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IMPULSIVITY AND PANIC DISORDER: AN EXPLORATORY STUDY OF PSYCHOMETRIC CORRELATES

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SUMMARY

Background: *Impulsivity is associated with a wide variety of psychiatric disorders. However, the relationship between anxiety and impulsivity is not well explored. The objective of this study was to examine whether anxiety symptoms correlate with impulsivity in patients with panic disorder.*

Subjects and methods: *We examined 21 psychotropic drug-naïve patients with panic disorder recruited from the outpatient setting. The severity of Panic Disorder was assessed with Panic and Agoraphobia Scale (PAS)-clinical rating version. Impulsivity was evaluated with Barratt Impulsiveness Scale, 11th version (BIS-11).*

Results: *Our findings indicate the correlation between specific dimensions of impulsivity and selected subscales of Panic and Agoraphobia Scale. The positive correlation between attentional and non-planning dimensions of impulsivity, 'disability' and 'worries about health' in drug-naïve patients with PD was observed.*

Conclusions: *The findings corroborate with the prior reports of higher impulsivity trait among patients with anxiety disorders.*

Key words: *panic disorder – impulsivity – anxiety - BIS-11 - Panic and Agoraphobia Scale*

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INTRODUCTION

Impulsivity is a key feature of several psychiatric disorders contributing to the increase in the suicidality and substance abuse rates (Horesh 1997, del Carlo 2013). Multifaceted construct of impulsivity has numerous definitions (Moeller 2001). Traditionally impulsivity was seen as displaying a negative relationship with anxiety (Askenazy 2000, Apter 1993, Caci 1998, Lecrubier 1995). Anxiety alters the subject's behaviour to potential danger and operates to inhibit behaviour under conditions of heightened threat (Gray 1982). However data revealed high rates of comorbidity between anxiety disorders and impulse control disorders or impulsivity trait (Preve 2014, del Carlo 2013, Summerfeldt 2004). Moreover subjects with impulse control disorders experience more anxiety arousal and tension before to commit impulsive acts (Preve 2014).

Epidemiological data show that panic disorder (PD) is one of the most disabling anxiety disorders and it is associated with high burdens (Nutt 2011). Fear conditioning is a core process for the development and maintenance of PD. On neural level, brain mediates threat in response to stimuli that signal safety have been reported as a pathophysiological correlate of PD (Hahn 2015).

The objective of this exploratory study is to examine whether anxiety symptoms correlate with impulsivity in drug-naïve patients with panic disorder.

SUBJECTS AND METHODS

We examined 21 psychotropic drug naïve patients with panic disorder recruited from the outpatient setting. The inclusion criteria were: 18-60 years of age and the diagnosis of PD based on SCID-I (DSM-IV-TR). The exclusion criteria were the presence of any chronic somatic illness, positive history of neurological disorders, substance abuse, concomitant medication with beta-blockers, steroids, calcium channel blockers, triptans and any positive history of psychotropic medication.

The severity of PD was assessed with Panic and Agoraphobia Scale (PAS)-clinical rating version. The PAS scale assessment covers the past week. It contains 13 items grouped in five subscales: (1) 'Panic Attacks' including the items frequency, severity and duration; (2) 'Agoraphobia' including frequency, number and relevance of situations; (3) 'Anticipatory Anxiety' including frequency and severity; (4) 'Disability' including family, social relationships and employment; (5) 'Worries about health' including worries about health damage by panic attacks and assumption of organic disease. The total score is obtained by summing up the item scores and ranges from 0 to 52 points (Bandelow 1998).

Impulsivity was evaluated with Barratt Impulsiveness Scale, 11th version (BIS-11). The BIS-11 assesses three impulsivity dimensions: attentional, motor and non-planning one (Vasconcelos 2012). An overall score is determined by summing all items. The higher the score the higher the level of impulsivity (Patton 1995, Summerfeldt 2004, Vasconcelos 2012). Attentional impulsivity- inability to focus on the ongoing task and cognitive instability; non-planning impulsivity-inability to plan and think carefully, orientation towards the present rather than to the future and included self-control; motor impulsivity- acting on the spur of the moment (without inhibition) and perseverance (Taylor 2008, Vasconcelos 2012).

Table1. Correlations between impulsivity dimensions and Panic and Agoraphobia Scale items (n=21)

Variable	Barrat-attentional impulsivity	Barrat-motor impulsivity	Barrat-non-planning impulsivity	Barrat-total impulsivity
PAS A1	0.411842	-0.202193	0.076857	0.113277
PAS A2	0.000000	0.139237	-0.100966	0.049212
PAS A3	0.187521	0.216204	0.074352	0.320703
PAS U	-0.102234	-0.070935	0.185176	0.000000
PAS B1	0.129995	0.021091	0.031043	0.107413
PAS B2	0.052562	0.152203	-0.050777	0.119104
PAS B3	0.226628	0.110855	0.106947	0.278362
PAS C1	0.192764	0.100010	-0.095938	0.127443
PAS C2	-0.038105	-0.021693	0.112376	0.030190
PAS D1	0.331224	0.071906	0.095697	0.298248
PAS D2	0.022006	-0.159301	0.108947	-0.048164
PAS D3	0.444682*	0.177076	-0.168094	0.283769
PAS E1	0.020592	0.262808	-0.472445*	-0.067484
PAS E2	-0.066416	-0.326846	-0.152602	-0.389542
PAS total	0.223900	0.042282	-0.050151	0.126612

*p<0.05000

The statistical analysis was performed using non-parametrical Spearman's rank correlation test. All analysis were conducted with Statistica v.10.0 software. The study was performed in agreement with the Declaration of Helsinki following the approval of the Ethic Research Committee of the Institution. For each study participant, written consent was obtained.

RESULTS

Correlations between impulsivity dimensions and Panic and Agoraphobia Scale items are presented in Table 1. According to our study attentional impulsivity significantly correlates with PAS D3 (disability: employment, housework); non-planning impulsivity correlates with PAS E1 (worries about health damage).

DISCUSSION

Literature findings regarding anxiety and impulsivity are inconsistent, mostly due to methodological differences between studies. In particular the diversity of the observations obtained results from variable impulsivity measure tools and concomitant of psychotropic medication received by the study subjects. Majority of data indicates that there is a positive correlation between impulsivity and anxiety disorders (del Carlo 2013, Summerfeldt 2004, Kashdan 2008). According to del Carlo et al. (2013) patients with panic disorder were more impulsive than healthy controls. Moreover, patients with cyclothymia and panic disorder were more impulsive than patients with panic disorder without cyclothymia. In a study by Summerfeldt et al. (2004) panic disorder (n=37), social anxiety disorder (n=24), obsessive-compulsive disorder (n=40) reported higher scores in total impulsiveness and cognitive dimension comparing to healthy controls (n=49). In another study (Kashdan & Hofmann 2008) patients (n=84) with generalized social anxiety disorder exhibited higher impulsivity scores than healthy control. Other studies also revealed high rates of comorbidity between anxiety disorders and impulse control disorders (Preve et al. 2014).

CONCLUSIONS

The positive correlation between attentional and non-planning dimensions of impulsivity, 'disability' and 'worries about health' in drug-naïve patients with PD was observed. Further neurobiological studies are needed to understand the implications of that associations as small sample size and exploratory nature of this study pose major limitation of this paper. The findings corroborate with the prior reports of higher impulsivity trait among patients with anxiety disorders.

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Conflict of interest: None to declare.

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