Regular Article

School refusal and depression with school inattendance in children and adolescents: Comparative assessment between the Children's Depression Inventory and somatic complaints

Shuji Honjo, MD, PhD,[1] Takanori Nishide, MA,[2] Sachiko Niwa, MA,[3] Yasuko Sasaki, MA,[3] Hitoshi Kaneko, MA,[3] Kayo Inoko, MD,PhD[4] and Yumie Nishide, MA[5]

[1] Nagoya University Center for Developmental Clinical Psychology and Psychiatry, [2]Aichi Shukutoku University Department of Communication, [3]Nagoya University, Graduate School of Education and Human Development, [4]Nagoya University, Graduate School of Medicine, and [5]Mie University, Faculty of Education, Aichi, Japan

Correspondence address: Shuji Honjo, Nagoya University Center for Developmental Clinical Psychology and Psychiatry, Furo-cho, Chikusa-ku, Nagoya 464-8601, Japan

Email: e43195a@nucc.cc.nagoya-u.ac.jp

Abstract

School refusal has become a relatively common problem of increasing magnitude in Japan. Although clarification of the relationship between 'school refusal' and 'depression with school inattendance' is crucial in light of the difference in treatment modalities, it is not clear whether the two are to be regarded along the same tangent or as disparate entities. For clarification, a comparison was made between clinical diagnosis, Children's Depression Inventory (CDI) scores, and scores for the three subordinate scales of the CDI in 34 cases of school refusal, 10 cases of depression with school inattendance, and normal students. Significant difference in CDI score was noted between the three groups: highest among depression cases, followed by school refusers, and lowest in normal students. A larger proportion of school refusers expressed somatic complaints together with low CDI scores. The typical case of school refusal appears to exhibit somatic complaints in the foreground rather than depression, both clinical characteristics and CDI scores indicate school refusal and depression to be separate entities. Although many approaches are being taken in the treatment of school refusal, the results appear to justify primary of the psychotherapeutic approach with the possible adjuvant use of pharmacological agents, for the phenomenon as it presents in Japan.

Keywords: Children's Depression Inventory, depression, school refusal, somatic complaints.

INTRODUCTION

School refusal in Japan first came to attention around 1960, and has since been the topic of many studies as a representative issue in child and adolescent psychiatry. As such, the etiological characterization of school refusal has also been discussed from various aspects. However, despite the many similarities in the pathological pictures of school refusal and depression, attention upon the relationship between the two has been marginal to date. However, a number of studies do exist on their relationship, and in 1962 Hori pointed out similarities in the symptoms of school refusal and depression, reporting the successful treatment of a case of school refusal with the antidepressant, imipramine.[1] Even earlier, Agras reported the presence of depressive symptoms in six out of seven cases of school phobia, in six out of seven of their mothers, and alcoholism related to depressive feelings in three of the children's fathers.[2] Reporting the existence of a depressive constellation (i.e., a type of mutual interaction within the families of such subjects), he expressed his belief that school phobia was part of the natural history of depressive disorder prevalent in such families.

Subsequently, there have been a number of studies on the relationship between school refusal and depression.[3-7] However, not only are they mostly international investigations, but they are studies conducted from disparate standpoints regarding whether depression is to be considered a general symptom accompanying school refusal, or whether it is to be captured as being symptomatic of a depression subgroup working on the supposition that several subgroups exist within the phenomenon of school refusal. Although from a slightly different perspective, Okuyama et al.,[8] and Saito[9] have cited depression as one of the relevant factors in recent studies evaluating prognostic outcome for school refusal.

Incidentally, the authors believe that even if depressive symptoms do exist in association with school refusal, that they are not the prominent features of school refusal, and that even if there is a transferential type situated between school refusal and depression, that the two should be considered separate entities in principle. Needless to say, although in recent years it has been said that depression in children and adolescents can be diagnosed according to the same diagnostic criteria as adults, the manifestation of depression among these age groups is often unclear, and the diagnosis of school refusal or depression is difficult in many cases. For this reason, in the present study, the authors have selectively excluded cases of schizophrenia, bipolar mood disorder, and failure to attend school in relation to delinquency, in investigating the differences between cases diagnosed as school refusal alone, and those also falling within the spectrum of depressive disorder.

SUBJECTS AND METHODS

The subjects of the present study were cases exhibiting school inattendance directly examined by one of the authors between 1989 and 1996, on whom the CDI, a self-rating scale on depression could be employed. The Children's Depression Inventory (CDI) developed by Kovacs,[10] is currently widely used as a scale for assessment of depression in children. From among these cases, subjects fulfilling the criteria of school refusal or depressive disorders were selected for the present study. School refusal cases were defined as those fulfilling the criteria proposed by Berg et al.,[11] which are: (i) the child remains at home with the knowledge of the parents; (ii) there is an absence of severe antisocial behavior; (iii) the parent(s) has/have taken reasonable measures to solicit

their child's attendance at school; and (iv) the child is emotionally disturbed by the prospect of having to go to school. 'School dislike' is defined by the Ministry of Education as cases of absence exceeding 30 days per annum. However, this Ministry definition has been set strictly for statistical purposes, and the present study does not define school refusal by days absent per se. For this reason, the present study includes subjects who refuse school sporadically although not reaching 30 days of absence in total, as well as those who have been absent serially, although days absent do not yet amount to 30 days. Cases falling within the spectrum of depressive disorder were identified by fulfillment of the criterion for diagnosis of major depressive disorder according to DSM-IV.[12] The CDI was administered before seeing the patient at first visit, and the diagnosis of school refusal and major depressive disorder was made at first visit without reference to CDI results. Cases that were selected were investigated for the association between CDI scores and facets such as age of onset, trigger for onset, and clinical symptoms. Focus was placed upon the clinical symptom of somatic complaints often noted in school refusers. Specifically, we took up the most commonly encountered somatic complaints of gastrointestinal symptoms (complaints) (e.g., diarrhea, nausea, vomiting), pain symptoms (e.g., headaches, back pain), cardiopulmonary symptoms (e.g., palpitation, shortness of breath), and other autonomic symptoms (e.g., fever, vertigo). Date on age of onset, trigger, and clinical symptoms were obtained at first visit through statements obtained from the subject and family members.

The subjects of the study were 34 cases of school refusal along (23 boys, 11 girls), and 10 cases also diagnosed as major depressive disorder (five boys, five girls). Distribution in age at first visit was between 7 and 17 years of age, with mean age for

school refusal cases being 13 years 7 months, and 14 years 11 months for depressive disorder cases. Mean age of the normal control students was 14.2 years.

Results from the CDI given at school to 243 normal school children between 12 and 15 years of age (111 boys, 130 girls, two unspecified) were employed as control values.

RESULTS

Table 1 shows the results of analysis of CDI scores for these subjects. Because preliminary analysis revealed no significant difference in score in terms of gender, male and female scores were combined for the analysis. Mean CDI score for school refusal cases was 20.5 ± 6.77, and for depressive disorder cases was 27.0 ± 7.53, which shows significantly higher CDI scores for depressive disorder cases in comparison to cases of school refusal alone.

Incidentally, according to a study to Tsujii et al., the CDI is constructed of the three subordinate scales of 'feelings of interpersonal maladaptation', 'core depression', and 'self revlusion'.[13] They report that the 'feelings of interpersonal maladaptation' scale is comprised of items addressing solitude, inability to get along with others, and maladjustment in the school setting, among others, while the 'core depression' scale measures feelings such as sadness, insomnia, decreased appetite, fatigue, and guilt. Similarly, they define the 'self-revulsion' factor as encompassing items such as dissatisfaction with external appearance, and low self-esteem. Analysis of the present subjects according to these subordinate scales revealed the only significant difference between school refusal and depressive disorder cases to be along the 'core depression'

scale, wherein the score for school refusal cases was 5.5 ± 2.56 and that for depressive disorder cases was 9.3 ± 3.09. The difference between the two groups in terms of the 'feelings of interpersonal maladaptation' and 'self-revulsion' scales was not significant. Incidentally, in the CDI survey on normal students (mean age 14.2 years), the mean CDI score was 16.0 ± 9.68. Comparison of their scores with those of the school refusal and depressive disorder groups revealed significantly lower scores for the normal students in total CDI score, 'feelings of interpersonal maladaptation' scale, and the 'core depression' scale.

We then analyzed the relationship between age of onset, age at first visit, and CDI score, but no particular correlation was seen. In a survey on normal students in Japan, a tendency was seen for higher scores to be obtained in relation to age,[14] but no such tendency was noted in either of the present study groups.

Furthermore, no difference in CDI score was seen in relation to the presence, absence, or type of trigger precipitating onset.

We undertook an investigation from the symptomatological standpoint, taking up somatic complaints, which are frequently encountered as a symptom of school refusal (Table 2). While somatic complaints were noted in 27 of 34 (79.4%) of the school refusal cases, only three of 10 cases (30%) among the depressive disorder group exhibited such symptoms, demonstrating a significantly higher incidence of somatic complaints among the school refusal cases. In addition, when CDI scores were compared in terms of presence or absence of somatic complaints taking the school refusal and depressive disorder groups together (Table 3), mean CDI score was 20.4 ± 6.46 for cases with somatic complaints, and 25.5 ± 8.25 for those without, revealing significantly low CDI scores for cases with somatic complaints ($P<0.05$).

DISCUSSION

As stated previously, the association between school refusal and depression has been addressed in a number of studies. In particular, the relationship between school refusal and the depressive/anxiety disorders has been the topic of many investigations. Bernstein and Garfinkel report that in 26 cases of school phobia, 18 satisfied DSM-III criteria for affective disorder, among which 13 fulfilled criteria for major depressive episode, and five cases for adjustment disorder with depressed mood.[15] Furthermore, of the 26 cases, 16 satisfied criteria for anxiety disorder, of which seven were cases of separation anxiety disorder, while six satisfied criteria for both separation anxiety disorder and over-anxious disorder, and three were cases of over-anxious disorder only. In another study, Buitelaar et al. investigated the DSM-III diagnoses at first visit of 25 school refusers, and report diagnoses of anxiety disorder in eight (32%), depressive disorder in seven (28%), somatoform disorder in six (24%), and conduct/personality disorder in four (16%) cases.[16] In addition, Hoshino et al. conducted a similar study on DSM-III diagnoses in 50 cases of school refusal in Japan, and reported the principal diagnosis as being separation anxiety disorder in seven (14%), avoidance disorder in 13 (26%), over-anxious disorder in eight (16%), identity disorder in five (10%), and adjustment disorder in 11 (22%) cases, among others, while also commenting on difficulties in applying DSM-III diagnosis to school refusal.[17]

However, as depicted above, many of the studies regarding school refusal and DSM-III diagnoses do support a correlation between school refusal and the anxiety/depressive disorders.

Incidentally, the authors believe that school inattendance owing to depression

should be precluded in discussing the phenomenon of school refusal. However, the diagnosis of depression in adolescent is not always easy, and differentiating between depression and school refusal is difficult in many cases. Therefore, this study was designed to investigate the characteristics of cases diagnosed as school refusal, and those exhibiting school inattendance but diagnosed as major depressive disorder by DSM-IV, employing Kovacs' CDI in an attempt to understand the association between the two.

The mean CDI score for school refusal cases was 20.5 ± 6.77, which was an intermediate value falling between the scores for the major depressive disorder group and the control group. In a study also employing the CDI on children in the clinical setting in Japan, Murata et al. report CDI scores of 26.4 ± 7.02 for a depression group, and 16.5 ± 7.97 for a non-depression group, suggesting a cut-off score of 22 for differentiating between the two.[18] The mean CDI score for our school refusal group falls below this cut-off score, which shows that our school refusal group does not fall into the depression category according to their interpretation.

As stated previously, Tsujii et al. defines 'feelings of interpersonal maladaptation', 'core depression', and 'self-revulsion' as being the subordinate scales in the CDI from their results of factor analysis.[13] Among these, the 'core depression' scale is comprised of items such as depression, sadness, self-reproach, insomnia, and decreased appetite, which are principal symptoms of depression. No significant difference was seen between the school refusal group and major depressive disorder group in terms of either the 'feelings of interpersonal maladjustment' or 'self-revulsion' scales, while a significant difference was noted in the 'core depression' scale. This indicates a significant difference not only in terms of overall CDI score, but also a

qualitative difference between the school refusal and major depressive disorder groups, which may in turn be taken as grounds in support of differentiating between the two. There have been no previous studies establishing the difference between school refusal and depressive disorder in relation to the subordinate scales of the CDI, but we believe analysis from this perspective should be of value in clarifying the association between the two.

Incidentally, Bernstein et al. note that even through 'only since the late 1980s have somatic complaints become a topic of research and discussion in the child and adolescent psychiatric literature', that 'the Revised Children's Manifest Anxiety Scale and Beck Depression Inventory each significantly predicted somatic complaints', indicating intimate association between somatic complaints and anxiety/depression.[19] In addition, McCauley et al., studying depressed and non-depressed controls, conclude that their somatic complaints increase with the severity of depression.[20] However, in Japan, it has long been recognized that somatic complaints such as headaches or stomach pains frequently accompany school refusal. In contrast to international studies, the present study indicates that a greater proportion of cases in the school refusal only group exhibited somatic complaints in comparison to the school inattendance plus depression group. Moreover, the CDI scores were significantly lower for those exhibiting somatic complaints. In other words, the results of our current study indicate that the degree of depression is actually moderate in cases exhibiting somatic complaints.

From these findings, we believe that the typical case of school refusal is that exhibiting somatic complaints in the foreground rather than depression, and that such cases are actually being spared from experiencing depressive moods through

somatization of their emotional conflicts. We believe the differences in clinical characteristics which exist between school refusal and depression support the interpretation of the two being separate entities.

The present study is cross-sectional, which does not address aspects such as transition in CDI scores relative to therapeutic course. Okuyama et al.,[8] and Saito [9] have taken up depression as one of the factors associated with prognostic outcome of school refusal, and Saito indicates that cases exhibiting depression show low long-term social adaptability. In the future, we too believe school refusal cases and major depressive disorder cases accompanied by school inattendance need to be followed for long-term tracking transitions in CDI score and somatic complaints to further clarify the relationship between school refusal and depression.

In recent years, active study has also been undertaken regarding pharmacotherapy for school refusal.[4,21,22] The association between school refusal and depression is also important in terms of therapy for school refusal, because the therapeutic approach can be entirely different depending upon how one regards the pathogenesis of the phenomenon. Furthermore, investigation into whether we are referring to the same pathological condition in speaking of school refusal in Japan and school refusal in the USA or Europe is probably necessary, stemming from the impression of a possible conceptual disparity conveyed through literature on this topic from different countries. Clarification of such issues will contribute largely to our understanding of this issue, and we hope approaches from various standpoints will provide answers to this pressing issue in child psychiatry.

ACKNOWLEDGEMENTS

This study was supported in part by a grant from the Ministry of Welfare for Mental and Neural Disorder Research on 'Studies regarding the pathology and therapy of behavioral, emotional and psychological developmental disorders in childhood and adolescence'.

REFERENCES

1. Hori K. School refusal and depression. Jpn. J. Child Psychiatr. 1962; 3: 41 (in Japanese).
2. Agras S. The relationship of school phobia to childhood depression. Am. J. Psychiatry 1959; 116: 533-536.
3. Baker H, Wills U. School phobia: Classification and treatment. Br. J. Psychiatry 1978; 132: 492-499.
4. Berney T, Kolvin I, Bhate SR et al. School phobia: A therapeutic trial with clomipramine and short-term outcome. Br. J. Psychiatry 1981; 138: 110-118.
5. Kolvin I, Berney TP, Bhate S. Classification and diagnosis of depression in school phobia. Br. J. Psychiatry 1984; 145: 347-357.
6. Atkinson A. Depression in school phobia. Br. J. Psychiatry 1986; 148: 335-336
7. Atkinson A, Quarrington B, Cyr JJ, Atkinson FV. Differential classification in school refusal. Br. J. Psychiatry 1989; 155: 191-195.
8. Okumura M, Okada M, Kuribayashi M, Kaneko S. Factors responsible for prolongation of school refusal. Psychiatry Clin. Neurosci. 1999; 53: 461-470.

9. Saito K. A 10-year follow-up study of 106 school refusers who completed a junior high school attached to a hospital. Jpn. J. Child Adolesc. Psychiatr. 2000; 41: 377-399 (in Japanese).
10. Kovac M. Rating scales to assess depression in school aged children. Acta Paedopsychiatrica 1980/1981; 46: 305-315.
11. Berg I, Nichols K, Prichard C. School phobia, its classification and relationship to dependency. J. Child Psychol. Psychiatry 1969; 10: 123-141.
12. American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders, 4th edn. American Psychiatric Association, Washington DC, 1994
13. Tsujii M, Yuki J, Honjo S. A study on depression using CDI with patients at various psychological clinics. Med. Sci. Psychol. Dev. 1990; 1: 387-394 (in Japanese).
14. Tsujii M, Yuki J, Honjo S. A study on depression with normal population in childhood and adolescence. Bull. Fac. Educ. Nagoya Univ. (Educational Psychology) 1990; 37: 127-139 (in Japanese).
15. Bernstein GA, Garfinkel BD. School phobia: The overlap of affective and anxiety disorders. J. Am. Acad. Child Psychiatry 1986; 25: 235-241.
16. Buitelaar JK, van Andel H, Duyx JHM, van Strien DC. Depressive and anxiety disorders in adolescence: A follow-up study of adolescents with school refusal. Acta Paedopsychiatrica 1994; 56: 249-253.
17. Hoshino Y, Nikkuni S, Kaneko M, Endo M, Yashima Y, Kumashiro H. The application of DSM-III diagnostic criteria to school refusal. Jpn. J. Psychiatr. Neurol. 1987; 41: 1-7.
18. Murata T, Tutumi T, Sarada Y, Nakaniwa Y, Kobayashi R. A clinical study on

childhood and adolescent depression II: An investigation using the CDI. Study on the etiology and treatment of childhood and adolescent mental disorders commissioned by the Ministry of Welfare, 'Mental-neural disorders research program'. Study Reports 1988; 69-76 (in Japanese).

19. Bernstein GA, Massie ED, Thuras PD, Perwien AR, Borchardt CM, Crosby RD. Somatic symptoms in anxious-depressed school refusers. J. Am. Acad. Child. Adolesc. Psychiatry 1997; 36: 661-668.
20. McCauley E, Carlson GA, Calderon R. The role of somatic complaints in the diagnosis of depression in children and adolescents. J. Am. Acad. Child Adolesc. Psychiatry 1991; 30: 631-635.
21. Gittelman-Klein R, Klein DF. Controlled imipramine treatment of school refusal. Arch. Gen. Psychiat. 1971; 25: 204-207.
22. Berstein GA, Garfinkel BD, Borchardt CM. Comparative studies of pharmacotherapy for school refusal. J. Am. Acad. Child Adolesc. Psychiatry 1990; 29: 773-781.