

Original article

SOMATIC COMPLAINTS AND THEIR RELATIONSHIP WITH DEPRESSIVE SYMPTOMS AMONG ADOLESCENT GIRLS: A CROSS-SECTIONAL STUDY

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ABSTRACT

Background: Physical symptoms of unknown aetiology are common in children and adolescents. Depression in this developmental age causes significant interpersonal and psychosocial problems including the risk for suicide.

Objectives: Main objectives were to assess the somatic complaints and depressive symptoms of adolescent girls and to identify the relationship between these variables. Association between somatic complaints/depressive symptoms and selected socio personal variables was also analysed.

Methods: A descriptive survey design was used in this study with a sample of 250 adolescent girls. The tools used for the data collection included a questionnaire to collect socio-personal data, an adapted version of Patient Health Questionnaire (PHQ-15) for assessing somatic complaints and Kutcher Adolescent Depression Scale (KADS) for assessing the depressive symptoms. The study was conducted among students of selected government schools of Kozhikode district of Kerala.

Results: The results showed that about 1.6% had a high level of somatic complaints, 4% had medium and 40.4% had low somatic complaints. 15.2% of the participants were having depressive symptoms. The study found a significant positive correlation between somatic complaints and depressive symptoms.

Conclusion: Screening for somatic complaints among adolescent girls help in the identification of depression in adolescent girls.

Keywords: somatic complaints, depressive symptoms, adolescent girls

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BACKGROUND

The incidence of psychiatric disorders in children has been found to be 18 per thousand per year in India.¹ Psychiatric diseases of younger ages lead to severe individual, social, and economic costs which can be reduced by early treatment and prophylactic interventions.² Anxiety disorders are among the earliest psychiatric conditions to manifest in general population early second decade of life.³ Somatic symptoms are highly prevalent among children and adolescents with anxiety disorders and are associated with greater anxiety severity and impairment.⁴ Somatic symptoms are a common physical response to stress and illness in childhood.⁵ Somatic complaints are also highly associated with anxiety disorders in general.⁶ A positive correlation between somatic symptom severity and the severity of the anxiety disorder as well as the degree of the general impairment has been reported by studies.^{7,8} These problems are generally neglected and afflicted individuals do not receive specialty mental health treatment.⁹ Somatic symptoms exist in the great majority of depressed patients. There is a clinically significant relationship between somatic symptoms, particularly painful physical conditions and depression.¹⁰ Somatic complaints have diagnostic value in depressive and anxiety disorders.¹¹

METHODS

The study aimed to assess the somatic complaints and depressive symptoms in adolescent girls and to study the relationship between these variables. The study also examined the association between selected variables with somatic complaints and depressive symptoms in this population. Somatic complaints refers to physical symptoms experienced by the adolescent girls such as stomach pain, back pain, pain in arms, legs,

joints, headaches, chest pain, dizziness, fainting spells, shortness of breath, constipation, diarrhea, nausea, feeling of tiredness and trouble sleeping which is measured by an adapted version of Patient Health Questionnaire (PHQ-15).¹²⁻¹⁴ Depressive symptoms refer to symptoms experienced by the adolescents such as depressed mood, loss of interest, reduced energy leading to increased fatigability and diminished activity measured by Kutcher Adolescent Depression Scale (KADS).¹⁵

The population studied was adolescent girls in the age group of 15-17 years in selected schools of Kozhikode district. A descriptive design was used in this study. Considering somatic symptoms as the key variable in this study, sample size was calculated based on another study which reported the prevalence of somatic symptoms among children as 11%.¹⁶ With a precision error of 4% and a power of 80%, using the formula $4PQ/d^2$, the sample size was estimated to be approximately 250. Multi-stage random sampling was used. All the willing students in a randomly selected class were included. Data collected from participants who reported to have a history of serious mental health and physical problems and those who were on long-term medications were excluded. Data from such eight participants were excluded in the analysis.

A semi-structured questionnaire was used to assess the socio-personal data of adolescent girls which consist of 11 items such as age, class, type of family, number of siblings in the family, occupation of the father, occupation of the mother, socio economic status, average screen time, history of chronic diseases and continuous medication, physical and mental problems during menstruation. We used an adapted 13-item version of PHQ-15 to assess somatic symptoms, excluding the two items specific to adults. The measure was rated by the participants themselves for the presence of

symptoms during the past two weeks. Participants rated the severity on a 3-point scale (0=not bothered at all; 1= bothered a little; 2 bothered a lot), which they experienced during the past 2 weeks. The total score can range from zero to 26. The researcher reviewed the score of each item and then it was converted to a score out of 30. A score of 0-4 refers to the somatic symptom severity is minimal, a score of 5-9 as low, 10-14 as medium, and 15-30 as high. The scale has been in the public domain for use by researchers and clinicians.

KADS-6 was used to assess the severity of adolescent depression which is a self-report scale widely used in adolescent population.¹⁴ Permission was obtained from the author for use in this study and its translation. Each item rated on a 4point scale. A score of 0-5 is considered as probably not depressed, a score of six and above being considered as possible depression. Language validity of the scales for this study was established by translation and retranslation procedures and incorporating suggestions from experts from the field of mental health. Reliability of the translated PHQ-15 and KADS-6 were established by internal consistency method. It was found to be 0.546 and 0.605 respectively.

After obtaining permission from Scientific Review Committee and Institutional Ethics Committee of Government College of Nursing, Kozhikode, administrative sanction from Deputy Director of Education, Kozhikode, investigator selected sample from 3 government schools in Kozhikode educational district applying random sampling method. The data were collected during the period of February 2018 to March 2018. The participants were selected from 10th to 12th classes of using random sampling. The researcher met the participants and introduced herself to the participants, explained the purpose of the study and assured the confidentiality of their information. The

research objectives were clearly explained to participants and informed consent was obtained

Table 1. Sample Characteristics (N=250)

| Characteristics | Category | n | % |
|-----------------------|-------------------|-----|-------|
| Age | 15 | 68 | 27.2 |
| | 16 | 79 | 31.6 |
| | 17 | 103 | 41.2 |
| Class | 10 | 72 | 28.8 |
| | 11 | 80 | 32 |
| | 12 | 98 | 39.2 |
| Type of family | Joint family | 53 | 21.2 |
| | Nuclear family | 197 | 78.8 |
| Number of siblings | One sibling | 153 | 61.2 |
| | Two | 68 | 27.2 |
| | 3 or more | 6 | 2.4 |
| | No sibling | 23 | 9.2 |
| Father's occupation | Government job | 33 | 13.2 |
| | Private job | 45 | 18 |
| | Business | 51 | 20.4 |
| | Daily wage worker | 121 | 48.4 |
| Mother's occupation | Government job | 20 | 7.98 |
| | Private job | 40 | 15.97 |
| | Homemaker | 171 | 68.44 |
| | Business | 19 | 7.60 |
| Socio-economic status | APL | 168 | 67.2 |
| | BPL | 82 | 32.8 |
| Menstrual problems | | 104 | 41.6 |
| Average screen time | | | |
| 2 hour or less | | 169 | 67.6 |
| More than 2 hours | | 81 | 32.4 |

from students and their parents. Parent's consent form was sent via students. After getting

the parents' consent, students consent form and tool was distributed.

RESULTS

Socio-personal data were obtained from the participants by using a questionnaire. It took about five minutes. Somatic complaints were assessed using an adapted version of PHQ-15 and depressive symptoms were assessed using KADS-6. About 5 minutes were taken for each of these tools. All the participants were cooperative, and the investigator could complete the data collection without difficulties. Teachers were informed about the possible depression status of screened participants for further interventions.

Sample characteristics show that 41.2 % of participants belonged to the age group of 17, 39.2 % of them were studying in 12th standard, 78.8 % were from nuclear family and 61.2% had one sibling. When the occupation of parents was analyzed, most of the fathers (48.4) were daily wage workers and most mothers (68.44) were homemakers. Results show that 41.6% of participants experienced menstrual problems. It was also shown that 32.45% had screen time more than 2 hours per day. (table 1)

Table 2: Levels of somatic complaints

| | N=250 | |
|--------------------|-------|------|
| Somatic complaints | n | % |
| Minimal (0-4) | 135 | 54 |
| Low (5-9) | 101 | 40.4 |
| Medium (10-14) | 10 | 4 |
| High (15-30) | 4 | 1.6 |

In this study, somatic complaints were assessed using PHQ-15 and depressive symptoms were

assessed using KADS-6 among adolescent girls. Low level of somatic complaints was common (40.4%) and medium to a high level of somatic complaints were seen in 5.65% of adolescent girls (table 2). Possible depression was seen in 15.2% of participants.

PHQ-15 and KADS-6 scores were not normally distributed and non-parametric statistics were applied. The median score of PHQ-15 was two and KADS-6 was 3.46. Correlation between somatic complaints and depressive symptoms were tested using Spearman's rho. It was found that there was a significant positive correlation between these two variables ($p=0.498$, $p<.001$).

Table 3. Association between somatic symptoms and depressive symptoms and age (N=250)

| Variable | class | N | Mean Rank | p-value (Kruskal Wallis test) |
|---------------------|-------|-----|-----------|-------------------------------|
| Somatic symptoms | 15 | 68 | 109.58 | 0.012 |
| | 16 | 79 | 118.87 | |
| | 17 | 103 | 141.10 | |
| Depressive symptoms | 15 | 68 | 112.25 | 0.025 |
| | 16 | 79 | 118.15 | |
| | 17 | 103 | 139.88 | |

Group difference tests (Kruskal-Wallis test) were used to find an association between age and PHQ-15 scores as well as KADS-6 scores. It was found that there was a significantly higher median score in higher age group 17years (table3). Other socio-personal variables did not show any significant association with PHQ-15 and KADS-6 scores.

DISCUSSION

Characteristics of the sample presented in this study are similar to the socio-demographic profile of adolescent girls reported by other studies conducted in South India.^{17,18} A significant number of adolescent girls have menstrual problems in this study (41.65%) which is consistent with literature available on the topic.¹⁹ These problems may overlap with distress related to somatic and depressive features among these group. Scores of both somatic complaints and depressive symptoms were not normally distributed as a few of the participants had higher scores which positively skewed the distribution. Similar non-normal distribution of depression scores among the adolescent population has been reported earlier.²⁰

Our study found that low-level somatic complaints among adolescent girls were very common and a considerable proportion of the sample had medium to a high level of somatic complaints. Somatic symptoms in youth have been linked to poorer physical and mental health.²¹ Theories have attempted to explain the mechanisms underlying somatic complaints in these population such as stress system functioning and its influence on pain and other symptoms.²² Somatic symptoms among adolescent girls may be suggesting that symptoms can be markers of victimization in physical and sexual abuse or even bullying by peers.²¹ Persistent somatic symptoms may be suggestive of psychological distress including depression.¹¹ Somatic symptoms in adolescence predict severe adult mental illness and need early treatment and extended follow-up regardless of co-occurring depression and anxiety.²³ Management of adolescents with unexplained somatic complaints are challenging. It is also imperative that a treatable underlying medical condition should not be missed.²⁴

Although there is controversy over the sensitivity of screening tools for depression in adolescents, six-item KADS has been found to be sufficiently reliable.^{15,25} We have found that 15.2% of the adolescent girls participated in this study crossed the cut-off score for possible depression on KADS-6. Depression in adolescents is a major risk factor for suicide, serious academic and social impairments, substance use and obesity.²⁶ Literature shows an estimated 1-year prevalence of depression in mid to late adolescence is 4–5% using standard depression inventories.^{27,28} Our study did not intend to screen for major depressive disorders. But, our group of possible depression may include subthreshold depressive symptoms. Subthreshold depressive symptoms have been often overlooked in adolescents.²⁹ Subthreshold depressive disorder is one of the best-established risk factors for the onset of full-syndrome depressive disorders.³⁰ It was beyond the scope of our study to investigate gender difference in depressive symptoms. But it has been reported that depressed girls and boys had similar symptom prevalence and severity ratings for most depressive symptoms, with possible distinct etiologies in males and females.³¹

Relationship between somatic complaints and depressive symptoms has been well studied.³² Adolescents with somatic symptoms had increased risks of adult depression, anxiety and other mental disorders.³³ We have found that there is a significant relationship between somatic complaints and depressive symptoms in this population. Similar results have been reported in other populations.³⁴ Silverstein investigated the higher prevalence of “somatic depression” in females and predicted that it had its onset during early adolescent years with predominantly bodily pains and aches.³⁵

In this study, the association of somatic complaints and depressive symptoms with age

shows significantly higher median scores in the higher age group. Another study conducted elsewhere reported that the prevalence of depressive symptoms increased by age for both males and females.³⁶ Similar results were shown when somatic complaints and depressive symptoms scores of different classes were compared.

Limitations of this study include the self-report nature of data collection rather than on clinical diagnoses and the study is based on adolescents who attended school within the city limits, though the urban and rural division was not done. Despite these limitations study has clinical implications.

CONCLUSION

Unexplained somatic complaints are common among adolescent girls. Somatic complaints in this population may be related to depression. Identification and psychological care help to avoid deterioration and long-term psychological problems. Hence, when adolescent girls present with somatic complaints, mental health professionals consider screening for depression.

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