Research Article

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Alexithymia among long-term drug users: a pilot study in Oporto

Abstract

Increasing scientific evidence supports an association between alexithymia and psychoactive substance use. This study explores alexithymia´s expression in sample of long-term drug users, undergoing outpatient treatment in public health units in Oporto, Portugal, as well as its´ association with social demographic risk factors. Data was collected from a sample of 90 adults, participants, mainly men (n=90; 87%), considered to be old consumers (81% with a age>40 years), with a mean age of 46.1 years (SD=8.3; range=21–64).Two instruments were used: a sociodemographic questionnaire and the 20-item Toronto Alexithymia Scale (TAS-20). More than 51.1% of the individuals were alexithymic, indicating a high prevalence of deficits in emotional awareness. The treatment period varied from 0 to 15 years, included a medication in 55% of cases, mostly methadone (83%). This profile illustrates the gradual aging of the long-term users of illicit drugs and alcohol with a clear diagnosis of an emotional disorder. Therefore, clinicians who develop treatment strategies may want to take into account the likelihood that many of their patients may be alexithymic; in being so, they should integrate specific psychotherapeutic techniques that promote both the identification and the differentiation in emotionally dysfunctional patients.

Keywords: alexithymia, drug users, mental health, TAS-20, treatment, social demographic risk factors

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Abbreviations: DSM-5, statistical manual of mental disorders; TAS-20, 20-item toronto alexithymia scale; F, factor; DIF, difficulty identifying feelings; DDF, difficulty describing feelings to others; EOT, externally-oriented thinking; C, centers of integrated responses; SD, standard deviation; SII, social integration income; s, significant; n.s., non-significant

Introduction

Among individuals with the diagnosis of substance-related and addictive disorders, according to the Diagnostic and Statistical Manual of Mental Disorders (DSM-5)[1] the presence of alexithymia is a well-established fact. This study aimed to analyze emotion awareness in a sample of long-time consumers who are undergoing outpatient treatment in public health units in the municipality of Porto, Portugal, and specifically explore alexithymia´s expression, as well its association with social demographic risk factors. Therefore, the target population in this study may be considered as a vulnerable one due to the exacerbation of risk factors associated to their long drug abuse. Additionally, their marginalization due, among others to sociodemographic, compromises effective therapeutic approaches.

Substance use disorder

According to the DSM 5, the new designation "substance use disorder" is accepted as a category of diagnosis for individuals having problems related to the use of psychoactive drugs.[1] This new concept opens a field of opportunity to treat psychoactive substance users using a biopsychosocial approach within a framework of humanistic values and respect for human dignity.[2]

Psychoactive substance dependence is a disease of the brain and involves behavioral, social, and environment factors. This dependence affects the individual by altering the levels of awareness and behaviors. It is characterized by the search and repeated use of substances that lead to a state of psychological dependence (habituation).[2] Psychological dependence is characterized by a constant substance-seeking impulse (craving) and an emotional state of urge, which are expressed as compulsive behaviors to obtain the substances and avoid states of unrest, anxiety, or depression, i.e., dysphoric states.[1,2]
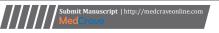
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The chronic use of psychoactive drugs affects the central nervous system, especially the functioning of the reward system and causes changes to brain structures, including the hippocampus, prefrontal cortex, and amygdala. This disorder affects motivational control, cognition/thoughts and memories, emotions, and language.[3] The memory of sensations of pleasure produced by the substance works as a neurotransmitter and causes an effect similar to that of dopamine - a neurotransmitter associated with feelings of well-being and happiness.[4]

Alexithymia

The term "alexithymia" is used to describe deficits in emotional awareness.[5] Although this domain is complex, there has been an attempt to systematize the available data on emotions and emotion awareness. Therefore, three inter-related systems or processes involved in the emotional responses have been described:

(i) Neurophysiological processes, which are predominantly related to the autonomic nervous system and neuroendocrine activation.

(ii) Motor and behavioural expression processes that are relative to facial expressions, changes in the tone of voice, or postural changes.

(iii) Subjective awareness and verbalization of emotional states experienced by the individual, which refers to the cognitive-experiential system. Any of these processes or domains of emotional response can change or modulate the remaining domains.[6]

Alexithymia is usually conceived as a construct of personality involving a significant change in the awareness of affections and may be an important risk factor for psychological or physical illness; therefore, this condition has been implicated in somatic changes, eating disorders, psychoactive substance abuse, and panic disorder.[7] Moreover, feelings are human and primate phenomena produced by cortical and thalamic circuits that allow associating mental images, thoughts, and emotions and expressing them in language. Several studies suggest a strong association between alexithymia and addiction.[8,9]

Morie et al.[10] reported that alexithymia might contribute to the development of addiction and that this condition might be associated with emotional dysregulation. Kornreich et al.[11] proposed that the origin of this dysfunction was related to the chronic use of psychoactive substances, which might impair brain functions involved in the decoding of facial expressions. Substance-dependent individuals present compromised activity of several regions that are essential for emotion processing, including the insula, cingulate cortex, and amygdala.

Donadon & Osório[12] highlighted a possible genetic origin for neurocognitive deficits that may increase predisposition to future chronic use of psychoactive substances (e.g alcoholism) and to the development of abnormalities in brain areas that process emotions.

Objectives of the Study

The aims of this study were:

1. Investigate emotion processing in individuals with a long history of substance use.

2. Explore alexithymia quantitative expression.

3. Its association with risk factors (e.g demographic factors, socioeconomic status).

Material and methods

Procedure and measures

Data was collected in eight public health units in the municipality of Porto, Portugal. The participants remained anonymous and signed a term of informed consent after being informed about the aim of the study. Two instruments were used, a sociodemographic questionnaire and the 20-item Toronto Alexithymia Scale (TAS-20). The latter is a self-evaluation instrument validated into Portuguese by Prazeres et al.[7] that assesses alexithymia. The scale analyzes three factors: F1, difficulty identifying feelings (DIF); F2, difficulty describing feelings to others (DDF); and F3, externally-oriented thinking (EOT).[7]

Using a questionnaire, the following sociodemographic variables were collected: sex (men/women); marital status (single: married/ in a nonmarital relationship; divorced/separated); current work status (unemployed/employed) and level of education (≤6th grade completed/>6th grade completed).

Sample

The sample comprised 90 individuals; 52 were from Centers of Integrated Responses (CIR) and 38 were from Projects of Social Integration. Sociodemographic data and history of substance use were analyzed. The independent variables related to the individual were: sex, age, and marital status, living conditions, type of housing, education level, work situation, and source of income. The independent variables related to the history of substance use were the first substance used, age of onset of substance use, context of substance use (alone or with others), other substances used (main and associated drugs), frequency of substance use, treatments undergone (number, type, and duration), problems with the law due to substance use, and attitudes and opinions about the ongoing treatment.

Data analysis

Statistical analysis was performed using the IBM Statistical Package for the Social Sciences (SPSS) software. A descriptive analysis was performed according to the nature of the study variables to describe and characterize the study sample. Nonparametric tests were performed, for inferential analysis, because the assumption of normality was not met. Possible significant differences were identified by pairwise comparison using the Mann-Whitney test. All analyses were performed with a level of significance of 5%, except when otherwise stated.[13]

Results

Most participants in this study were men (N=90; 87%), considered to be old consumers (81% with a age>40 years), with a mean age of 46.1 years (SD=8.3; range=21–64), and single (54%). With regard to family relationships, 43.3% of the respondents did not live with relatives and, of these, 91.4% lived alone; 14.6% lived in a guesthouse and 51.7% lived in a rented room; 85.2% were unemployed, 11.4% were employed, and 2.3% were retired. With respect to the education level, 22.7% had completed sixth grade, and the same percentage had completed ninth grade, 10.2% never went to school, 36.4% had concluded fourth grade, and 8% had completed twelfth grade or more. Among the respondents, 54.4% had never attended a professional course. The primary source of income for 57.8% of the individuals was the Social Integration Income (SII).

A total of 57.8% of the sample received treatment in CIR, 28.9% were treated in Projects of Social Integration, and 12.2% received care simultaneously in both types of institution. The most commonly used drugs were cannabis/hashish (47.7%), alcohol (33%), and heroin (11.4%). The age of onset of substance use varied from seven to 40 years (mean age=17.3 years, SD=5.26); 86.4% had their first experience of substance use in the presence of other individuals and, of these, 65.8% were with friends. The substances most used throughout life were heroin (33.3% of the sample), alcohol (30%), and cocaine (17.8%). The frequency of use was daily by 81.8% of the sample. Treatment included a medication in 54.7% of the sample and, of these, 82.6% received methadone.

A total of 25% of the sample continued using other drugs during treatment, including cannabis/hashish (36.4%), cocaine (31.8%), and alcohol (13.6%). The frequency of substance use was daily in 47.6% of the sample. The reported expectations about treatment were symptom control and support in cases of dual diagnosis (50%), prevention of suicide (25%), and treatment of chronic diseases (25%). Since starting treatment, 95.4% of the respondents believed that they "changed their attitude toward substance use" and 93.4% reported "following the therapeutic team's instructions." The mean number of previous treatments was 1.3, varying from 0 to 15. In addition, 61% of the samples had a history of or were still having problems with the law, and 81.5% of these believed that these problems were related

to substance abuse. The results of the TAS-20 (n=90) indicated that 51.1% of the sample had alexithymia (Table 1).

Table 1 Prevalence of alexithymia in the sample according to TAS-20

TAS-20 categories	N	%
Absence of alexithymia (≤ 51)	21	23.3
Borderline (52–60)	23	25.6
Presence of alexithymia (≥ 61)	46	51.1
Total	90	100

The comparison of TAS-20 and sociodemographic variables indicated that F1 (difficulty identifying feelings) and F2 (difficulty describing feelings) were significantly higher in women who were single/married/in a nonmarital relationship and those with a sixth-grade education level or less compared with the other groups. F3 (externally-oriented thinking) was significantly higher in individuals who were married/in a nonmarital relationship and those with a sixth-grade education level or less compared with the other groups (Table 2).

Table 2 Comparison of TAS-20 scores and sociodemographic variables

Sociodemographic variables		Difficulty identifying feelings (F1)		Difficulty describing feelings to others (F2)		Externally-oriented thinking (F3)	
		Median	p value	Median	p value	Median	p value
Gender*	Male	3,29		3,00		2,75	
	Female	3,93	s	3,61	s	2,83	n.s.
	Total	3,29		3,20		2,75	
Marital status**	Single	3,57		3,10		2,77	
	Married/in a nonmarital relationship	3,35	s	3,40	s	2,94	s
	Divorced/separated	2,57		2,60		2,50	
	Total	3,29		3,20		2,75	
Current work status*	Unemployed	3,00		3,00		2,63	
	Employed	3,29	n.s.	3,40	n.s.	3,00	n.s.
	Total	3,29		3,20		2,75	
Level of education*	≤6th grade (2nd cycle) completed	3,43		3,40		2,88	
	>6th grade (3th cycle) completed	2,86	s	2,40	s	2,50	s
	Total	3,29		3,10		2,75	

*Results of the nonparametric Mann-Whitney test (p<0.05)

**Results of the nonparametric Kruskal-Wallis test (p<0.05)

Discussion

In the present study, results indicated that the most common substances used were cannabis/hashish (47%) and alcohol (33%), and the drugs most commonly used throughout life were heroin (33.3%) and alcohol (30%). The mean duration of ongoing treatment was 67.1 months (1–328 months). Moreover, 25% of the sample used psychoactive drugs on a daily basis, and approximately 30% received treatment with methadone, suggesting the potentiating effect of the interruption in substance use and the levels of alexithymia, and, thus, prolonging treatment and compromising brain structure function.

The literature review reported that several authors observed that the use of illicit substances has increased among middle-aged and older individuals. In this study, the mean age of the sample was 46.1 years (SD=8.3), which is in line with such assumptions.[14] The European Drug Report: Trends and Developments in the European Union points out that long-term opioid users with a history of polydrug

use are predominantly in the age group 40–50 years.[15] According to the European Monitoring Centre for Drugs and Drug Addiction "[…] older people with drug problems are considered those aged 40 or over whose recurrent drug use is causing them harm or is placing them at a high risk of such harm.[16] Moreover, in Europe, 47% of the deaths caused by psychoactive substances occur in individuals aged 40 years and above.[15]

Similarly, in previous studies the percentage of men substance users was higher (90.6%) than women users which is in line with the findings of the present study (87% of the sample were men).[17] As for the education levels, our findings are also in line with international studies, whereby the levels were low in this population - 46.6% of the participants had completed fourth grade or had never received formal education.[18] Pillon et al.[17] found that 78.5% of the sample had completed sixth grade; whereas in our study a considerably lower percentage (22.7%) finished that level. The same discrepancy was observed for higher levels of education. Roibás et al.[19] showed

that less than 15% of the sample had completed a university degree; whereas, in the present study, only 8% had completed twelfth grade or more.

Unemployment has been associated with the use of illicit drugs and with low income leading to financial problems in substance users.[14–19] This result was confirmed in the present study, in which 85.2% of the respondents were unemployed, and 57.8% were dependent on the RSI as their main source of income. The majority of the participants were single (54%), and 43.3% did not live with family members, which is in line with the literature. Blazer & Wu[20] and Han et al.[18] reported that the use of psychoactive substances was more common among unmarried individuals and emphasized the relevance of disorganized family life and lack of family support.

A particularly important characteristic of the study population was the long history of treatment (number and duration of treatments) and the association of opioid substitution therapy with treatment (83% were on methadone). In contrast, the mean and maximum number of treatments was 1.3 and 15, respectively, and the mean duration of treatment was approximately 5.5 years. It is of note that 25% of the sample continued using psychoactive drugs during treatment.

Previous studies indicated that alexithymia was associated with psychoactive substance abuse. In our sample, 51.1% of the participants were alexithymic, which corroborates the results of international studies.[8–22] In this sample, the expression of the EOT subscale has a minor impact on the global score. Alpha Cronbach values´ were consistent for F1 and less consistent for the others factors. Although TAS-20 is a valid instrument for the Portuguese population, in this study some issues regarding it's consistency arise probably due to the clinical specificity of the sample.[7] This fact is corroborated by other investigations, such as Thorberg et al.[23] reinforcing the need to re-evaluate the validation of this scale.

Conclusion

The question remains whether alexithymia is a potential risk factor or a predisposing factor for the use/abuse of psychoactive substances, demonstrating the need to reflect on the repercussions of opioid replacement therapy on neuronal and brain functions. Although our results are in line with most studies included in the literature review, they should be interpreted considering some limitations, namely the fact that the results presented were obtained from a convenience sample and therefore do not statistically represent the general population or the available therapeutic interventions, which hampers potential generalizations. This study allowed analized alexithymia´s qualitative expression but did not assess the experience of alexithymia at an individual level; the use of a qualitative approach would overcome this limitation. In addition to describing the ability to identifying emotions, understanding the expression of this deficit in the discourse and everyday life of alexithymic individuals is critical.

The present study has important implications for the practice of mental health professionals in the context of treatment and social (re) integration of psychoactive substance users. Thinking of addiction as a biopsychosocial phenomenon involves adopting a perspective that understands it this phenomenon as a disease of the brain in which the social environment plays an important role. In this study participants presented a high rate of unemployment and in overall a low educational level and professional qualification, which may be constraining their (re)integration into the labour market. Work provides not only an income that allows social participation but also a true social identity, which is stronger than any other type of acceptance. Employment gives the perception of social usefulness and is the main vector for personal integration. Therefore, work is essential for reintegration/occupation.

The analysis of these participants' family life revealed that a high percentage lived alone and in precarious housing, which may also be seen as stigmatizing factors. These individuals are often socially labelled as outcasts, excluded from social life, and do not have resources to deal with failure and stress; moreover, their self-representation is impaired, and their identity is destroyed by others.[24]

The individuals in our sample were doubly stigmatized because of their addiction to psychoactive drugs and premature aging as a result of mental illness associated with substance use and age-related conditions. Due to the signs that characterize them (both their physical deterioration and mental illness) and significantly discredit them, they form a group of individuals with some of the most socially penalizing attributes.[25]

The individuals included in this sample were undergoing different therapeutic projects integrated in Risk Reduction and Harm Reduction Policies. These policies set as goals and inherent procedures to guarantee minimum health care, minimizing the risks of diseases such as HIV and tuberculosis, but do not consider as aim to reverse life trajectories marked by disaffiliation and serious social vulnerability in all life´s areas.

The fact that 51.1% of the study participants were alexithymic suggests a high incidence of deficits in emotional awareness, which hinders the development of family and institutional support networks, with serious implications for creating social integration projects (at the work and family levels) that ensure the quality of life of the aging population. In addition, several studies indicate that alexithymia affects patients outcomes to mental health treatment and frequently alexithymia is associated with negative treatment outcomes.[26] Thus, alexithymics become a challenge to mental health professionals.[26] Therefore, in terms of mental health, and specifically in the field of addictions, clinicians who develop treatment strategies may want to take into account the likelihood that many of their patients may be alexithymic; in being so, they should integrate specific psychotherapeutic techniques that promote both the identification and the differentiation in emotionally dysfunctional patients. Implementing programs aimed at assessing and training emotions should be central to empower patients with addiction problems regarding emotional awareness and social cognition.

Conflicts of interest

The authors declare that there is no conflict of interest.

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