

SHORT REPORT



## Where does it hurt? Location of pain, psychological distress, and alexithymia among outpatients seeking psychotherapy

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### ABSTRACT

**Objectives:** Physical pain is prevalent among psychiatric outpatients, yet there has been little research regarding the types of pain reported. The purpose of this study was to survey outpatients seeking psychotherapy regarding pain locations and to examine associations between number of pain locations and psychiatric distress and alexithymia.

**Methods:** Two hundred and seventeen patients were recruited from three Canadian hospitals that offer outpatient psychiatry services and short-term therapies. Participants were surveyed about their current physical pain using the Brief Pain Inventory. Participants also completed measures of psychiatric distress (Brief Symptom Inventory-18) and alexithymia (Toronto Alexithymia Scale-20).

**Results:** The three most commonly reported pain locations were lower back, head, and neck. Findings revealed that anxiety, depression and alexithymia were associated with number of reported pain locations. Specifically, participants with three or more pain locations reported significantly higher depression, anxiety and alexithymia in comparison to those with no pain.

**Conclusions:** Back, head and neck pains are highly prevalent among psychiatric outpatients. Multiple pain sites may reflect higher levels of psychiatric distress and greater impairment in emotional processing among psychiatric outpatients.

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### Introduction

Research has shown that physical pain is highly prevalent among patients seeking mental health care (Agüera-Ortiz, Failde, Mico, Cervilla, & López-Ibor, 2011; Flor, Fydrich, & Turk, 1992; Villano et al., 2007). For instance, a study of patients with depression seeking outpatient care ( $N = 3566$ ), found that 59% of the sample experienced pain (Agüera-Ortiz et al., 2011). Pain among psychiatric outpatients can be complex (Weisberg & Clavel, 1999) and is often entwined with psychiatric conditions, such as depression, anxiety disorders, post-traumatic stress disorder (Agüera-Ortiz et al., 2007; Villano et al., 2007), and is associated with greater psychological burden (Vietri, Otsubo, Montgomery, Tsuji, & Harada, 2015). Moreover, research suggests that pain can interfere with the effectiveness of psychiatric treatments (Agüera-Ortiz et al., 2011; Ogrodniczuk, Piper, & Joyce, 2008). Despite growing awareness of the prevalence and negative impact of physical pain among psychiatric outpatients, empirical knowledge regarding pain presentations among psychiatric outpatients remains limited. Indeed, little is known about which locations of bodily pain are most frequently endorsed, nor whether the cumulative burden of multiple pain sites is associated with psychological symptom distress and alexithymia in this population.

A key construct to consider in the context of physical pain is alexithymia, a personality trait deficit in the cognitive processing

of emotional experience, such that individuals have an externally-oriented thinking style, limited capacity to describe subjective emotional experiences and restricted imagination (Luminet, Bagby, & Taylor, 2018; Ogrodniczuk, Piper, & Joyce, 2011). Research suggests a robust association between alexithymia and pain, with alexithymia being common among individuals with various types of pain (Di Tella & Castelli, 2016), including complex regional pain syndrome (Margalit, Har, Brill, & Vatine, 2014), fibromyalgia (Tesio et al., 2018; Tuzer, et al., 2011), myofascial pain (Castelli et al., 2013; Lumley, Smith, & Longo, 2002), and lower back pain (Mehling & Krause, 2005). However, the association between alexithymia and bodily pain among psychiatric outpatients is less understood, leaving many questions unanswered, such as whether emotional processing difficulties represented by higher levels of alexithymia is associated with more diffuse pain presentations (as reflected by the number of different pain locations).

Given the limited availability of data regarding bodily locations of physical pain among outpatients seeking psychotherapy, the present study was developed to explore this issue. As an exploratory study, no hypotheses were formulated. The first objective was to survey this population regarding their experience of physical pain across various bodily locations. A second objective of the study was to examine whether multiple pain locations would be associated with increased levels of psychological distress and alexithymia.

## Methods

### Participants

Two hundred and seventeen consecutively admitted outpatients seeking psychotherapy were recruited from three Canadian hospital-based outpatient psychiatry programs. These outpatient psychiatry departments provided both psychotherapy and pharmacotherapy. The mean age of the sample was 37 ( $SD=12.49$ ) with 85% of the participants identifying as Caucasian. Sixty per cent ( $n=153$ ) of the sample identified as female. Forty-two per cent ( $n=109$ ) were employed full time. Research ethics approval was obtained from the institutional review board for each program. All participants provided informed consent to take part in the study, which consisted of the completion of self-report questionnaires at intake to the clinic.

### Measures

**Brief Pain Inventory** (BPI; Cleeland, 1991). The BPI, a frequently used self-report measure of pain, was used to inquire about the location of physical pain complaints. The BPI invites respondents to identify the presence of current pain across 13 different bodily locations.

**Brief Symptom Inventory** (BSI; Derogatis, 2000). The Depression and Anxiety subscales of the BSI-18, a self-report inventory of psychiatric distress, were used to evaluate severity of depressive and anxiety symptoms. Respondents use a five-point scale, from 0 (not at all) to 4 (extremely), to indicate their experience of symptoms over the past week. The BSI-18 is frequently used in clinical and research applications, demonstrating good internal reliability (Cronbach's  $\alpha = 0.87$  and  $0.84$  for depression and anxiety, respectively; Franke et al., 2017).

**Toronto Alexithymia Scale-20** (TAS-20; Bagby, Taylor, & Parker, 1994). The TAS-20 assesses alexithymia through 20 self-report items that employ a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). A total score is obtained to indicate the overall severity of alexithymia. The TAS-20 has demonstrated good internal consistency (Cronbach's  $\alpha = 0.81$ ) and test-retest reliability ( $0.77$ ,  $p < .01$ ; Peasley-Miklus, Panayiotou, & Vrana, 2016).

### Statistical analyses

Descriptive statistics were used to indicate the frequency of pain across various bodily sites. To examine differences in symptom

distress and alexithymia according to pain burden, four categories were created: (1) no pain; (2) one pain location; (3) two pain locations; and (4) three or more pain locations. Three one-way ANOVAs were then conducted using anxiety, depression, and alexithymia as dependent variables. Bonferonni adjustment was used ( $p < .02$ ) to correct for multiple comparisons and reduce possible type 1 error.

## Results

Eighty-two per cent ( $n=179$ ) of the sample indicated experiencing some physical pain. Among patients who reported pain, more than half (53%;  $n=95$ ) indicated three or more simultaneous pain sites. Table 1 shows the frequency of reported pain locations. Overall, the three most commonly reported pain locations were lower back, head, and neck. Head pain was most prominent among individuals with a single pain complaint, while the lower back was the most frequently endorsed site among patients with multiple pain locations.

One-way ANOVA revealed a significant association between number of reported pain locations and symptoms of anxiety,  $F(3, 212)=4.09$ ,  $p < .01$ ,  $\eta^2=0.05$ . Post hoc analyses using Tukey's HSD ( $\alpha=0.05$ ) showed that participants who reported three or more pain locations had significantly higher levels of anxiety ( $p=0.005$ ,  $M=12.44$ ,  $SD = 5.58$ ) compared to participants with no reported pain ( $M=8.76$ ,  $SD = 5.64$ ). Similarly, a significant association between the number of reported pain locations and depression was observed,  $F(3, 213)=3.87$ ,  $p < .01$ ,  $\eta^2=0.05$ . Post hoc analyses revealed that patients with three or more pain sites had significantly higher depression ( $p=.005$ ,  $M=13.48$ ,  $SD = 6.24$ ) than participants with no reported pain ( $M=9.50$ ,  $SD = 6.55$ ). Finally, in examining alexithymia, results showed that alexithymia was significantly associated with number of reported pain locations,  $F(3, 213)=4.01$ ,  $p < .01$ ,  $\eta^2=0.05$ . Post hoc analyses demonstrated that participants who reported three or more pain locations had significantly higher levels of alexithymia ( $p < 0.024$ ,  $M=61.19$ ,  $SD = 12.29$ ) compared to participants with no reported pain ( $M=53.65$ ,  $SD = 11.96$ ).

## Discussion

Consistent with previous reports, our study found that physical pain is highly prevalent among outpatients seeking psychotherapy, with 82% reporting pain in at least one location. Furthermore, our findings revealed that the most frequently reported pain

**Table 1.** Location and frequency of pain among outpatients seeking outpatient psychiatry services,  $N=217$ .

Pain location	Overall frequency, % ( $n$ )	Frequency among pain reporters, % ( $n$ )		
		1 pain location, $n=47$	2 pain locations, $n=37$	$\geq 3$ pain locations, $n=95$
Head	29.5 (64)	27.7 (13)	24.3 (9)	44.2 (42)
Neck	29.5 (64)	4.3 (2)	24.3 (9)	55.8 (53)
Shoulder	26.3 (57)	8.5 (4)	21.6 (8)	47.4 (45)
Chest	11.5 (25)	4.3 (2)	18.9 (7)	16.8 (16)
Abdomen	18.9 (41)	8.5 (4)	27 (10)	28.4 (27)
Upper back	19.4 (42)	6.4 (3)	10.8 (4)	36.8 (35)
Lower back	42.9 (93)	21.3 (10)	40.5 (15)	71.6 (68)
Pelvic	9.7 (21)	2.1 (1)	8.1 (3)	17.9 (17)
Buttock	5.6 (12)	2.1 (1)	0	11.6 (11)
Arm	11.5 (25)	2.1 (1)	0	25.3 (24)
Hand	12.4 (27)	4.3 (2)	0	26.3 (25)
Leg	27.6 (60)	8.5 (4)	18.9 (7)	51.6 (49)
Foot	11.5 (25)	0	5.4 (2)	24.2 (23)

locations among psychiatric outpatients were lower back, head, and neck. Most notably, having multiple pain locations was associated with psychiatric distress and alexithymia. Specifically, participants with three or more pain locations exhibited significantly higher depression, anxiety, and alexithymia in comparison to those with no pain.

Our study echoes previous literature (Agüera-Ortiz et al., 2011; Taycan, Ozdemir, Erdogan-Taycan, & Jurcik, 2015; Turk & Okifuji, 2002; Villano et al., 2007) that indicates an association between physical pain and depressive and anxiety symptoms among psychiatric outpatients. However, in the present study, these associations were only significant in participants who reported experiencing pain in three or more pain locations. Thus, while one or two physical pain complaints may be unrelated to anxiety and depression, individuals who experience an accumulation of pain – in terms of the number of pain locations – may experience a greater degree of psychological distress. Likewise, patients with three or more pain locations had higher levels of alexithymia than those with no physical pain. It should be noted that while these findings were statistically significant, the effect sizes were small. Moreover, given the cross-sectional nature of the data, it is unclear whether psychological distress and impaired emotional processing were the consequence of, or antecedent to, pain experienced in multiple bodily locations. Indeed, it is possible that a bidirectional relationship may exist. Further research is indicated to examine these possibilities with more sophisticated methods – including longitudinal designs and comprehensive assessment of the aetiology and impact of patients' pain complaints.

One possibility for future research would be to consider whether complaints of pain across multiple areas of the body might reflect a variant of somatization, in which unprocessed emotional distress is represented diffusely throughout the body. Notwithstanding the possibility of disease- or injury-based etiologies of such pains – a matter deserving careful investigation – multiple pain locations may signal the patient's difficulty in identifying and describing emotional issues. Of course, it is also possible that cumulative pain burden might contribute to alexithymic tendencies. Concern regarding various pains may be preoccupying for an afflicted individual, contributing to distress and precluding attention to the identification and articulation of their feelings. Thus, while our findings may alert clinicians to associations between multiple pain locations and distress and alexithymia, caution should be exercised in interpreting the meaning of these associations.

While the present study has several limitations, such as a lack of information regarding the aetiology of patients' pain, and lack of psychiatric diagnosis, the findings highlight a relatively overlooked aspect of somatic complaints among patients seeking outpatient care. Clinical assessment in psychotherapy settings could include inquiry about pain across various bodily locations, along with exploration regarding associated features and the impact of accumulated pains. Further research could shed light on the salience of particular pain locations – along with their cumulative burden – and illuminate potential causal relationships with psychological constructs. This could advance knowledge about whether reduction of multiple pains might yield improvement in psychological domains and vice versa.

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## Disclosure statement

The authors have no conflicts of interests to report.

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