51 |
| | Hindu | 0 | 2 | 2 |
| Academic level | Primary | 9 | 13 | 22 |
| | Secondary | 12 | 19 | 33 |

It was doserved that undifferentiated somatoform disorder (35.85%) was the commonest diagnosis in both boys and girls, (33.33% and 37.50% respectively). Table-IV shows that total 246 symptoms were found, in which 96 (39.02%) were in boys and 150 (60.98%) were in girls. Overall somatic symptoms were 1.6 times higher in the girls than that of boys. The difference was very significant at 1% level ($P < 0.01$).

**Table Ill:** Frequency of different somatoform disorders

| Somatoform disorders | Boy | | Girl | | Total(N=53) | |
|---|---|---|---|---|---|---|
| | No | % | No | % | No | % |
| Somatization disorder | 5 | 23.81 | 8 | 25.00 | 13 | 24.53 |
| Undifferentiated somatoform | 7 | 33.33 | 12 | 37.50 | 19 | 35.85 |
| Hypochondriacal | 1 | 4.76 | 1 | 3.13 | 2 | 3.77 |
| Somatoform autonomic | 3 | 14.29 | 4 | 12.50 | 7 | 13.21 |
| Persistent somatoform | 3 | 14.29 | 5 | 15.63 | 8 | 15.09 |
| Other somatoform disorders | 2 | 9.52 | 2 | 6.25 | 4 | 7.55 |

**Table IV:** Type and frequency of somatic symptoms

| Symptom | Boy (N=21) | (N=32 | Total (N=53 | (%) |
|---|---|---|---|---|
| Headache | 13 | 20 | 33 | 13.41 |
| Hot flushes in head | 4 | n | 14 | 5.69 |
| Heaviness of head | 3 | | 7 | 2.85 |
| Pain in chest | 3 | | 10 | 4.07 |
| Palpitation | 11 | 9 | | a 1 %I. |
| Breathlessness | 11 | 7 | 8 | 3.25 |
| Pain in abdomen | 6 | 6 | 12 | 4.88 |
| Burning sensation in body and limbs | 2 | 6 | 8. | 3.25 |
| Tingling and numbness in whole body | 7 | 13 | 20 | 8.13 |
| Pain in different sites of body | 3 | 7 | 10 | 4.07 |
| Vertigo or dizziness | 5 | 7 | 12 | 4.88 |
| Coldness of limbs | 4 | 7 | 11 | 4.47 |
| Frequent maturation | 7 | 7 | 14 | 5.69 |
| Dryness of mouth | 10 | 11 | 21 | 8.54 |
| Frequent loose motion or constipation | 3 | - | 6 | 2.44 |
| Flatulence or wind in abdomen | 3 | 33 | 6 | 2.44 |
| Anorexia or reluctant to food | 6 | 4 | 10 | 4.07 |
| Nausea or vomiting | 3 | 5 | 8 | 3.25 |
| Menstruation difficulties (for female | - | 4 | 4 | 1.63 |
| Burning sensation during micturition | 0 | 2 | 2 | 0.81 |
| Blurring of vision | 1 | 2 | 3 | 1.22 |
| Excessive sweating | 0 | - | 2 | 0.81 |
| Trembling of body & limbs | 1 | 1 | 2 | 0.81 |
| Hot intolerance | 0 | 1 | 1 | 0.41 |
| Flushing of face | 0 | | 1 | 0.41 |
| Burning sensation in eyes | 0 | 1 | 1 | 0.41 |
| Total | 96 (39.02%) | 150 (60.98 | 246 | |

Table-V shows that the abnormal situations were more in girls than that of boys. Among those, abnormal qualities of upbringing were more as a single category (22) and more in girls (17): In this study, according to ICD-10, associated abnormal psychosocial situations were constellated into five main categories.

**Table V:** Categories of identified associated abnormal psychosocial situations

| Category | Boy (N=2 | Girl (N=32) | Total (N=53) | $X^2$ - Sig. |
|---|---|---|---|---|
| Abnormal intra-familial relationship | 4 | 15 | 19 | P<0.05 |
| Mental disorder, deviance or handicap in the child's primary support group | 0 | 2 | 2 | NS |
| Abnormal qualities of upbringings | 5 | 17 | 22 | P<0.05 |
| Abnormal immediate environment or stressful life events | 2 | 8 | 110 | NS |
| Chronic interpersonal stress associated with school/work | 11 | 8 | 19 | P<0.05 |

In Table-V1, it is found that parental overprotection as a single associated abnormal psychosocial situation was found most frequently (26.42%), followed by inappropriate academic pressure (16.98%) and inappropriate parental pressure (15.09%).

**Table VI:** Associated abnormal psychosocial situations (factors)

| Situations (factors) | Boy (N=2) | Girl (N=2) | Total(N=53) | |
|---|---|---|---|---|
| | | | No | /0 |
| Parental overprotection | 3 | 11 | 14 | 26.42 |
| Inappropriate parental pressure | 2 | 6 | 18 | 15.09 |
| Inappropriate academic pressure | 5 | 4 | 9 | 16.98 |
| Parental discord | 2 | 3 | 5 | 9.43 |
| Parental separation | 0 | 1 | 1 | 1.89 |
| Failure in examination | 3 | 2 | 5 | 9.43 |
| Intra-familial discord | 0 | 3 | 3 | 5.66 |
| Break of relationship | 1 | 2 | 1 | 5.66 |
| Loss of parental affection or neglect | 1 | 2 | 3 | 5.66 |
| Second marriage of father | 0 | 2 | 2 | 3.77 |
| Upbringing by mother | 1 | 1 | 2 | 3.77 |
| Changes of school | 3 | 2 | 5 | 9.43 |
| Parental mental disorder | 0 | 2 | 2 | 3.77 |
| Emotional abuse | 1 | 4 | 5 | 9.43 |
| Physical abuse | 1 | 2 | 3 | 5.66 |
| Sexual abuse | 0 | 2 | 2 | 3.77 |
| Not identified | 8 | 3 | 11 | 20.75 |

* More than one situation ware recorded.

## Discussion

A large proportion of children and adolescents who consult physicians especially pediatricians are suffering from somatoform disorders. It has also been observed that onset and continuation of the somatic symptoms bear a close relationship with unpleasant life events or with difficulties or conflicts.' In this study, It was found that somatoform disorders were significantly higher among girls (7.11%) than that of boys (4.67%), (Table I). Another studies showed that the somatoform disorders were higher in female patients than in males. A female male ratio of 2:1 was found.[5] One foremost study conducted in Bangladesh showed that somatoform disorders were higher among girls than that of boys.[15] The findings of gender prevalence of this studies are consistent with the such findings of the present study.

Undifferentiated somatoform disorder was the commonest (35.85%) among both boys (33.33%) and girls (7.5%), (Table III). Dogmatization disorder was the second common diagnosis (24.53%; 26 somatic symptoms were recorded. Most commonly reported somatic symptoms across sex and age included headache, dryness of mouth, palpitation etc. Headache was the most common symptom in both the boys and girls. Significant sex difference in frequency of somatic symptoms was reported. 96 (39.02%) somatic symptoms in boys and 150 (60.98%) somatic symptoms in girls were explored, (Table IV).

Statistically, overall somatic symptoms were significantly more among girls than that of boys. In relation to the findings of this study, a study in Bangladesh showed that medically unexplained somatic symptoms were very common and these were more in wamen.[7] in adolescent, girls begin to report more somatic symptoms than boys and this sex difference continues into adulthood.[14] these findings are fairly consistent with the findings of the present study. In this study, total identified associated abnormal psychosocial situations were highly significant (P<0.01) among girls (49) than that of boys (23). 72 (135.85%) (More than one factor were recorded in a patient) associated abnormal psychosocial factors were identified with the predisposition, onset and course of the disorders (odds ratio=5.68), (Table V). In 11 (20.75%) cases, no factor was identified, (Table VI). According to different categories of abnormal psychosocial factors abnormal qualities of upbringing, abnormal intra-familial relationship and chronic interpersonal stress associated with school/work were significantly higher among girls. Parental overprotection was found single largest factor of the abnormal qualities of upbringing to contribute in somatization. Inappropriate academic pressure was found second most frequent situation. Particularly, inappropriate parental pressure, parental discord, changes of school, emotional abuse and failure in examination were found in significant cases.

In European study[18] suggests that regarding factors in children & adolescents- there are best seen as personality traits rather than as disorders. Regarding factors in family- modeling for attention seeking behavior, parental disharmony, overprotection, disorganized family, dysfunctional communication without conflict resolution. Regarding external stressors- both chronic adversities and acute life events can play a part. Abuse only seems relevant in a small minority of cases; bullying and academic stresses are probably more common contributors.[18]

## Conclusion

Somatoform disorders in children and adolescents were frequent in clinical settings and more in girls than that of boys due to more associated abnormal psychosocial situations among girls.

## Acknowledgements

The authors are grateful to all the patients and their families who participated in this research work and also pray for their well-being.

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