

# A Controlled Study of Alexithymia in Adolescent Patients With Persistent Somatoform Pain Disorder

Benjaminas Burba, MD, PhD<sup>1</sup>, Ronald Oswald, MD, FRCPC<sup>2</sup>, Viktorija Grigaliunien, PhD<sup>3</sup>, Simona Neverauskiene, MD<sup>4</sup>, Odeta Jankuviene, MD<sup>4</sup>, Pierre Chue, MBBCh, FRCPC<sup>5</sup>

**Objective:** To study the differences in levels of alexithymia, depression, and anxiety between a sample of adolescents diagnosed with ICD-10 persistent somatoform pain disorder (defined by the DSM-IV as a pain disorder associated with psychological factors) and healthy adolescent control subjects.

**Method:** Using the Toronto Alexithymia Scale and the Hospital Anxiety and Depression Scale, we investigated the point prevalence of alexithymia, anxiety, and depression among adolescents aged 12 to 17 years, with somatoform disorder, who were hospitalized in Kaunas Medical University Hospital, Lithuania ( $n = 120$ ), and a healthy control group ( $n = 60$ ) of adolescents aged 12 to 17 years, who were randomly selected from 6 schools in Kaunas, Lithuania.

**Results:** The rate of alexithymia in adolescents with somatoform disorder was 59%, which was significantly higher than that in healthy control subjects (1%,  $P < 0.001$ ). Similarly, the rate of anxiety was significantly higher in the patient group (62%), compared with control subjects (15%,  $P < 0.001$ ). The rate of depression was low in both groups and did not differ significantly between groups.

**Conclusions:** Adolescents with somatoform disorder have higher levels of alexithymia and anxiety than healthy adolescent control subjects, but adolescents with somatoform disorder and adolescent control subjects do not have significantly different levels of depression.

### Clinical Implication

- The high prevalence of alexithymia in adolescents with somatoform disorder should be considered when such patients are assessed.

### Limitation

- Owing to its cross-sectional design, this study cannot determine whether alexithymia is a predisposing factor for the development or persistence of somatization.

**Key Words:** *alexithymia, depression, anxiety, somatoform disorders, pain*

Alexithymia, which literally means “no words for feelings” (1), is suggested by Taylor “to be a heuristically useful construct for exploring the role of personality and emotions in the pathogenesis of certain somatic illnesses and diseases” (2, p 134). Similarly, Mai’s review highlights the relevance of alexithymia in the etiology of somatoform disorders, which are characterized by a relative absence of physical cause and a presumed psychological cause (3). Further studies

show a strong association between somatic complaints and manifestations of psychological distress, such as depression and anxiety (4,5).

Alexithymia may reflect deficits in emotional regulation and cognitive processing (6). These deficits are attributed to an arrest in affect development during early childhood (7). Because no previous studies explore the rates of alexithymia,

**Table 1 Alexithymia, anxiety, and depression scores for the sample and control groups**

	<i>n</i> (%)		<i>P</i>
	Adolescents with somatoform pain disorder ( <i>n</i> = 120)	Adolescents without somatoform pain disorder ( <i>n</i> = 60)	
Alexithymia (TAS-20 $\geq$ 61)	71 (59)	1 (1)	0.001
Anxiety (HADS anxiety subscale $\geq$ 11)	74 (62)	9 (15)	0.001
Depression (HADS depression subscale $\geq$ 11)	15 (12)	3 (5)	0.19

depression, and anxiety in an adolescent population experiencing somatic symptoms, our study provides a unique insight into the early relations between these factors.

## Methods

### Participants

The sample group comprised adolescents aged 12 to 17 years with ICD-10 persistent somatoform pain disorder (8) (defined by the DSM-IV as a pain disorder associated with psychological factors) (9). These adolescents were hospitalized in Kaunas Medical University Hospital, Lithuania (*n* = 120), between 1999 and 2002. Pathology was excluded by physical examination and investigation. The control group (*n* = 60) comprised healthy adolescents aged 12 to 17 years who were randomly selected from 6 secondary schools in Kaunas. Informed consent was obtained from all subjects and their families, and the study was approved by the University Research Ethics Board.

### Instruments and Procedure

Alexithymia was measured with a Lithuanian translation of the TAS-20 (10). The TAS-20 is reliable and valid (11,12). An empirically derived cutoff of  $\geq$  61 distinguishes individuals with alexithymia from those without alexithymia (13).

Caseness was indicated by a self-reported score of  $\geq$  11 on either the anxiety or depression subscale of the HADS (14).

Validation studies of English and foreign language translations show the HADS performs well in assessing caseness in hospital, community, and primary care settings (15–17). The HADS has been validated for use in adolescents (18).

### Statistics

We calculated Fisher's exact test *P* values to compare the differences in levels of alexithymia, depression, and anxiety between the sample and control groups.

## Results

The sample group contained 36 male subjects (30%) and 84 female subjects (70%) while the control group consisted of 42 male subjects (70%) and 18 female subjects (30%) (Table 1).

The rate of alexithymia in adolescents with somatoform disorder was 59%, which was significantly higher than that of the healthy control group (1%,  $P < 0.001$ ). Similarly, the rate of anxiety was significantly higher among individuals in the sample group (62%), compared with control subjects (15%,  $P < 0.001$ ). The rate of depression was low in both groups and did not differ significantly.

## Discussion

Although empirical evidence demonstrates a relation between alexithymia and somatoform disorders, the direction of causality cannot be established, given the lack of prospective studies.

Our study did not control for several potential and important confounding variables such as sex. There were disproportionately more female adolescents in the sample group (70%), compared with the control group (30%). However, previous

### Abbreviations used in this article

HADS	Hospital Anxiety and Depression Scale
TAS-20	20-item Toronto Alexithymia Scale

studies have shown a weak association between alexithymia and male sex (11,12,19), and so the higher rate of alexithymia in the sample group is unlikely owing to the sex distribution.

To correctly assess somatization, it is important to rule out physical causes, which was done in our study through standard physical examination, investigations, and medical chart review rather than by questionnaires (20).

The 59% rate of alexithymia found in our sample of adolescents with somatoform disorder was similar to the rate of 53% found in a study of DSM-III-R somatoform pain disorder (21). The prevalence of 59% among adolescents is substantially higher than the prevalence among general psychiatric outpatient and various normal adult samples (11,12). A recent review found that, compared with healthy control populations, individuals suffering from somatoform conditions were significantly more alexithymic, with effect sizes ranging from moderate to large (20).

Significant positive correlations between both depression and anxiety and alexithymia have been reported (22–25). In one study by Berthoz and others, however, the alexithymia and depression scores did not remain correlated after controlling for anxiety, whereas the correlation between alexithymia and anxiety remained significant after controlling for depression (22). The authors suggested that anxiety directly influences alexithymia, whereas depression does not. Thus it is possible that depression is not present in our sample of adolescents with somatoform disorder because it is a late-occurring epiphenomenon. Rather than depression influencing somatization, somatization leads to depression. Depression may occur years later as a consequence of chronic somatic symptoms, poor functioning, and limited attainment of life goals. An association between alexithymia as a psychological correlate of somatization and depression may thus appear in the adult population, whereas no relation is found in the adolescent population.

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<sup>1</sup>Professor and Head, Department of Psychiatry, Kaunas Medical University Hospital, Kaunas, Lithuania.

<sup>2</sup>Clinical Lecturer, Department of Psychiatry, University of Alberta, Edmonton, Alberta.

<sup>3</sup>Clinical Lecturer, Department of Psychiatry, Kaunas Medical University Hospital, Kaunas, Lithuania.

<sup>4</sup>Assistant Psychiatrist, Department of Psychiatry, Kaunas Medical University Hospital, Kaunas, Lithuania.

<sup>5</sup>Associate Professor, Department of Psychiatry, University of Alberta, Edmonton, Alberta.

Address for correspondence: Dr P Chue, 3rd Floor, 9942-108 Street, Edmonton, Alberta T5K 2J5; pchue@ualberta.ca

**Résumé : Une étude contrôlée de l'alexithymie chez des patients adolescents souffrant du trouble somatoforme douloureux persistant**

**Objectif :** Étudier les différences de niveaux de l'alexithymie, de la dépression et de l'anxiété dans un échantillon d'adolescents ayant reçu un diagnostic de trouble somatoforme douloureux persistant du CIM-10 (défini par le DSM-IV comme étant un trouble douloureux associé à des facteurs psychologiques) et chez des sujets témoins adolescents en santé.

**Méthode :** À l'aide de l'échelle de l'alexithymie de Toronto et de l'échelle d'anxiété et de dépression des hôpitaux, nous avons recherché la prévalence ponctuelle de l'alexithymie, de l'anxiété et de la dépression chez des adolescents de 12 à 17 ans souffrant de trouble somatoforme qui ont été hospitalisés à l'hôpital universitaire de Kaunas ( $n = 120$ ) et chez un groupe témoin ( $n = 60$ ) d'adolescents en santé de 12 à 17 ans, qui ont été choisis au hasard dans 6 écoles de Kaunas, en Lituanie.

**Résultats :** Le taux d'alexithymie des adolescents souffrant du trouble somatoforme était de 59 %, ce qui était significativement plus élevé que le taux des sujets témoins en santé (1 %,  $P < 0,001$ ). De même, le taux d'anxiété était significativement plus élevé dans le groupe des patients (62 %), comparé aux sujets témoins (15 %,  $P < 0,001$ ). Le taux de dépression était faible chez les 2 groupes et ne différait pas significativement.

**Conclusions :** Les adolescents souffrant du trouble somatoforme avaient des niveaux plus élevés d'alexithymie et d'anxiété que les sujets témoins adolescents en santé, mais les adolescents souffrant du trouble somatoforme et les adolescents sujets témoins n'ont pas de taux de dépression significativement différents.