Original Article

Depressive Disorders and Depressive Symptoms in 7-9 Years old School Children
A census-type study in a small community of Recife, Brazil

Transtornos e Sintomas Depressivos em Escolares de 7-9 Anos
Um estudo censitário em uma pequena comunidade do Recife, Brasil

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ABSTRACT

OBJECT: To apply a census-type study to investigate depressive disorders and depressive symptoms among 7-9 years old school children old living in a small community of Recife, Brazil. *Method:* We studied 94% of the school children of the community. The CDRS-R was used to investigate depressive symptoms and the DSM-IV-TR to diagnose depressive disorders. *Results:* The prevalence of depressive disorders was 8.2%. Irritability and physical complains were very frequent both among depressive and non-depressive children. Excessive weeping, low self-esteem, sleep problems, changes in appetite, social withdrawal, depressive feelings, excessive fatigue, depressed facial affect and suicidal ideation were more specific to the depressed children. *Conclusions:* Depressive disorders were quite frequent among our children. Some symptoms were very frequent but non-specific. Other symptoms were more specific to the depressive children. These symptoms might be useful as they raise the possibility of depressive disorders in the child. Physicians who work in primary care should be attentive.

KEY WORDS: Depressive symptoms, depressive disorders, school children.

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RESUMO

OBJETIVO: Aplicar um estudo sensitário para investigar transtornos e sintomas depressivos nos escolares de 7-9 anos de uma pequena comunidade do Recife. *Método:* Estudamos 94% dos escolares desta comunidade. O CDRS-R foi utilizado para investigar sintomas depressivos e o DSM-IV para diagnóstico de transtornos depressivos. *Resultados:* A prevalência de transtornos depressivos foi de 8.2%. Irritabilidade e queixas físicas foram sintomas muito freqüentes tanto nas crianças deprimidas como nas crianças não depressivas. Choro fácil, baixa auto-estima, dificuldades de sono, alterações do apetite, retraimento social, sentimentos depressivos, fadiga excessiva, aspecto deprimido e ideação ou atos suicidas foram sintomas mais específicos das crianças deprimidas. *Conclusão:* Os transtornos depressivos foram relativamente freqüentes nas nossas crianças. Alguns sintomas foram muito freqüentes porém pouco específicos. Outros sintomas foram mais específicos das crianças deprimidas. Estes sintomas podem ser úteis porque eles sinalizam a presença de um distúrbio depressivo na criança. Médicos que atuam na atenção primária devem ficar atentos.

PALAVRAS-CHAVE: Sintomas depressivos, sintomas depressivos, escolares.

INTRODUCTION

Depression is among the most common disease seen by today's physicians. The risk of developing depression has steadily increased from generation to generation since the 1940's and depression has been diagnosed at earlier and earlier ages[1]. Depressive disorders are now fairly common among school children. Its prevalence is estimated from 0.4 to 2.5%[1,2,3,4,5]. Early onset depression interferes with school, family and social relations and can lead to suicide[6].

Since it is common, recurrent, debilitating and involves risk of suicide, childhood depression is nowadays an important public health issue[7]. Pediatricians and family doctors often have to deal with depressed children. Physicians working in primary health care need to be able to diagnose and treat the simple cases of depressive disorders and to identify and refer to specialized centers the most complex cases[2,6].

The phenomenology and symptomatology of childhood depression has some specificities[6,8]. Children at school age are usually good at making use of verbal communication, so they are more able to externalize feelings of sadness than preschool age children, for whom diagnoses depends heavily on attention to his/her non-verbal communication: body language, voice intonation and activity level. Depressed children may look sad, cry easily, present low self esteem, apathy, anxiety (including separation anxiety and phobias), irritability (many times acted out in the form of anger outbursts), concentration deficits and somatic complaints such as headaches. Suicide attempts may occur, although less frequently than among adolescents[1,3,9]. Information obtained from parents and from school personal may be very useful to diagnose depression in a child. A decline in school performance may indicate an episode of childhood depression[9].

The object of this paper was to apply a census-type study to investigate depressive disorders and depressive symptoms among all 7 to 9 years old school children living in a small community in the city of Recife, Brazil.

METHODS

This research was carried out of Caranguejo-Tabaiares, a small community of low socioeconomic status in the neighborhood of Ilha do Retiro, Recife, Brazil. The study was cross-sectional, of census-type. It involved 73 of the 78 (94%)

school children (age 7–9) from the 200 families assisted by the family health residence program of the Instituto Materno Infantil de Pernambuco (IMIP). The research was approved by the IMIP Research Ethics Committee. All participants received information about the study and parents signed a free and clarified consent form. Data collection was done from September 15 to October 30, 2003. Two specially trained interviewers applied the questioners.

Two instruments were used to evaluate the depressive symptoms: the Children´s Depression Rating Scale-Revised (CDRS-R)[10,11] and the Children Depression Inventory (CDI)[12,13]. The CDRS-R was applied both to the children and their parents, whereas the CDI was applied only to the children. On those children whose scores were over the cutoff point of at least on of the instruments (40 for the CDRS-R and 18 for the CDI) the criteria of the Diagnostic and Statistic Manual of Mental Disorder (DSM-IV-TR)[14] for the diagnosis of Major Depressive Episode (MDE) or Distimic Disorder (DD) was applied.

Only data from the CDRS-R were used in the analysis of depressive symptoms. A depressive symptom was considered present when an item of the CDRS scored equal or greater then 4 (moderate to more severe depressive symptomatology)[15]. The percentages of presence of each depressive symptom of the CDRS-R were calculated and tabulated.

Since CDRS-R scores are ordinal variables the evaluation of statistical significance of the difference between scores was done using non-parametric statistics (Mann-Whitney "U" tests, with Bonferroni correction for degrees of freedom, to minimize type I error). In order to preserve test potency only symptoms with frequency over 5% in the general population were compared. All tests were 2-tailed and statistical significance threshold level was established at 5% ($p \leq 0.05$).

RESULTS

Six children reached cutoff point in the CDRS-R (score $\geq$ 40) and among them only two also reached cutoff point in the CDI (score $\geq$18). Therefore, not every child who reached cutoff point in the CDRS-S also did in the CDI. On the other hand, all children who reached cutoff point in the CDI also reached in the CDRS-R.

Using the DSM-IV criteria, two cases of MDE, three cases of DD, and one case of double-depression (MDE associated to DD) were diagnosed.

Table 1 shows the distribution of children diagnosed with depression, according to their age, sex and scores on the CDRS-R and the CDI.

Table 1: Subject initials, age (years), sex and scores on CDRS-R and CDI of children diagnosed with Major Depressive Episode (MDE) and/or Dystymic Disorder (DD).

Subject	Age	Sex	CDRS-R	CDI	DSM-IV
AMSS	9	Female	56 *	18 *	MDE
JFS	9	Female	61 *	16	MDE+DD
TGA	8	Male	42 *	5 *	DD
JGS	8	Male	47 *	14	DD
CSS	7	Female	42 *	10	DD
CJRLF	7	Male	48 *	12	MDE

* Score reached threshold (40 for the CDRS-R and 18 for the CDI)

Table 2: Shows the prevalence of MDE, DD and depressive disorders in general on the general population of children.

Table 2: Prevalence of Depressive Disorders among all school children

	Prevalence
Major Depressive Episode	2.7%
Dystymic Disorder	5.5%
Total Depressive Disorders	8.2%

Table 3: Shows the percentage of each depressive symptom on the general population of children.

Table 3: Prevalence of Depressive Symptoms among all 73 children. A Depressive Symptom is defined as a CDRS-R symptom with a score equal or larger than 4 (moderate or more severe symptomatology).

Depressive Symptoms (CDRS-R)	Prevalence
Irritability	60%
Physical Complaints	40%
Impaired schoolwork	22%
Morbid ideation	19%
Excessive weeping	14%
Low self-esteem	14%
Sleep disturbance	7%
Appetite disturbance	6%
Social withdrawal	6%
Depressive mood	4%
Excessive fatigue	1%
Depressed facial affect	1%
Difficulty having fun	1%
Suicidal ideation	1%

The most frequent depressive symptoms were irritability (60%) and physical complaints (40%), followed by impaired schoolwork (22%), morbid ideation (19%), excessive weeping (14%), low self-esteem (14%), sleep disturbance (7%), appetite disturbance (6%) and social withdrawal (6%). Depressed feelings, fatigue, depressed facial affect, difficulty having fun and suicidal ideation were present in less than 5% of the children. Excessive guilt, listless speech and hypoactivity were not present in any children, so they are not shown at table III.

Table 4 shows the percentage of depressive symptoms in boys and girls. Most symptoms were equally frequent among the groups. Physical complaints (27% versus 53%) and appetite disturbance (3% versus 8%) were both more frequent in girls. After Bonferroni correction, the differences did not reach significance.

Table 4: Prevalence of Depressive Symptoms among male and female children

Depressive Symptoms (CDRS-R)	Male N=36	Female N=37	U test p
Irritability	68%	53%	0.359
Physical Complaints	27%	53%	0.015[1]
Impaired schoolwork	24%	19%	0.770
Morbid ideation	16%	22%	0.317
Excessive weeping	14%	14%	0.215
Low self-esteem	14%	14%	0.530
Sleep disturbance	5%	8%	0.114
Appetite disturbance	3%	8%	0.022[1]
Social withdrawal	8%	3%	0.276
Depressive mood	3%	6%	
Excessive fatigue	3%	0%	
Depressed facial affect	0%	3%	
Difficulty having fun	0%	3%	
Suicidal ideation	0%	1%	

[1] $p<0.05$ and >0.006 (p critical after Bonferroni correction for 9 comparisons)

Table 5 shows the percentage of depressive symptoms in depressive and non-depressive children. Irritability (6/6), excessive weeping (5/6), physical complaints, morbid ideation, low self-esteem, appetite disturbance and sleep disturbance (all 4/6) were present in the majority of the depressive children. Next in frequency came social withdrawal and depressed feelings (3/6), impaired schoolwork (2/6) and fatigue, suicidal ideation and depressed facial affect (1/6). Excessive guilt, difficulty having fun, listless speech and hipoactivity were not seen on our depressive children.

Table 5: Prevalence of Depressive Symptoms among depressive and non-depressive children.

	Depressive		Non-Depressive	U test
Depressive Symptoms (CDRS-R)	N=6		N=67	p
Irritability	6/6	100%	57%	0.002[1]
Physical Complaints	4/6	67%	37%	0.023[2]
Impaired schoolwork	2/6	34%	21%	0.478
Morbid ideation	4/6	67%	15%	0.005[1]
Excessive weeping	5/6	83%	8%	<0.001[1]
Low self-esteem	4/6	67%	9%	0.030[2]
Sleep disturbance	4/6	67%	2%	0.003[1]
Appetite disturbance	4/6	67%	0%	0.031[2]
Social withdrawal	3/6	50%	2%	0.002[1]
Depressive mood	3/6	50%	0%	
Excessive fatigue	1/6	17%	0%	
Depressed facial affect	1/6	17%	0%	
Difficulty having fun	0/0	0%	2%	
Suicidal ideation	1/6	17%	0%	

[1] $p<0.006$ [2] $p<0.05$ and >0.006

Appetite disturbance, depressed feelings, fatigue, suicidal ideation and depressed facial affect were present only in the depressive children. All symptoms were more frequent in the depressive children, except impaired schoolwork (this symptom had similar frequency in both groups). After Bonferroni correction, physical complaints and low self-esteem did not reach significance.

DISCUSSION

This was a census-type study, where we studied 94% of the children living in a small community. The study involved 200 families, a quite restricted population. Census-type studies of depression in this age group are scarce. The majority of studies involve referred population. Comparisons between our data and those from literature are, therefore, limited.

Irritability was the most frequently symptom found among our children in general (60%). Morbid ideation, the fourth most frequent symptom, was present almost 20% of the children. The high frequency of these two symptoms might be related to family instability, poor living conditions and high violence rates within the community.

Most symptoms were equally present in boys and girls. Only physical complaints and appetite disturbance showed significant differences ($p<0.05$), both more frequent in girls. However, after Bonferroni correction, the differences did not reach significance. The most frequently reported physical complaints were abdominal pain and headache.

All of the depressed children in our study presented irritability. Irritability is among the most frequently reported symptoms among depressive children. Masi *et al*[16], studying 36 referred children with dysthymia, found irritability in 86% of them. Although frequent, this symptom was not very specific to our depressive children since it was also present in 60% of our non depressed children. In the other hand, excessive weeping, the second most common symptom, was much more specific: it was present in 83% of the depressive and in only 8% of the non-depressive children.

Physical complaints were also frequent (67%) in the depressed children, however they were also fairly frequent in the non-depressed children (about 40%). The most frequently reported physical complains was headache, abdominal pain, precordialgia and joint pain. Physical complains are quite frequent in depressed children and decreases with age[1,17,18]

Almost 70% of our depressed children had sleep problems while Masi *et al*.[16] found it in 44% in their dysthymic children. We found low self-esteem in 70% of our depressed children while Masi *et al*[16] found it in 83% of their dysthymic children. These two symptoms may be important because of their specificity, as they were very rare in non-depressed children.

Although impaired schoolwork is regarded by some authors as one of the main symptom in depressed children, a little more than 30% of our depressive children presented this symptom. Impaired schoolwork was also quite frequent among our non-depressive children (about 20%) and there was no statically significant difference between depressive and non-depressive children. It's worth mentioning that the vast majority of these children studies in public schools.

Suicidal ideation was found in one of our depressed child. In a study with CDI involving 519 students 7 to 13 years old living in the countryside of Minas Gerais, Brazil, suicidal thoughts were found in 1.5% of the sample[19]. This symptom raise in frequency with age[1,17,18] been more frequent among adolescents and adults.

Excessive guilt, listless speech and hypoactivity were not seen in the children in general. Difficulty having fun were not present on our depressive children. Curiously, was present in one of the non-depressive children. Masi *et al*[16] found excessive guilt in 67% and difficulty having fun in 33% of the dysthymic children they studied. The relative infrequency of these symptoms in our children is possibly due to personal and cultural characteristics of our population.

Depressive feelings, excessive fatigue, suicidal ideation and depressed facial affect were present only in depressed children. Although infrequent, these symptoms may be very important because of their high specificity, since they signalize the presence of a depressive disorder in the child.

Depressive symptoms in childhood may predispose psychiatric symptoms, especially aggression, poor adaptive functioning and low self esteem in young adulthood[20]. Depressive symptoms in childhood should be addressed to prevent later psychiatric problems.

In conclusion, depressive disorders and symptoms were relatively frequent among our school children. Although our sample was very local and restrict, it is not unreasonable to suppose that many children with depressive disorders and symptoms go overlooked and remain undiagnosed and untreated in similar neighborhoods. Some symptoms were very frequent but non-specific: irritability and physical complaints were the most common symptoms in the depressive children, but they were also quite frequent among the non-depressed children. Other symptoms were more specific to the depressive children: excessive weeping, low self-esteem, sleep problems, changes in appetite, social withdrawal, depressive feelings, excessive fatigue, depressed facial affect and suicidal ideation were much more frequent among the depressed children. These symptoms might be useful because they raise the possibility of depressive disorders in the child. Physicians who work in primary care should be attentive.

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