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Association of Anxiety and Depression with thoracic discomfort: An Exploratory Study of the Relevance of Anguish to Psychiatric Diagnosis and Symptoms

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Abstract

Background: Anguish implies sensations of discomfort in the chest. Recently has been discovered manifestations of anguish in patients with psychiatric diagnosis. Also, conceptual confusions between anguish, anxiety, panic and fear has been observed. **Objetives:** This study analyzed the prevalence of anguish in patients with psychiatric diagnosis and differences in the presentation of psychiatric symptoms under thre presentation of anguish. **Method:** A sample composed of 100 patients from a large mental health care institucion in Brazil was recruited (mean age = 44.54 years). The sample comprised 69 (69%) women, 29(29%) men and 2(2%) transexuals. After comparing the mean age, no statistically significance was found (p=0,248). The age of the participantes composing the total sample ranged from 17 to 77 years. The sample's education level was 42(42%) secondary or lower and 47(47%) graduates. As for marital state, 47(47%) participants were single, 32(32%) married, 13(13%) divorced, and 7(7%) widower. 1(1%) participant didn't answer to this topic. To measure independent and dependent variables were used the following instruments: (a) Brief Symptoms Inventory, (b) Defensive Style Questionnaire-40, (c) Hospital Anxiety and Depression Scale, (d) Hamilton Anxiety Rating Scale, (e) State-Trait Anxiety Scale, and (f) Mini International Neuropsychiatric Interview. **Results:** Chi-square test showed significant association between anguish and gender (p=0,041), 31(79.5%) women had anguish compared to 7(17.9%) men and 1(2.6%) trans. Wilcoxon Mann Whitney test showed significant association between anguish and Brief Symptom Inventory (p=0,020). In this questionnaire online the variable somatization showed significance. Relatively to Hamilton Anxiety Scale, the variables fears, depressed mood, gastrointestinal and neurovegetative symptoms showed significance. Wilcoxon Mann Whitney and Chi-square tests showed that between anguish and depression variables somatization (p=0,02) and neurovegetative symptoms (p=0,018) and between anguish and anxiety only variable fears (p=0,018) was significant. Inferential analysis showed that depression is more linked to anguish than anxiety. **Conclusions:** As for the frst hypothesis, symptoms more related to anguish were somatization, fears, depressed mood, gastrointestinal and neurovegetative symptoms. Relatively to the second hypothesis, under the 82 participants with depression, 87.2% had anguish, while under the 69 participants with a diagnosis of anxiety disorders, 69.2% presented anguish, showing a greater frequency of anguish between patients with depression.

Keywords: Anguish; Anxiety; Depression; Thoracic Discomfort; Psychopathology.

INTRODUCTION

Sometimes humans are struck by a strange feeling of emptiness causing feelings of discomfort in the thoracic region and the impression of being suffocated. Anguish has a high weight, since its synonyms are agony, affliction, torment, martyrdom, torture, leading to the feeling of oppression, emptiness, hole, sword pain, compression that can present intensity high, however it is not considered a pathology [1].The origin of the word anguish goes back

to the Greek angor that has the meaning of squeezing, compressing, strangling, choking, suffocating [2]. In the scientific field anguish arose with the introduction of angst by Sigmund Freud [3], however angst was translated into anxiety because angst was a term commonly used in German and could be translated by some equally common English words such as fear, fright. alarm [4]. Research on brain function has hypothesized that anguish could have a clinical and neurobiological relevance, that is the feeling of tightness or oppression in the thoracic region could have emotional connection [5]. Over the last decades, conceptual confusions has been observed on concepts such as anguish, anxiety, fear or panic. The feeling of anguish, that foccuses on events occuring in the present, is accompained by sensations in the thoracic region that can present themselves in the form of pain or tightness and due to the fact that many patients with affective and anxiety disorders report this experience, anguish become the target of great clinical concern [6].

The objectives of this research consisted on verifying differences in psychopathological symptoms under the experience of anguish and finding out if anguish is more related to the depression or to anxiety. The following two hypothesis were posed to comprove the objectives of the study:

1. Patients with anguish and patients without anguish are differents in terms of psychological symptoms
2. Patients with depression have more anguish than patients with anxiety.

METHOD

Participants

Data of 100 participants was collected within one large mental health care institucion in Brazil: Institute of psychiatry of clinic's hospital of medicine's faculty of São Paulo's universiry. From the 100 participants 69% self-identified as female, 29% as male and 2% as transexuals. Mean age of the 100 participants was 44,54 years and education level was 42% secondary or lower and 47% graduates. Sample was divided into three groups: Sample 1 participants were 35 patients with anguish. Sample 2 participants were 50 participants without anguish. Sample 3 participants were patients with anguish but without a right description of the feeling when asked in the interview.

Measures

Sociodemographic questionnaire. Developed with the objective of collecting information regarding the demographic and sociocultural variables of the participants, namely, Age (years), Gender (Male, Female, Other); Education level (Complete Higher Education, Incomplete Higher Education, Complete Secondary Education, Incomplete Secondary Education, Complete Primary Education, Incomplete Primary Education; Marital Status (Single, Married, Divorced, Widowed, No Answer).

Brief Symptoms Inventory

The Brief Symptom Inventory (BSI) consists of 53 items covering nine symptom dimensions: Somatization, Obsession-Compulsion, Interpersonal Sensitivity, Depression, Anxiety, Hostility, Phobic anxiety, Paranoid ideation and Psychoticism; and three global indices of distress: Global Severity Index, Positive Symptom. The authors report good internal consistency reliability for the nine dimensions, ranging from .71 on Psychoticism to .85 on Depression. Good internal consistency reliability is supported by several other independent studies [7, 8]. No alpha reliability is reported for the three global indices. Test-retest reliability for the nine symptom dimensions ranges from .68 (Somatization) to .91 (Phobic Anxiety), and for the three Global Indices from .87 (PSDI) to .90 (GSI).

Defense Styles Inventory

The Defense Style Questionnaire--40 (DSQ-40) is a modification of the original Defense Style Questionnaire [9], and was developed to create a psychometrically acceptable instrument in which the heterogeneity of defenses measured in the original DSQ was preserved in factor scores, while aiming for internal consistency at the level of the individual defenses. There are two items for each of 20 defenses. Items are rated on a 9-point Likert-style scale (1=strongly disagree; 9=strongly agree). Eight criteria were used to assess the validity and the reliability of each item. The DSQ 40 can yield both individual defense scores and three higher-order factor scores (mature, neurotic, and immature). Psychometric analyses indicated that the instrument possesses reasonable internal consistency and temporal stability appropriate in a trait measure. Correlations among the mature, neurotic, and immature factors derived from the DSQ and the DSQ-40 were .97, .93, and .95, respectively, evidence of the construct validity of the revised instrument. Although very comparable to the 72-item DSQ, the DSQ 40 has yet to be validated against the ratings of skilled clinicians or against other instruments, such as the Defense Mechanism Inventory [10] or the Defense Mechanism Rating Scale [11], as has been done with the original DSQ [9].

Hospital Anxiety and Depression Scale

The Hospital Anxiety and Depression Scale (HADS) is commonly used to determine the levels of anxiety and depression that a person is experiencing. The HADS is a 14-item scale, with seven items relating to anxiety and seven relating to depression [12]. The authors created this outcome measure specifically to avoid reliance on aspects of these conditions that are also common somatic symptoms. This, it was hoped, would create a tool for the detection of anxiety and depression in people with physical health problems Twelve studies assessed the psychometric properties of the HADS-Total and its subscales HADS-Anxiety and HADS- Depression. High-quality evidence supported the structural

and criterion validity of the HADS-A, the internal consistency of the HADS-T, HADS-A, and HADS-D with Cronbach's alpha values of 0.73-0.87, and before-after treatment responsiveness of HADS-T and its subscales (minimal clinically important difference = 1.4-2; effect size = 0.45-1.40). Moderate quality evidence supported the test-retest reliability of the HADS-A and HADS-D with excellent coefficient values of 0.86-0.90.

Hamilton Anxiety Rating Scale

The Hamilton Anxiety Rating Scale (HAM-A) is a 14-item instrument that is extensively used in clinical and epidemiological studies to determine the presence of anxiety symptoms. Although the HAM-A generally demonstrates good psychometric properties, including adequate interrater reliability [13, 14, 15], internal consistency [16], and convergent validity [17, 18], several concerns have been raised about the HAM-A that limit its utility [19]. Measurement of anxious features within depressed patients was formalized in the DSM-5 anxious-distress specifier [20] despite an absence of empirical evidence of the validity or utility of the specifier.

State-Trait Anxiety Inventory

The State-Trait Anxiety Inventory (STAI) is a psychological inventory consisting of 40 self-report items on a 4-point Likert scale . The STAI measures two types of anxiety – state anxiety and trait anxiety. Higher scores are positively correlated with higher levels of anxiety. Its most current revision is Form Y and it is offered in more than 40 languages [21]. For diagnoses of anxiety disorders, the STAI-T demonstrated the best psychometric properties for a cutoff score ≥ 52 with sensitivity of 81.3%, specificity of 77.5%, positive predictive value (PPV) of 41.9%, and negative predictive value (NPV) of 95.4%.

Mini International Neuropsychiatric Interview

The MINI was developed by researchers at the PitiéSalpêtrière Hospital in Paris and the University of Florida in the United States and consists of a brief questionnaire lasting 15-30 minutes, compatible with the diagnostic criteria of the DSM-III-R and ICD-10 (different versions), which can be used by doctors after a quick training (1h to 3h). The MINI is organized into independent diagnostic modules, designed to optimize the sensitivity of the instrument, despite a possible increase in false positives. Two versions of the MINI were developed to address the specific diagnostic objectives of different contexts of use: 1) intended primarily for use in primary care and clinical trials, the MINI comprises 19 modules exploring 17 DSM-IV Axis I disorders, Suicide Risk and Antisocial Personality Disorder.

Procedure

While waiting for care, patients were invited to participate in the research, received an explanation about its objective and signed the Free and Informed Consent Form. Patients responded to a Mini International Neuropsychiatric Interview (MINI) diagnostic instrument containing the DSM-5 diagnostic criteria for anxiety disorders and affective disorders and a questionnaire to identify the presence of anguish. Additionally, patients were asked to answer the Brief Inventory of Psychopathological Symptoms (BSI), the Defense Styles Inventory (DSQ-40), the Hospital Anxiety and Depression Scale (HADS), the Hamilton Anxiety Scale (HAM -A) and the State-Trait Anxiety Inventory (STAI). Patients were also asked to record a statement about the experience of anguish. This recording was listened to and analyzed to determine whether the patients were experiencing anguish or not.

Data Analysis

Data analysis consisted in two phases in which each phase Ch-square test was used in testing nominal variables and Wilcoxon Mann-Whitney test for testing numerical variables. The first phase called descriptive analysis had four steps. The first consisted of comparing the groups with and without anguish with nominal and numerical variables. The second consisted of a descriptive analysis of the sociodemographic variables. The third consisted of a correspondence analysis between the variable anguish and the diagnosis of anxiety, depression or other psychiatric disorder. The fourth sted consisted of a significance comparative test under the variables used in this study between anguish, anxiety and depression. The second phase of the study called inferential analysis had two steps. The first consisted of reducing the size of sellected questionnaires and the construction of latent variables more near to anguish. For this was applicated the item response theory (IRT). Using the logistic regression model, the second step of inferential analysis consisted of identify which variables have the greater predictive power to anguish.

Ethical Considerations

Ethical aproval was obtained by the Research Ethics Commitee of the Psychiatry's Institute of Clinic's hospital of Medicine's faculty of São Paulo's University, Brazil, on January 27, 2021. CAAE: 37028419.2.0000.0068.

RESULTS

In the context of comparing the groups with anguish and without anguish with numerical and nominal variables, only the variable BSI Somatization was considered significant and, among the nominal variables, variables with greatest significance were gender, education level, HAM- A Fears, HAM-A Depressive Mood, HAM-A Gastrointestinal Symptoms and HAM-A Neurovegetative Symptoms.

Table 1. Comparison of groups with anguish and without anguish with numerical variables using the Wilcoxon-Mann Whitney test.

Variable	P-value
Age	0,248
BSISomatization	0,02*
BSIObsessionCompulsion	0,926
BSIInterpersonalSensitivity	0,828
BSIDepression	0,724
BSIAnxiety	0,72
BSIHostility	0,571
BSIPhobicAnxiety	0,684
BSIParanoidIdeation	0,621
BSIPsicoticism	0,71
HADSAnxiety	0,828
HADSDepression	0,504
IDATEState	0,698
IDATETrait	0,761
HAM-A Total Score	0,129
DSQAntecipation	0,682
DSQMood	0,393
DSQSupression	0,45
DSQSublimation	0,813
DSQRacionalization	0,898
DSQPseudoAltruísm	0,734
DSQIdealization	0,351
DSQReactiveFormation	0,223
DSQAnulation	0,092
DSQProjection	0,647
DSQPassive Agressin	0,341
DSQActingOut	0,775
DSQIIsolation	0,66
DSQDesvalorization	0,879
DSQAutisticFantasy	0,796
DSQNegation	0,764
DSQDisplacement	0,721
DSQDissociation	0,539
DSQSpin-off	0,94
DSQSomatization	0,693

Table 2. Comparison of groups with anguish and without anguish with categorical variables via Chi-square test.

Variable	P-value
Sex	0,041*
educationlevel	0,048*
marital status	0,592
HAM-AAnxsiousMood	0,953
HAM-A Tension	0,417
HAM-A Fear	0,003*
HAM-A Insomnia	0,531
HAM-A IntellectualDifficulties	0,25
HAM-A DepressedMood	0,049*

HAM-A Motor Somatizations	0,885
HAM-A SensorySomatizations	0,26
HAM-A Cardiovascular Symptoms	0,129
HAM-A RespiratorySymptoms	0,323
HAM-A Gastrointestinal Symptoms	0,025*
HAM-A GenitourinarySymptoms	0,924
HAM-A NeurovegetativeSymptoms	0,018*
MINIDepression	0,305
MINIAnxiety	>0,999
MINIOther	0,228

Sociodeographic analysis concluded that gender is the only variable linked to variable anguish. The Chi-square test showed that anguish affects women more than men (p=0.041). A correspondence analysis was also carried out for the MINI questionnaire to visually investigate possible associations of the groups formed by the contingency table composed of the variables anguish, MINI Anxiety, MINI Depression and MINI other diagnoses. It is observed that the group with depression (D_S) is closer to the group with anguish (Ang_S) than the group with anxiety (A_S), thus suggesting that anguish is more associated with depression than with anxiety. It is also noted that the group without depression (D_N) is close to the group without anxiety (Ang_N).

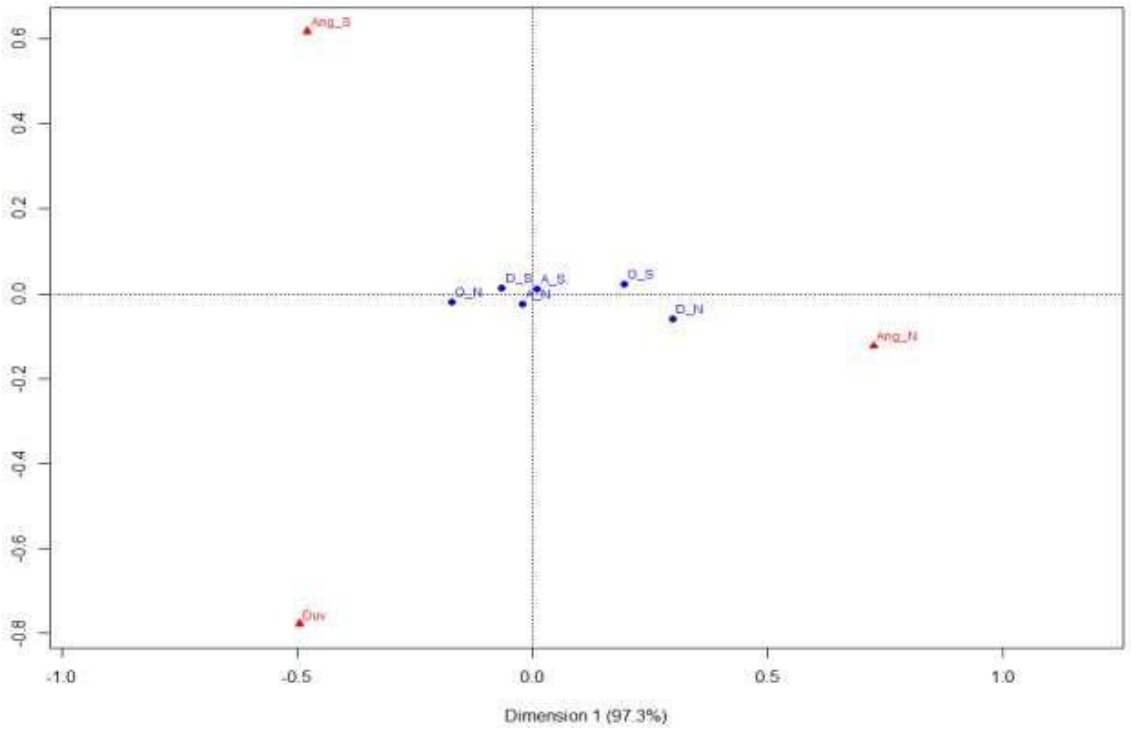

Figure 1. Correspondence analysis graphs between the variables Anguish, MINI Depression,

MINI Anxiety and MINI Other Diagnoses. Ang = Anguish, A = Anxiety, D = Depression, O = Other Diagnoses, S = Yes, N = No.

The descriptive analysis of the variables of the questionnaires showed that BSI questionnaire, somatization, HAM-A depressed mood, HAM-A fears, HAM-A gastrointestinal and HAM-A neurovegetative symptoms were the variables that showed a more link to anguish. The median of the group with anguish is higher, in addition, the p-value of the Wilcoxon Mann Whitney test was significant (p = 0.020).

Relative to the significance comparative analysis, Wilcoxon Mann-Whitney test concluded that under anguish and the psychiatric diagnosis, anguish showed more linked to depression showing that BSI somatization was the only variable associated with a psychiatric diagnosis. Under the nominal variables, Chi-square test showed that between anguish and anxiety HAM-A fears was the variable indicated and between anguish and depression the variable showed by testing Chi-square was the variable HAM-A neurovegetative symptoms.

Table 3. Significance comparative table

Variable	**Anguish(P-value)**	**Anxiety (P-value)**	**Depression(P-value)**
BSISomatization	0,02*	0,826	0,001*
BSIObsessionCompulsion	0,926	0,02*	0,001*
BSIInterpersonalSensitivity	0,828	0,023*	0,008*
BSIDepression	0,724	0,407	0,001*
BSIAnxiety	0,72	0,032*	<0,001*
BSIHostility	0,571	0,208	<0,001*
BSIPhobicAnxiety	0,684	0,024*	0,001*
BSIParanoidIdeation	0,621	0,321	0,001*
BSIPsicoticism	0,71	0,126	0,004*
DSQPassive Aggression	0,341	0,069	0,049*
DSQActingOut	0,775	0,313	0,019*
DSQDissociation	0,539	0,002*	0,949
DSQSomatization	0,693	0,015*	0,04*
HADSAnxiety	0,828	0,03*	0,015*
HADSDepression	0,504	0,224	0,005*
IDATETrait	0,761	0,002*	0,002*
HAM-ATotal	0,129	0,065	0,003*

Table 4. Comparative table of the significance

Variable	**Anguish(P-value)**	**Anxiety (P-value)**	**Depression (P-value)**
HAM-A AnxiousMood	0,953	0,054*	0,625
HAM-A Tension	0,417	0,15	0,043*
HAM-A Fears	0,003*	0,03*	0,184
HAM-A DepressedMood	0,049*	0,231	0,084
HAM-A RespiratorySymptoms	0,323	0,132	0,029*
HAM-A Gastrointestinal Symptoms	0,025*	0,444	0,946
HAM-A NeurovegetativeSymptoms	0,018*	0,494	0,023*
MINIDepression	0,305	0,28	-
MINIAnxiety	>0,999	-	0,28
MINIOther	0,228	>0,999	0,588

The inferential analysis consisted of two steps. The first stage focuses on reducing the size of some questionnaires and the construction of latent variables, possibly more discriminative in relation to groups with and without anguish, and for this purpose the Item Response Theory was used. The second step aims to identify which variables have the greatest predictive power for anguish. Item Response Theory (IRT) was used to reduce the size of the HAM-A and DSQ-40 questionnaires. For HAM-A, two scores were generated through. The first (Hamilton TRI Score) was applied to all 13 variables, the second (Reduced Hamilton TRI Score) was applied only to the most significant variables for distress in the Chi-square tests and also of interest to the researcher, namely: HAM -A Fears, HAM-A Depressive Mood, HAM-A

Gastrointestinal Symptoms and HAM-A Neurovegetative Symptoms. Two Scores were also constructed by simple sum: HAM-A Sum Score and HAM-A Reduced Sum Score, the latter being constructed by the variables mentioned above. It is possible to see two points by observing the graphs. The first is that the HAM-A questionnaire actually has a relationship with the variable anguish, the second is that the difference between the two methods is clear, in which the IRT proved to be superior to the simple sum in terms of discriminatory power. Of the groups. The DSQ-40 has 3 latent variables according to the literature: Neurotic DSQ, Immature DSQ and Mature DSQ, which are described in the section dedicated to the description of the variables. The DSQ, both via the sum and via the TRI, appears to have no relationship between the groups with and without anguish. To investigate whether anguish is more related to depression than to anxiety, a logistic regression model was adjusted in which the response variable (dependent) was defined as having or not having anguish depending on many independent variables considered in the study. The model was adjusted without the doubt group, therefore, for 85 observations, with the variable distress being the response variable and the following 23 explanatory variables: DSQ-40 mature TRI score; immature DSQ-40 TRI score; TRI neurotic DSQ-40 score; reduced Hamilton score TRI; IDATE State; IDATE Trait; MINI depression; MINI anxiety; MINI other diagnosis; BSI somatization; BSI obsession compulsion; BSI depression; BSI anxiety; BSI hostility; BSI phobic anxiety; BSI paranoid ideation; BSI psychoticism; BSI interpersonal sensitivity; HADS anxiety; Age; Gender; Education level; Marital status. The selected variables were the following: Gender, Reduced Hamilton Score, BSI Somatization, BSI Hostility, BSI Obsession Compulsion, Age and MINI Depression.

Table 5. Estimates of the coefficients of the Logistic Regression model

Parameters	**Stimate**	**Standard Error**	**P-value**
Intercept	2,7809	1,359	0,041
MINI Depression (Ref.-Withoutdepression)	1,294	0,773	0,094
BSISomatization	0,090	0,052	0,086
Age	-0,044	0,018	0,013
Score HAM-ATRIReduced	1,047	0,419	0,013
BSIHostility	-0,143	0,067	0,033
BSIObsessionCompulsion	-0,118	0,065	0,070
Sex(Ref.–Male)	1,016	0,586	0,083

Table 6. Odds ratios of the logistic regression model with respective 95% confidence intervals

Variable	**Reference**	**Stimate(RC)**	**ce(95%)**
MINI	No depression	3,640	[0,843;18,363]
BSISomatization	1 pointincrease	1,094	[0,989;1,219]
Age	1 pointincrease	0,956	[0.921;0.989]
e HAM-A TRIReduced	1 pointincrease	2,849	[1.297;6.856]
BSIHostility	1 pointincrease	0,866	[0.753;0.982]
BSIObsessionCompulsion	1 pointincrease	0,888	[0.776;1.001]
Sex	Male	2,763	[0,897;9,165]

Higher BSI Somatization scores are also associated with greater chances of having anguish, with each increase of one point in this domain the chance of anguish increases by 9.4%, keeping the other variables fixed. A 1-year increase in age reduces the expected chance of experiencing anguish by 4.6%, keeping other variables constant. The higher the HAM-A Score, the greater the expected chance of having anguish, that is, with each increase of one point in this Score there is an increase in the expected chance of anguish of 185%, considering the other variables in the model constant. For BSI Hostility, for each increase of 1 point, the expected chance of experiencing anguish decreases by 15.5, keeping the other variables fixed. For BSI Obsession Compulsion, with each increase of 1 point, the chance of having anguish decreases by 12.6%, keeping the other variables fixed. The expected chance of women experiencing anguish is greater compared to men (the chance for women is 2.76 times greater than that for men), considering other variables constant. The estimates obtained indicate that the expected chance of people with depression experiencing anguish is greater in relation to those who do not present this symptom (the chance for people with depression is 3.64 times greater in relation to people without depression), keeping the other variables in mind. fixed.

DISCUSSION

The main objectives of this investigation were to prove the hypotheses that there are differences in symptomatology and comorbidities regarding the experience of anguish, and that anguish is more linked to depression than to anxiety. Anguish consists of an unpleasant sensation that, in most cases is difficult for those who experience it to express. It is a feeling that appears accompained by suffering that causes a feeling of emptiness, suffocation and discontent, becoming a

distúrbios and uncomfort emotional manifestation, which can be confused with depression, as those affected experience, in addition to those sensations typical of anguish, feelings of sadness, emptiness, uselessness, accompained by feelings of tension, distress, worry, unfounded fears and insecurity. Anguish also has similarities with anxiety, in that both feelings include an unpleasant sensation in the chest region. However, in anxiety this unpleasant sensation is accompained by behavior motivated by the individual to do something in order to alleviate the danger, in other words a behavior characterized by escape, avoidance and relief. While, in anguish, which also involves an unpleasant sensation in the thoracic region, it has to do with another type of sensation, that is a sensation which concerns the sensation of paralysis, acceptance and the individual's thoughts are not focused on the future, but rather in memórias or inquiries of negative events that happened in the past. Based on the first hypothesis, it was concluded that the symptoms that are most linked to anxiety are: BSI somatization, HAM-A fears, HAM-A depressed mood, HAM-A gastrointestinal symptoms and HAM-A neurovegetative symptoms. Regarding the second hypothesis, it appears that of the 82 patients with depression, 87.2% had anguish, while of the 69 patients with anxiety, 69.2% had distress, indicating a higher frequency of distress among patients with depression.

Regarding the hypothesis of differences in symptoms and comorbidities between patients with distress and patients without distress, we can verify that the experience of distress is related to somatic symptoms that include thoughts and emotional states in conflict and that cause pain in the body such as aches and pains. head, back and chest, stiffening of the limbs, tachycardia, among others. Among patients who experienced distress, chest pain was the most frequent somatic symptom. Regarding the variables of the Hamilton Anxiety Scale that showed significance, a significant relationship was noted between the variable HAM-A depressed mood and the variables HAM-A gastrointestinal symptoms and HAM-A neurovegetative symptoms with regard to the experience of anguish. Another variable from the Hamilton Anxiety Scale that proved to be significant between patients with anguish and patients without anguish was the HAM-A fear variable. Since patients who reported the experience of anxiety complained of pain or tightness in the chest region, main characteristics of anguish, fear in this context is not fear of a specific object, such as an animal, natural environment or specific situation, but rather the fear of dying due to the experience of anguish. Anguish is more related to the fear of sudden death. In relation to the gastrointestinal and neurovegetative symptoms which, together with the depressed mood symptom which proved to be significant in the context of the experience of anguish, the first involve problems that are related to the anguish, namely the burning sensation or heartburn, abdominal fullness, nausea and vomiting, while among the neurovegetative symptoms, the problems that are more related to anguish include pain, malaise, discomfort, burning, heaviness, tightness, swelling or distension in a specific organ, which in this case is the chest region. The Hamilton Anxiety Rating Scale was also subjected, based on the application of Item Response Theory to dimensionality reduction to find more interesting properties than the simple sum of correct answers and it was concluded that, after dimensionality reduction, i.e. after selecting the HAM-A variables that are most related to anguish, these appear to be more significant compared to the simple sum of correct answers, indicating that, especially the variables HAM-A depressed mood, HAM-A fears, HAM -A gastrointestinal symptoms and HAM-A neurovegetative symptoms have significance regarding the experience of distress. The greater significance of the Hamilton Anxiety Scale variables, as well as the BSI somatization variable, is also proven with the application of the Binomial Logistic Regression Model, which serves to select the independent variables and predict which group a patient is more likely to belong to. based on the independent variables.

As for the second hypothesis, which concerns the greater frequency of anguish among patients with depression compared to patients with anxiety, this can be proven based on the statements given by patients, which refer more to depression than to anxiety. Anxiety is a feeling that causes bodily sensations such as tightness in the chest in situations that occur in the present moment, and the vast majority of patients declared having experienced anguish in present moments, such as loneliness, death of relatives, divorce, unemployment, high workload. work, difficulties in carrying out a task, sadness and thoughts about suicide, fear and insecurity, hopelessness, loss of control, problems related to work, family differences, despair, difficulty crying, physical illnesses, depression, travel, lack of emotional control, sad news, disappointments, bullying, parental rejection, political problems, feelings of oppression, crises due to psychiatric illnesses, stress, emotional pressure, accidents in the family, among others. Another result that reinforces the relationship between anguish and depression is given by the comparative analysis of significance, whose objective was to verify which variables are in common between anguish and depression and between anguish and anxiety, in which it was found that between anguish and depression, the common variables were BSI somatization and HAM-A neurovegetative symptoms, while between anguish and anxiety, only the HAM-A fear variable was common. This result reinforces the theory that anguish is more related to depression than to anxiety, since anguish is a feeling that encompasses somatic manifestations, reaching the conclusion that it is a visceral and physical feeling, while anxiety is a more psychic feeling. Based on the binomial logistic regression model, it is also possible to verify the greater significance among patients with depression compared to patients with anxiety regarding the experience of anguish, in which it can be concluded that, after applying the model, patients with depression have 3 .64 more likely to experience anguish than patients with anxiety. The biblical accounts also follow the direction of the relationship between anguish and depression, since the characters mentioned in the introduction to this research experienced, in addition to anguish, loneliness, fear, the desire to die and psychological suffering, that is, symptoms linked to depression. Another result indicating a greater relationship between anguish and depression than between anguish and anxiety concerns gender, in which it is found that anguish has a greater presence in females, despite the sample being made up mostly of women. However, judging by the proportion of women and men who experienced anguish, it can be concluded that anguish exerts greater force among women. The relationship

between the higher prevalence of anguish among females and depression is justified by the higher prevalence of depressive symptoms among women, since data indicates that women have twice as much depression as men and try twice as much to suicide. According to data from the Brazilian Ministry of Health, depression affects 14.7% of women, while men are affected by 7.3%. Future research can also stimulate conceptual analysis in the areas of psychiatry, psychology and other areas that are related to psychopathology, particularly that related to neurosciences, since the use of complex concepts in basic research, without their prior analysis, becomes sterile, which may be one of the causes for the scarce results in translational studies in psychopathology/neurosciences. It is also recommended that research be carried out with a larger database, as well as using more accurate strategies for diagnosing anguish that provide greater precision in analyzes and greater discrimination of groups with and without anguish and respective predictors.

In summary, the present study suggests that the variables that were most related to anguish
were: gender, reduced HAM-A score, BSI somatization, BSI hostility, BSI, obsession- compulsion, age and MINI depression. The inferential analysis showed evidence towards the main hypothesis of the investigation: "Depression is more related to anguish than anxiety". It is worth highlighting the selection of the variable MINI depression using the stepwise method, which showed a significant association (at a level of 10%), with the interpretation that people with depression are more likely to experience distress compared to people who do not have depression. However, in the selection of variables most associated with anguish, no variable related to anxiety was statistically associated with anguish, except the domains of the Hamilton Anxiety Scale.

The variables that showed the most relationships with anxiety are the following: Gender, Reduced HAM-A Score, BSI Somatization, BSI Hostility, BSI Obsession Compulsion, Age and MINI Depression.

The inferential analysis showed evidence towards the main hypothesis of the study:
"Depression is more related to anguish than anxiety". It is worth highlighting the selection of the MINI Depression variable using the stepwise method, which showed a significant association (at a level of 10%), with the interpretation that people with depression are more likely to experience anguish compared to people who do not have depression. However, in the selection of variables most associated with anguish, no variable related to anxiety was statistically associated with anguish, with the exception of domains from the HAM-A questionnaire.

The present study suffers from some limitations. First, socioeconomic status or ethnicity are not measured, but to our knowledge, they have not previously been associated with the experience of distress. Secondly, the Portuguese version of the Psychopathological Symptom Inventory was used to the detriment of the lack of validation of this scale for the Brazilian population.

Future studies are recommended with a larger database as well as a more accurate strategy for diagnosing anguish, which could bring greater precision to the analyzes and allow greater discrimination of groups with and without anguish and their predictors.

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