



Full Length Research Article

PREVALENCE OF SOMATIC SYMPTOMS IN PORTUGUESE CHILDREN AND ITS ASSOCIATION WITH SYMPTOMS OF DEPRESSION AND ANXIETY

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Abbreviations:

HADS - Hospital Anxiety and Depression
Scale

CSI-24 - Children's Somatization Inventory

DSM-V - Diagnostic and Statistical Manual
of Mental Disorders V

ABSTRACT

Introduction: Somatization is a generic term to define a group of experiential, cognitive and behavioral characteristics of patients suffering from physical symptoms. In this scope, some previous studies have reported a relation between somatic symptoms and disorders related to anxiety and depression.

Objective: The knowledge about this issue in Portuguese children is still limited, so we propose ourselves to study the prevalence of somatic symptoms in two groups of children from 9 to 11 years old, one in a scholar environment and another in a pediatric department. We also intend to study the association of this problem with psychological symptoms such as anxiety and depression.

Method: We analyzed the HADS and CSI-24 children responses (n=60; 9 to 11 years). Children were recruited from two distinct study areas, including a regular school (n=30) and a Pediatrics Outpatient clinic (n=30).

Hypothesis of study: In the pediatric outpatient clinic: children show a higher prevalence of psychosomatic symptoms than children attending a regular school. On the other hand, there is a higher prevalence of somatic symptoms in children with symptoms of anxiety and/or depression.

Conclusion: We may conclude that somatic symptoms are more frequent at the Hospital group. Also, they are positively associated with symptoms of depression.

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INTRODUCTION

According to DSM-5, somatization implies the existence of a physical symptom in association with thoughts, behaviors and feelings related to them. Pain, fatigue, dizziness, dyspnea and gastrointestinal disorders are the most common symptoms (Domènech-Llaberia *et al.*, 2004). Furthermore, this pathology may cause an excessive demand for medical care. Various studies reported that somatization is often associated with symptoms of anxiety and depression (Domènech-Llaberia *et al.*, 2004; Bujoreanu *et al.*, 2014). These disorders are difficult to diagnose leading these patients to use excessive health care, which may cause medical, social and economic problems (Bujoreanu *et al.*, 2014; Postilnik *et al.*, 2006). Early identification of patients with possible chronic somatization is essential to prevent their development and thus avoid all these implications (Domènech-Llaberia *et al.*, 2004).

There is a huge prevalence of somatic symptoms in childhood but our knowledge of this issue is still limited in Portuguese children, so we propose to study the prevalence of somatic symptoms in two groups of children from 9 to 11 years old (Garralda, 2011). In our study, we applied questionnaires to a group of 30 children in a regular school and also to a group of 30 children recruited from a Pediatrics outpatient clinic of a public hospital, and compared the results.

MATERIALS AND METHODS

A case-control study was conducted in two distinct groups of children. We evaluated some variables and inferential relations established between them. Both this study and all its procedures were conducted in accordance with the Declaration of Helsinki. Written informed consent from parents/guardians of the involved children was obtained and all the procedures of the study were fully explained.

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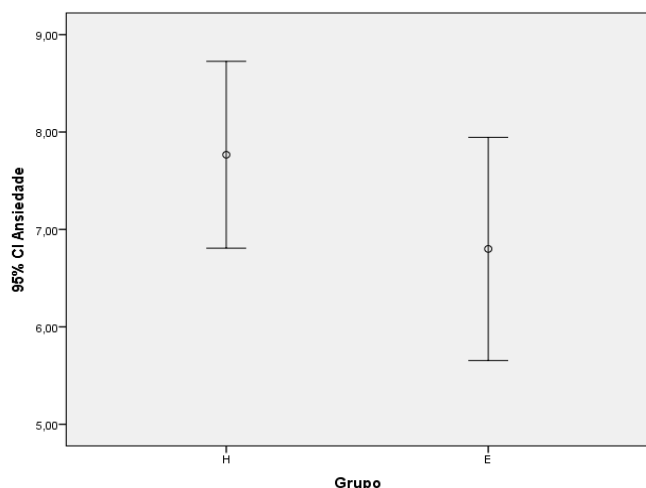


Figure Legend 1. Box plots representing the distribution of anxiety in the control group and the Pediatric Consultation

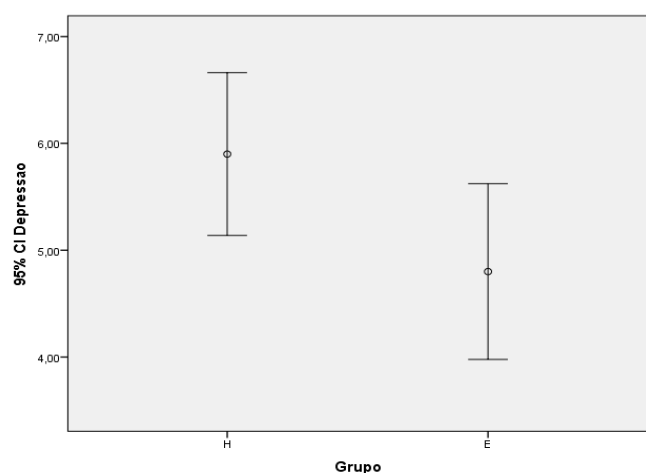


Figure Legend 2. Box plots representing the distribution of depression in control groups and Pediatric Consultation

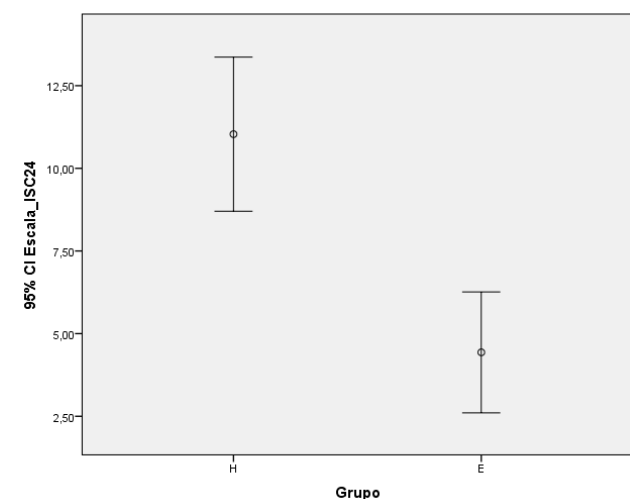


Figure Legend 3. Box plots representing the score of the ISC-24 in the control group and the Pediatric Consultation

Questionnaires were administered to a sample of 30 children enrolled at the Escola Internacional da Covilhã (EIC) and 30 children in Pediatrics of Cova da Beira Hospital (CHCB),

without previously diagnosed organic pathologies. The collection of demographic data was achieved through a questionnaire consisting of closed questions concerning the parameters: name, age, education, profession and pathologies already diagnosed from both parents; name, age, grade, number of medical visits per year and child diagnosed pathologies. For the assessment of depression and anxiety rates we used the "Hospital Anxiety and Depression Scale" (HADS), in its translated and validated for the Portuguese population version.

For the evaluation of somatic symptoms, the "Inventory Somatization Children" (CSI-24) was used, in its translated and validated for the Portuguese population version. Furthermore, it also includes a self-evaluation of the current stress and possible reasons to justify its occurrence. The statistical analysis was performed using statistical software packages (SPSS version 21.0 - SPSS Inc., Chicago, IL). To compare sampling parameters in independent groups (Pediatric department group vs. School Group), we used the *Student T-test* or the *Mann-Whitney U test*. The *Qui-square test* was used to identify differences between the distribution of the samples. To analyze the association between scales we used *Spearman's correlation coefficient (r)*. Results with $p < 0.05$ were considered statistically significant.

RESULTS AND DISCUSSION

Through the analysis of the data presented, it may be concluded that the results of CSI-24 are higher in the group of Pediatrics department ($p = 0.000$), as well as the levels of depression, though not as significantly ($p = 0.049$). Regarding the anxiety levels, higher values are shown at the group of the Pediatric Department; the *Mann-Whitney U test* has not established the existence of statistically significant differences, since there are p values > 0.05 ($p = 0.191$).

Table 1. [Values of HADS and CSI-24 results]

	n	Median	Standard Deviation	p-value
HADS - Anxiety				p=0,191
School group				
Pediatric	30	6,80	3,06	
Departments	30	7,77	2,56	
HADS - Depression				p=0,049
School group				
Pediatric	30	4,80	2,20	
Departments	30	5,90	2,04	
CSI-24				p=0,000
School group				
Pediatric	30	4,43	4,90	
Departments				
Departments		11,03	6,24	

Abbreviations: HADS - "Hospital Anxiety and Depression Scale CSI-24 - Children's Somatization Inventory

There are evidences that children with somatic symptoms have high levels of emotional, behavioral and psychopathological disorders (Sandeep and Natasha, 2013). Distress or serious physical illness of the parents is also related to this type of symptoms. (Domènech-Llaberia et al., 2004; Bujoreanu et al., 2014; Silber, 2013) Concomitant diseases are present in about a third (1/3) to a half (1/2) of the children with this pathology and include, among others, emotional disorders (anxiety and depression), which this study successfully allows to verify. (2) Studies revealed that the number of somatic complaints is associated with missing school and greater recurrence to medical appointments, which, according to the data, is more

positively associated with somatic symptoms that include headache (2,4, Mahrer *et al.*, 2012; Sirri and Fava, 2013). Children with chronic pain are more vulnerable to chronic pain in adulthood, sleep disturbances, reduced ability to participate in childhood activities and poor quality of life. (Sirri and Fava, 2013). In the DSM-V, disorders of somatic symptoms neglect important traits related to psychological factors and behaviors associated with the disease (Gulewitsch *et al.*, 2015; Lipowski, 1988). When the diagnosis is not made promptly, and therefore, there is no proper treatment, the probability of developing somatization in adulthood becomes greater (Bujoreanu *et al.*, 2014; Silber, 2011). In addition, children who suffer from psychosomatic symptoms tend to be more exposed to negative life events (Walker *et al.*, 2009). Bearing this in mind, it is easier to understand the importance of early diagnosis of this condition during childhood. (Bujoreanu *et al.*, 2014; Lipowski, 1988; Ferreira and Fontes, 2011; Mahrer *et al.*, 2012)

Conclusion

In this study we verified that children in the pediatric outpatient clinic have a higher prevalence of psychosomatic symptoms than children in regular school, confirming the first hypothesis earlier exposed. There is a higher prevalence of somatic symptoms in children with symptoms of anxiety and/or depression, which was partially proven, since the anxiety levels are not statistically different between groups. In the existing literature, it is possible to find a relationship between the female gender and the persistence of somatic symptoms, fact that we were able to ascertain with the present study (Andresen *et al.*, 2011). Furthermore, an association was found between the diseases of the parents and children somatization level in review literature, relationship that was not statistically proven by this investigation (Domènech-Llaberia *et al.*, 2004).

Since medically unexplained symptoms are considered a medical and public health problem as it leads to social dysfunction, occupational difficulties and increased use of health care, we think it is important to objectify the diagnosis of this type of symptoms (Mahrer *et al.*, 2012; Walker *et al.*, 2009). Thus, diagnosis will become easier and earlier, preventing all the dire consequences. Another finding of this study reveal show important it is that the pediatrician or the family doctor search for discreet underlying psychopathology, particularly respecting to depressive symptoms. The diagnosis should always be based on the children's information.

Conflict of Interest

This study is not funded, nor does its authors present conflicts of interest

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