Paroxysmal Emotionality in a Group of Adolescents with Substance use Disorders

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ABSTRACT

Objectives: *To characterize the emotional comorbidities and the paroxysmal emotionality of the group of adolescents under study.* ***Methods:*** *A descriptive-exploratory study, a quantitative methodology, and a non-experimental cross-sectional design were carried out. A group of adolescents in psychiatric treatment in two medical centers in Havana for presenting substance abuse disorder was studied. From the first population of 423 outpatient clinics, 9 were taken intentionally; while from the second population of 12 interned adolescents, an intentional sample of 11 of them was taken. A Modified Grau Experiential Self-Report, a Sentence Completion, and an interview were applied to them. Descriptive statistics of the evaluated constructs were performed.* ***Results:*** *(65%) (n=20) have polyaddiction to substances, 50% (n=20) suffer from anxiety, 38% (n=20) trait anger, 50% (n=20) have tense emotional health, 65% (n=20) have poor emotional regulation, 11 (65%) (n=20) are affected by psychological trauma, and paroxysmal negative emotions were anxiety 60% (n=20), mistrust 55% (n=20), impulsiveness 55% (n=20), restlessness 45% (n=20), suffering 45% (n=20), insecurity 40% (n=20), guilt 40% (n=20) and demotivation 35% (n=20).* ***Conclusions:*** *Among the paroxysmal emotions of clinical significance identified are anxiety, mistrust, impulsiveness, restlessness, suffering, insecurity, guilt, and demotivation, among others of lesser frequency but with individual clinical significance.*

INTRODUCTION

"The greatest enemies of US alcoholics are resentment, jealousy, envy, frustration and fear."

Emotions can be classified as positive or negative; the context and circumstances in which these are expressed should be considered to define their normal or pathological character [1]. Emotions such as fear, anger, anxiety, sadness, and disgust constitute basic emotional reactions categorized as negative emotions and some of these have been studied in their link with the health-disease process. While joy, optimism, and good humor are associated with good health and a better quality of life [2,3].

Unpleasant emotionality has been associated with drug addictions, as well as being included as a crucial component in the addictive cycle, which is why it can be considered that before relapse in consumption, an emotional relapse occurs [4-6].

According to Fernandez and Weidberg, adolescents have their characteristics in consumption patterns, and conflicts, among other aspects of interest, reasons why they require adapted tools since the evaluation instruments must contemplate those characteristics that allow enriching the diagnosis. Despite the interest in evaluating the severity of addiction with the use of tests such as the Alcohol, Smoking, and Substance Involvement Screening Test (ASSIST), if a classification of severity is reflected in the Diagnostic and Statistical Manual of Mental Disorders (DSM 5), which allows deepening the diagnosis of addictions, the diagnosis itself would be even more enriched if the paroxysmal emotionality that underlies the craving for consumption and that contributes to increasing the latter is considered [7].

Psychopathological comorbidities are already the rule and this also happens in drug addictions [8-10]. Emotional alterations such as depression, anxiety, irritability, and anger, among others, usually precede the craving for consumption [11-14]. There are negative emotions that patients declare with high clinical significance for them and that have been associated with the craving for consumption [15]. Anxiety and depression are also part of the psychopathological comorbidities in addictions [16,17]. It is also recognized that people with drug addiction problems have a deficit in the recognition of emotions and emotional expressions [18].

The main foundation of this study is that emotionality must be understood integrally, that is, considering the negativity in its interrelation with the positivity of the individual. This is known as the additive principle of emotions. Its authors define it as follows:

> "When the individual experiences multiple sources of emotional stimulation, the emotions add up. If the emotions are negative the result will be a sum that is more intense than an emotional response alone. And if the emotions are positive, the sum will be more intense than just one. If one source of emotion is positive and the other is negative, however, the emotions elicited will subtract from each other, resulting in the stronger of the two being experienced in a more attenuated way".

To the previous principle is added the undoing effect that positivity has on the impact of negativity on the health of the cardiology system [19]. Due to these foundations, it is not appropriate to determine the psychopathological state of patients without considering this aforementioned interrelation, in addition, the contributions of Positive Psychology to the understanding of the continuous health-disease process are considered in this way [20,21]. On the other hand, the psychopathological diagnosis should never remain at the level of classical Nosology alone, since several individual elements can always be identified that, due to their clinical significance, become the basis for personalizing the treatment of patients.

Regarding the above, it can be said that the diagnosis of depression in its generic form contributes insufficiently to the knowledge of the individual, on the other hand, revealing the emotional component of this disorder allows for identifying diverse sources that may be sustaining and intensifying the disorder; this allows to base the personalization of the treatment as already said before, the Evidence-Based Psychological Practices (EBPP) are recommended for the achievement of its effectiveness.

It is proposed as a Research Problem: What emotional comorbidities and paroxysmal negative and positive emotions characterize the group of adolescents under study? The General Objective established: Characterize emotional comorbidities and paroxysmal emotionality of the group of adolescents under study.

Specific Objectives

- Characterize the group according to clinical and sociodemographic variables.
- Identify the possible presence of psychological trauma in the adolescents under study.
- Define the presence of paroxysmal negative emotions established as a trait.

MATERIAL AND METHODS

Type of Study

Descriptive-exploratory, with a quantitative methodology and a non-experimental-cross-sectional design.

Population

- The Community Mental Health Center of Playa during the period from March 4th, 2022, to July 1st, 2022, was made up of 423 adolescents assisted, by both male and female sexes. Sample: 9 (6 males and 3 females)
- The Adolescent Care Center (CDA) during the period from May 3rd, 2022, to August 30th of the same year, was made up of 12 admitted adolescents. Sample: 11 men

The sample was intentional since the adolescents who met the inclusion criteria were chosen.

Inclusion Criteria

- Adolescents admitted to any of the referral services for presenting a substance use disorder (SUD).
- Willingness to participate in the study.

Exclusion Criteria

- Present a dual pathology of psychotic or deficit level.

- Gaming addicts who do not have a drug addiction.

The instruments used were Modified Grau's Experiential Self-Report (MGESR) (Appendix 1), a Sentence Completion test focused on emotionality, and an in-depth interview, both to explore the presence of psychological trauma.

Ethical Perspective

Authorization was requested from the management of both the Community Mental Health Center and the Adolescent Care Center (CDA) to conduct the study. Informed consent was used with both patients and parents.

Characteristics and Instrumental Benefits of the Experiential Self-Report

The test is the result of a sensitive modification to an older version created by Dr. Jorge A. Grau in 1984 and a construct and concurrent validity were performed [22,23]. Its theoretical foundations lie in the first place in the fact that normal emotionality is in itself a circumstantial, transitory phenomenon, but if it becomes very frequent and very intense, it is considered that it has been incorporated as a trait into the habitual way of reacting the individual, and if the emotions are unpleasant (negative) then they will generate social dysfunction and represent a psychopathological disorder.

Secondly, three positive components that represent the universe of positivity are incorporated into the instrument, which are: good humor, optimism, and joy. All three are often considered internal strengths of the individual and exert a favorable influence as a counterpart to negativity. Thanks to the additive principle of emotions and the undo effect of positive emotions on the health of the cardiology system, the calculation includes a subtraction operation between the negativity and positivity values, a calculation that generates the aforementioned spectrum of test constructs [18,19].

According to the data obtained in this instrument, estimations of six constructs will be obtained, which are: Emotional health, Emotional self-regulation, Psychological trauma, depression, anxiety, Alexithymia, and trait anger. Paroxysmal emotions will also be defined.

Concepts

Emotional health: It is defined on the one hand by the number of negative emotions with clinical significance, that is, that generate discomfort for the individual, by the amount of positivity, as well as by the capacity for emotional self-regulation. As operational definitions of this construct, there are the following levels (Ideal, Normal, Slight, Moderate, and Tense).

Emotional self-regulation: It is defined by the individual's ability to regulate their negative emotions based on their emotional balance and psychological well-being. As operational definitions of this construct, there are the following levels (Good, Poor, and Bad).

Affective profile: Reflects the dispersion of negative emotions (from left to right) according to their clinical meaning (a combination of the intensity and frequency) and the value of the Positivity, both obtained by the individual through the Self-report.

Positivity: It is a concept that arises from positive psychology; which groups the set of attributes that make up the protective factors of health, quality of life, and psychological well-being. Its operational definition consists of a value from 0 to 12, the closer that value is to 12, the greater Positivity the individual possesses. Positivity can be considered a dimension from the Transdiagnosis paradigm. As operational definitions of this construct, there are the following levels (Good, Middle, and Bad).

Negativity: Negativity is a measure of the number of negative emotions that have clinical significance. The extent that the number of negative emotions is clinically significant, the greater the negativity of the individual. Negativity can be considered a dimension from the Transdiagnosis paradigm.

Psychological trauma: Its underlying presence is estimated when several negative emotions converge at the same time with the same frequency and high intensity, as usually happens with traumas and Post-Traumatic Stress Disorder (PTSD). Up to three of the presence of trauma is valued as Possible, and five or more of the presence of trauma is valued as "Very possible"; but an interview will be required to clarify it after obtaining an opinion of clinical significance in this regard.

Depression: It is estimated from five specific items (sad, unmotivated, suffering, anguished and apathetic). As operational definitions of this construct, there are the following levels (Severe, Moderate, Slight, and None).

Anxiety: It is estimated from three specific items (restless, insecure, and anxious). As operational definitions of this construct, there are the following levels (Severe, Moderate, Regular, and Absent).

Alexithymia: Although the disorder is more complex, it is estimated from two items ("Unpleasant emotion that I cannot define" and "Confusion"); if required, a specialized instrument is subsequently applied to confirm the diagnosis.

Trait anger: It is estimated from five specific items that are (irritable, impulsive, angry, Scorn (contemptuous) and resentful). As operational definitions of this construct, there are the following levels (Severe, Moderate, Slight, and Absent).

Paroxysmal emotions: are those reported by individuals as experienced by them with high frequency and intensity. When both qualities converge in an experience, it is then recognized that they have already become a trait forming part of the emotional predisposition to react in a dysfunctional way. If an individual presents sequels of

psychological trauma, it is easy to be detected by the confluence of more than four or five paroxysmal negative emotions forming a constellation.

RESULTS

General Characterization of the Group According to Clinical and Sociodemographic Variables

According to the data reflected in Table 1, it is significant that all of them have middle schooling levels, 13 of the cases (65%) present a Polyaddiction to substances, while the average drug use time of the group is 2 years.

Table 1 Brief psychosocial characterization of the studied group N=20

Patient		Age	Sex	Race			Schooling		Kind of addiction	Time of consumption
				B	M	N	9th	12th		
1	GB	19	F	1			1		Polyaddiction	4
2	NH	17	F	1			1		Polyaddiction	2
3	YM	16	M	1			1		Polyaddiction	2
4	OR	18	M			1		1	Polyaddiction	1
5	DM	17	M	1				1	Polyaddiction	2
6	JF	17	M			1	1		Polyaddiction	3
7	EK	18	M	1			1		Polyaddiction	3
8	HG	17	M	1			1		Polyaddiction	3
9	YK	18	M	1			1		Polyaddiction	4
10	EW	18	M	1				1	Polyaddiction	1
11	LD	18	M	1				1	Polyaddiction	3
12	AG	18	M		1		1		Polyaddiction	5
13	OL	18	M	1				1	Polyaddiction	3
14	DY	15	F			1	1		Marihuana	2
15	JC	18	M	1				1	Marihuana	2
16	DZ	17	M	1			1		Marihuana	2
17	RN	16	M	1			1		Marihuana	1
18	ER	18	M	1				1	Marihuana	1
19	OC	16	M	1			1		Crack	1
20	YL	16	M			1	1		Crack	1
	Media	17		15	1	4	13	7		2
Source: authors archive										

50% of the group is affected by the anxiety of clinical significance distributed equally as can be seen in Table 2, meanwhile, with depression, 20% of the cases are equally distributed between the Severe and Moderate levels as shown.

Table 2 Anxiety and depression levels in the group

		Anxiety		N=20
Levels	**Severe**	**Moderate**	**Slight**	**None**
Frequency	5	5	6	4

Average	25%	25%	30%	20%
Depression				
Frequency	2	2	5	11
Average	10%	10%	25%	55%
Source: authors archive				

The third part of the cases is affected by a tendency to anger, either high or moderate, as shown in Figure 1. N=20
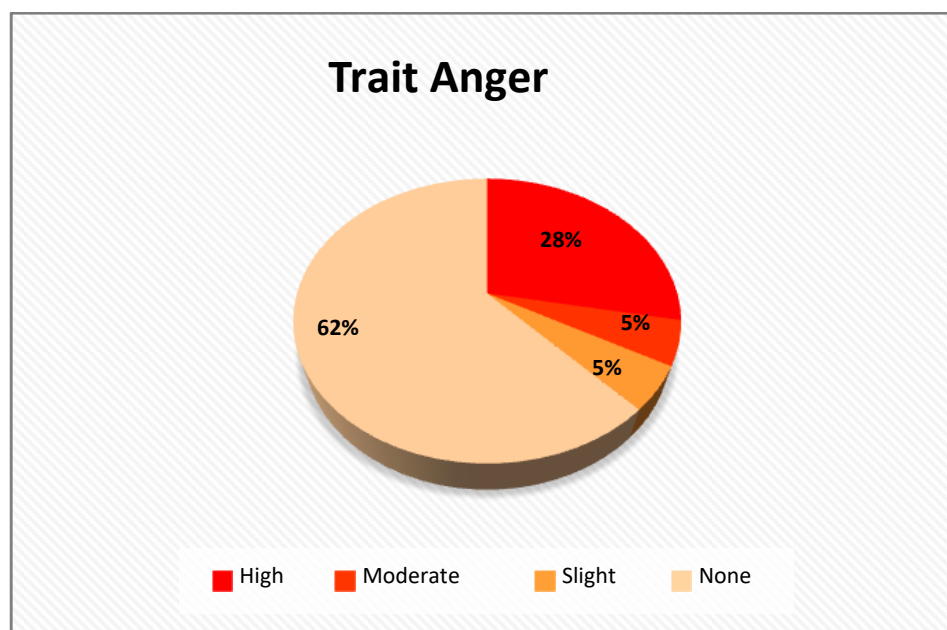

Figure 1 Trait Anger in the group

As can be seen in Table 3, half of the adolescents have tense emotional health, 65% have poor self-regulation, 30% are very likely to be affected by at least one psychological trauma and the other 35% may also have trauma sequelae.

Table 3 Emotional health, Emotional self-regulation, and Psychological trauma N=20

	Emotional Health			Emotional Self-regulation		Psychological Trauma		
	Normal	**Moderate**	**Tense**	**Good**	**Bad**	**No**	**Possible**	**Very possible**
Frequency	7	3	10	7	13	7	7	6
Average	35%	15%	50%	35%	65%	35%	35%	30%
Source: authors archive								

About Negativity, it can be seen through the group's affective profile of the Self-report that there is an average of 4.3 negative emotions with the highest clinical significance meanwhile Positivity got a 6.4 average before the ideal and expected 12 (Figure 2).
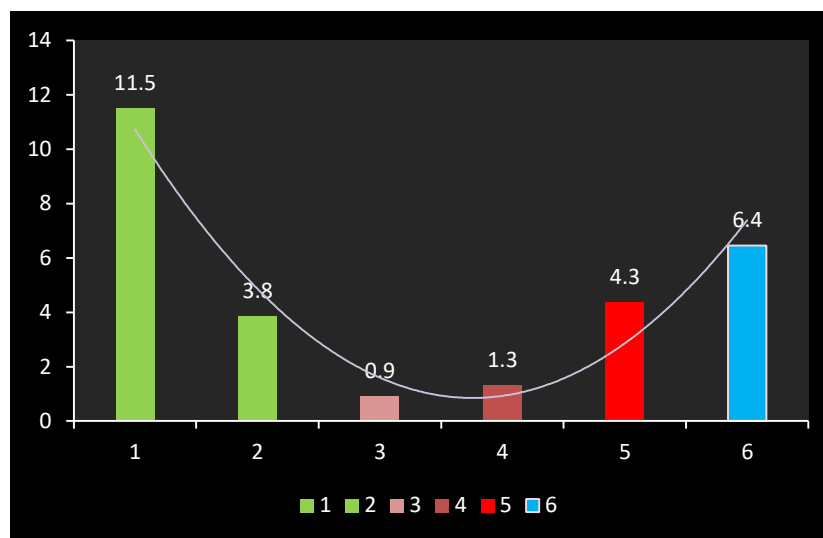
Figure 2 Negativity *vs* Positivity represented through the group's affective profile

35% of adolescents seem to be affected Alexithymia at some level of clinical significance.

Regarding the paroxysmal experiences, in Table 4 it can be seen that anxiety was the highest experience followed by distrust, impulsiveness, and restlessness, among others that decrease in frequency. It must be taken into account that at the critical level the highest intensity of the experience converges with the highest frequency in which it is felt. The high frequency defines the character of this experience as a trait, that is, as a component of the emotional predispositions of these adolescents, while the intensity highlights the clinical significance as a symptom and also, very possibly, the repercussion of this symptom in the context of relationships of this people.

It should be remembered that there are related experiences, for example, "Unpleasant emotion that I cannot define" and "Confusion" are two crucial attributes of Alexithymia, and in patients who reported these symptoms.

Table 4 Distribution of paroxysmal negative emotions collected in Grau's Experiential Self-Report N=20

No.	Negative experiences	Without clinical significance			With clinical significance	% with clinical significance
		0	**Slight Level**	**Middle Level**	**Critical Level**	
1	Anxiety	6	2	6	6	60%
2	Distrustful	8	1	2	9	55%
3	Impulsivity	6	3	4	7	55%
4	Restless	4	7	2	7	45%
5	Suffering	9	2	1	8	45%
6	Insecurity	8	4	3	5	40%
7	Guilty	6	6	5	3	40%
8	Unmotivated	10	3	3	4	35%
9	Unpleasant emotion that i am not able to define	10	4	3	3	30%
10	Jealous	10	4	2	4	30%
11	Embarrassed	9	5	2	4	30%
12	Irritability	12	3	2	3	25%

13	Sadness	12	4	1	3	20%
14	Fear	13	3	2	2	20%
15	Anger (rage)	12	4	0	4	20%
16	Resentment	11	5	0	4	20%
17	Anguish	12	4	1	3	20%
18	Shy	14	3	1	2	15%
19	Scorn	16	2	1	1	10%
20	Envy	18	0	1	1	10%
21	Apathy	15	3	0	2	10%
22	Confusion	11	7	0	2	10%
Source: Author archives						

DISCUSSION

The fact that adolescents with Polyaddiction predominate is a reflection of a tendency to modify consumption patterns on a global scale, but what is interesting is that this in turn is related to emotional damage suffered in childhood; in this regard, in a study, was shown that people who have been affected by psychological trauma in childhood are those who report consumption of multiple substances and severity in the consumption of crack and cocaine [7,24]. Both elevated anxiety and depression are typical findings in drug-using populations, especially in adolescents [14]. Trait anger is also an attribute associated with drug addictions, but in the case of adolescents, it is very notable and is linked to severe emotional self-control difficulties [11].

About Alexithymia, it is estimated that 35% of patients may present this disorder to some extent (as it is a rapid test, it only makes estimates of the presence or absence of a disorder and it is advisable to confirm this finding with a specialized test). Alexithymia is usually associated with alcoholism in adults as well as in female adolescents with Eating and Substance Use Disorders [16,17]. The fact that 50% of the patients suffer from tense emotional health is a logical consequence of the systemic disorders they suffer from since the majority have difficulties with emotional self-regulation typical of adolescents when they are involved in Substance Use Disorder (SUD). The other component that explains this tense emotional health is that the majority (65%) are presumably affected by some psychological trauma between the "Very possible" and "Possible".

These last results were triangulated with those obtained in the Completion of sentences and the interview; It was then possible to confirm that 11 of those 13 suffer psychological trauma of various kinds. Among the causes of childhood trauma, some of them were victims of family violence, sexual abuse, dysfunctional attachment relationships, and parental abandonment. Six of these adolescents are polyaddicts, three are marijuana smokers and the other two ones crack users; results that coincide with the findings of other authors where polyaddiction is related to severe crack and cocaine use as well as marijuana use as a preference for individuals who suffered psychological damage in childhood [24,25].

Negativity is very high in this group. This means the presence of several negative emotions of high frequency and intensity (that we call paroxysmal) and therefore with clinical significance; qualities that have turned it into a trait and explain the social dysfunctions of these individuals. This contrasts at the same time with a deficient Positivity in these adolescents. When this is verified, it means that they have few adaptive resources from the emotional

dimension to successfully face the anguish, which worsens the psychopathological clinical situation much more. In this case, the clinician must plan health promotion efforts to enhance these three positive qualities after completing the psychotherapeutic program. In the care program developed for years at the Psychiatric Hospital of Havana for the treatment of people with problematic drug use, efforts to promote emotional health have been included using humor as a resource and strategy [26].

It should be taken into account that, according to Clark and Watson, a positivity deficit is considered one more quality of depressive states [27]. Finally, regarding the paroxysmal emotions collected, the results largely coincide with those obtained in a study with adults with drug use, especially anxiety, mistrust, and restlessness, while acknowledging that this study was carried out with an earlier version of the current instrument used [4]. The practicality of this characterization lies in the fact that it guides the therapist about which experiences to work on in the group of psychotherapy and which ones to work on in particular with some individuals; that is the essence of this perspective. Experiences such as resentment, guilt, shame, or fear, all of them related to social contexts, are usually linked to failures in social insertion, to unpleasant experiences, so it is pertinent to work on them in the psychotherapeutic consultation.

If it is about the psychological trauma reflected by the synchronous confluence in intensity and frequency of clinical significance of several emotional experiences, the study should be deepened to detail the traumatic experiences and solve them with the conviction that this will contribute to reducing the weight of the affective comorbidities that enhance the craving for consumption and largely explain the sustainability of a dependency. Working from this perspective, greater effectiveness is expected for psychotherapeutic assistance [6].

CONCLUSION

- The group of adolescents studied is typified above all by polyaddiction as a consumption pattern, in comorbidity with anxiety, depression, trait anger, possible Alexithymia, poor emotional health, and difficulties with emotional self-control.

- It was possible to estimate and then confirmed through this strategy and instruments that the majority were affected by at least one psychological trauma.

- A group of paroxysmal emotions of clinical significance that require psychotherapeutic attention was identified because they make up the affective comorbidities of individuals. Among the higher emotions are distrust, impulsiveness, insecurity, guilt, jealousy, shame, and irritability.

DECLARATIONS

Conflict of Interest

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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APPENDIX
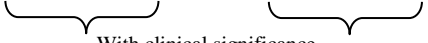
Name _____ Age _____ Schooling _____

Instructions: To the left column there are a series of emotions that you could feel. To the right of each one, there is a horizontal line whose left end indicates the weakest grade in that you feel these emotions, while the right end corresponds to the biggest intensity in that you may have felt them.

You should check only one box per row that you think best reflects the intensity with which you have been feeling each emotion during the last few months. Please make sure to match the chosen intensity with the frequency in which it occurs

.

Appendix 1 Results through the Grau's Modified Emotional Self report (N=20)

	Intensity	Scarcely			Moderately			Intensely			-	
	Frequency	0	1	2	0	1	2	0	1	2		T
1	Restless	3	0	0	0	8	0	0	2	7	20	
2	Distrustful	5	4	0	0	1	1	1	1	7	20	
3	Good Mood	2	1	0	0	5	4	0	1	7		20
4	Sad	7	2	1	1	3	1	0	1	4	20	
5	Unmotivated	7	2	1	0	4	0	0	2	4	20	
6	Envious	19	0	0	0	0	1	0	0	0	20	
7	Fearful	11	3	0	0	3	1	0	1	1	20	
8	Insecure	7	0	0	1	3	0	1	4	4	20	
9	Irritable	6	0	1	2	3	1	2	1	4	20	
10	Shy	9	4	1	0	2	1	1	0	2	20	
11	Optimist	4	2	0	2	6	1	0	1	4		20
12	Impulsive	4	0	0	3	2	2	0	2	7	20	
13	Long-suffering	2	3	1	3	2	0	0	1	8	20	
14	Jealous	8	0	2	1	5	0	0	0	4	20	
15	Angry	6	3	3	0	4	0	0	0	4	20	
16	Scorn	12	3	1	0	1	0	1	0	2	20	
17	Resentful	8	2	1	1	4	0	0	0	4	20	
18	Guilty	3	4	0	1	5	4	0	1	2	20	
19	Broken-hearted	9	2	0	1	2	1	0	2	3	20	
20	Ashamed	5	2	0	2	5	0	2	1	3	20	
21	Apathetic	13	1	1	0	2	0	2	0	1	20	
22	Anxious	3	3	0	1	1	1	0	5	6	20	
23	Confused	6	5	0	0	6	0	0	1	2	20	
24	Glad	1	0	1	0	4	3	0	0	11		20
25	Unpleasant emotion that I am not able to define	6	2	1	0	4	2	0	3	2	20	
	Total per columns	158	37	14	15	80	15	7	27	87	440	60
		36%	8.40%	3%	3.40%	18%	3.40%	1.60%	6%	19.70%		
	Value per columns	0	0	0	0	1	2	0	3	4		
	0=seldom	1= sometimes	2=very often									

With clinical significance