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Psychosomatic symptoms among schoolchildren

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Abstract: Psychosomatic symptoms are commonly reported among young people. The potential burden of such symptoms on both young people and health services is substantial. Research from several countries indicates that psychosomatic symptoms tend to co-exist rather than occur singularly and could impose limitations on daily living and participation in school life. *Objectives*: The aim of this paper was to determine the weekly prevalence of somatic (headache, stomach-ache, dizziness, back ache) and psychological (feeling low, irritability/bad temper, difficulty sleeping, and nervousness) symptoms among schoolchildren in Ireland; and to explore, the influence of family material affluence on reported symptoms. *Study group*: 11-17 year-old school going children. *Methods*: Data are presented from the 2006 Irish Health Behaviour in the School-aged Children survey, comprising a nationally representative sample of schoolchildren aged 11-17 years (n = 9969). Sampling units were classes within schools with a response rate of 63% of schools and 83% of students. *Results*: Irritability/bad temper (43.0%) and headache (26.0%) were the most commonly reported psychological and somatic symptoms among both boys and girls. Symptom prevalence was higher among girls (range 17.8% - 43.8%) than boys (range 10.7% - 42.3%) and was higher among older children of both genders, except for stomachache in boys. Girls from less affluent backgrounds were significantly more likely to report frequent symptoms (55.5% vs. 50.7%). *Conclusions*: Multiple symptoms were inversely related to family material affluence for girls. The factors associated with psychosomatic symptoms and the consequences for schoolchildren require further investigation.

Keywords: HBSC, psychosomatics symptoms, family affluence scale

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INTRODUCTION

Somatic symptoms such as headache, stomachache, and fatigue, and psychological symptoms, such as irritability, nervousness, and difficulty in sleeping are seldom related to a defined diagnosis or disease (1). When presented to a clinician, such cases can prove problematic to manage and resolve (2-3). Although advances have been made for chronic pain treatment among adolescents much work remains (3). Such symptoms may reflect the educational and social demands placed on young people, as well as physiological changes taking place (2,4). The potential burden on individuals and the limitations imposed on daily living and participation in school life are substantial.

Prior research indicates that young people commonly report psychosomatic symptoms (1,5-7). Self-reports tend to increase with age and are more prevalent among girls than boys (5,6,8,9). Gender

differences in psychosomatic symptoms also appear to increase with age (10-11). Research from several countries indicates that these symptoms tend to co-exist rather than occur singularly (5-6,12).

The aim of this paper is to present the prevalence of individual somatic and psychological symptoms among school-children in Ireland by age and gender; data on which have not yet been published. In addition, the influence of family material affluence on symptoms is reported.

METHODS

The data for this paper are drawn from the 2006 Irish Health Behaviour in School-aged Children (HBSC) survey, a large World Health Organization (WHO) collaborative study (www.hbsc.org). A nationally representative sample of children aged from 5th class in primary school to the pre-leaving certificate in post-primary schools was recruited through schools, and questionnaires were completed anonymously in class. Data were collected over the period April-June 2006 and September-October 2006. The school and student response rates were 63% (n = 215) and 83% (n = 10,334), respectively. Full details of the methods employed can be found elsewhere (13). HBSC Ireland 2006 was funded by the Department of Health and Children, and ethical approval was granted by the Research Ethics Committee of the National University of Ireland Galway.

We measured psychosomatic symptoms using the HBSC symptom checklist (11), which includes eight common symptoms: headache, stomachache, back ache, feeling low, irritability, or bad tempered, feeling nervous, difficulty in getting to sleep, and feeling dizzy. These symptoms can be thought of as constituting two dimensions that differ qualitatively; namely, somatic and psychological symptoms (6). Children were asked how often in the last six months they had felt any of the symptoms with the following response categories: 'about every day', 'more than once a week', 'about every week', 'about every month', and 'rarely or never'. Items within the scale have shown adequate content validity and test-retest reliability (14).

The HBSC family affluence scale (FAS) is based on a set of questions concerning the material conditions of the households in which young people live and includes questions on car ownership, bedroom occupancy, holidays, and home computers (15). The internal reliability and external validity of the items amongst Irish children have been reported previously (16). A sum score of the scale was calculated and recoded to give values of low (FAS 1), middle (FAS 2) and high family affluence (FAS 3).

Data are presented for those aged 11-17 years (n = 9,969). Using SPSS 15.0, the proportions reporting each symptom at a frequency of 'about weekly or more' were calculated by gender. Chi square tests were used to explore the relationship between family affluence and symptoms by gender.

RESULTS

Figures 1-4 illustrate the prevalence of weekly somatic and psychological symptoms by age and gender. Overall, the prevalence of symptoms was higher among girls than boys and increased significantly with age in both genders, except for stomachache in boys. Reports of all symptoms, except headaches in girls, appeared to have stabilized by age 17 years.

Of the somatic symptoms, headache was the most common among both boys and girls, with a steep increase in reports of headaches among girls with age. The proportion of girls reporting weekly headaches and stomachaches at age 17 years (44.4% and 23.8%, respectively) was

approximately twice that of boys of the same age (23.1% and 10.2%, respectively).

Among the psychological symptoms, bad temper or irritability was the most commonly reported symptom, with overall prevalence figures similar among boys and girls. Rates of feeling nervous, sleeping difficulties and feeling low were similar among girls and boys at age 11 years. However, the increase in prevalence rates with age of all three symptoms is greatest among girls.

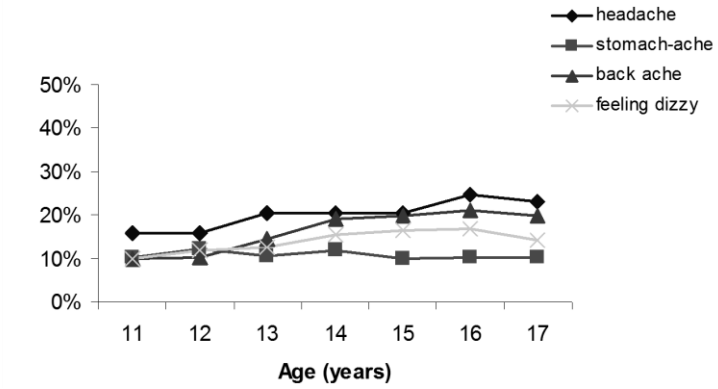

Fig. 1: Proportion of boys reporting weekly somatic symptoms

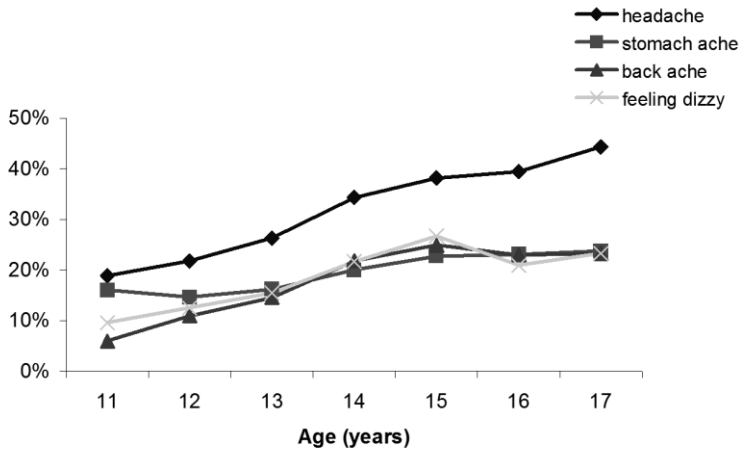

Fig. 2: Proportion of girls reporting weekly somatic symptoms

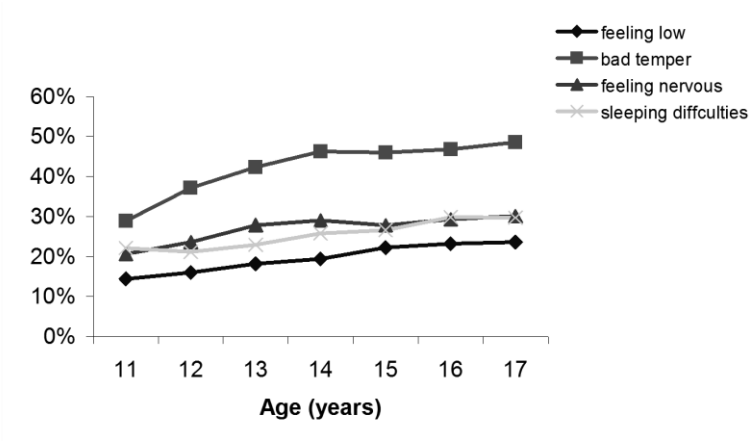

Fig. 3: Proportion of boys reporting weekly psychological symptoms

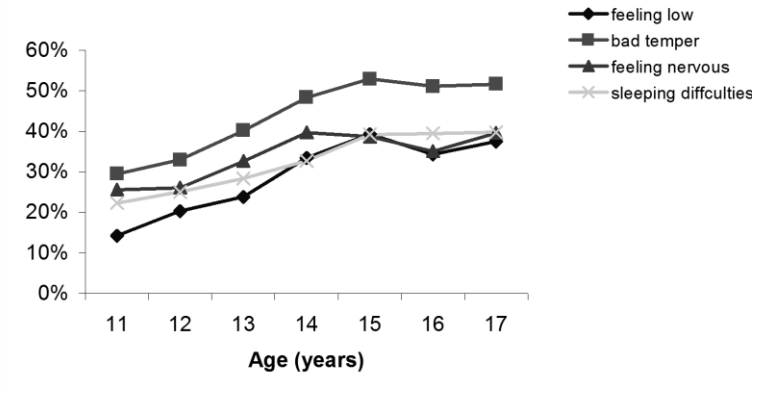

Fig. 4: Proportion of girls reporting weekly psychological symptoms

Overall, 47.5% of students reported multiple (two or more) symptoms about every week or more. From age 13 years and upward, significant differences were found between the proportion of boys and girls reporting multiple symptoms (all $p < .01$). Family affluence was found to have a statistically significant association with reporting weekly multiple symptoms among girls only ($p < .05$), with more girls from FAS 1 (55.5%) reporting such symptoms than girls in the remaining FAS categories (FAS 2 and 3: 50.7% each). Although a similar trend was observed for boys (FAS 1: 45.0%; FAS 2: 42.9%; FAS 3: 41.9%), this difference was not statistically significant.

DISCUSSION

The findings from this study indicate that a substantial proportion of schoolchildren in

Ireland report weekly psychosomatic symptoms, even at age 11 years. Girls are more likely to report symptoms than boys, and this gender difference increases with age, similar to the pattern reported elsewhere (8,11,17). Irritability or bad temper is the most common recurrent symptom, irrespective of gender, again consistent with previous work (10).

The increase in symptom prevalence with age, in all but one symptom in boys, may be explained in part by adolescence itself, a period in life during which pressure from school, society, and peer acceptance dominates and differs considerably from the safety afforded by one's family during childhood. Indeed, stress has been shown to influence the development of psychosomatic symptoms (4,12) and the sources of stress may have an impact on girls' and boys' health differently, for example school performance has an impact on girls' health more than on boys' (18).

The observed gender differences can also be explained by behavioral role differences, in which females are hypothesized to be more sensitive to symptoms and are more willing to discuss experienced symptoms than males (6,8). Such gender differences in symptom reports have been previously documented across 29 countries, although the magnitude of such differences varied (10). Culture and related differences in the reporting of symptoms may in part explain the country-level patterns in gender differences. Developmental processes, such as pubertal timing and status, may also contribute to the age and gender differences observed (19). Further investigation of the factors that moderate gender differences in reported symptoms, under what conditions gender differences are strong or weak, and the influence of pubertal development on symptom reporting among schoolchildren in Ireland should be pursued. Such information could help clinicians deal more effectively with adolescent patients under their care.

Multiple symptoms, defined as two or more, were reported by almost half the sample in this study. Although of concern, cross-national data for 11, 13, and 15 year olds illustrates that Ireland ranks relatively low in comparison with other European and North American countries, although the age categories and cut-offs differed between studies (11). A high frequency of multiple symptoms in young people may indicate somatization tendencies (20) and vigilance about potential risk for somatization is important in clinical practice. Although patterns of multiple symptoms were not investigated here, such work could prove useful in examining their relationships with psychosocial factors and identifying those at risk. Prior work has shown that girls, those from families reliant on social welfare, with low self-esteem, poor parental affection and friendship quality were in higher symptom clusters (20). In the current study, a high prevalence of multiple symptoms was significantly associated with lower family affluence among girls only. In agreement, cross-national studies illustrate that family affluence was not consistently found to influence symptom reporting among boys (11).

Although not explored in this study, we anticipate that both well-being and participation in daily activities would be adversely affected by the extent of symptom reporting among schoolchildren in Ireland. Indeed associations between experiencing such symptoms and negative school experiences (21) and lower academic performance (22) have been reported. The associated increased demand for primary care services (23) and higher medicine use (24) among those reporting psychosomatic

symptoms warrants further work into both the protective and the risk factors for schoolchildren in Ireland.

The main limitation in this study was that those absent during data collection may suffer from more frequent or multiple psychosomatic symptoms. Also data were collected only on the frequency and not on the severity of symptoms. This work is, however, the largest and most robust study of reported symptoms among school-children in Ireland; a study that is nationally representative and includes a broad age range. This study also reported symptom prevalence for children up to 17 years; to date internationally comparable data have been limited to children aged up to 15 years. Further work is required to explore whether the observed plateau in symptom reports by age 17 years continues into early adulthood.

CONCLUSION

In conclusion, this study highlights the need for a better understanding of the nature, extent, and possible causes of frequent psychosomatic symptoms among school-children in Ireland. Social, environmental, and behavioral factors need further consideration. Exploring time trends in psychosomatic symptoms by gender is also worth pursing in light of the recent economic, societal, and educational changes in Ireland. Such data would assist clinicians and those who care for children in providing the most relevant pharmaco-logical and behavioral support required.

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