ASSESSMENT OF DIFFERENCES IN AGGRESSIVE POTENTIAL AND ANTISOCIAL TRAITS IN HOSPITALIZED FORENSIC PATIENTS USING PERSONALITY ASSESSMENT INVENTORY (PAI)

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Abstract

The clinical retrospective study of 120 subjects involved in the process of assessment during psychological evaluation and hospital treatment of severe mental disorder will be presented. Violent criminal act is a direct manifestation of release of aggressive potential, but it can be triggered also by psychotic symptoms like delusions and hallucinations. A sample of 60 subjects hospitalized at the forensic unit of psychiatric department were assessed using Personality Assessment Inventory (PAI) and compared to 60 subjects from general psychiatric wards. Beside descriptive statistical methods univariate and multivariate analysis of variance was performed to test hypothesis of significant differences in PAI aggression scale (AGG) and antisocial clinical scale (ANT) and subscales (aggressive attitude AGG-A, verbal aggression AGG-V, physical aggression AGG-P, Egocentricity ANT-E, Antisocial Behaviors ANT-A and Stimulus Seeking ANT-S) as well as VPI index between groups. Higher scores on the ANT scale were found in the group of forensic in-patients compared to patients from general psychiatric wards and a negative correlation between age and ANT score.

Keywords: *Personality assessment inventory (PAI), aggression, antisocial behavior, criminal offenders, forensic patients.*

1. Introduction

Assessment of aggressive potential and antisocial personality traits is one of the major components in the assessment process at different forensic and non-forensic settings. The use of psychometric assessment has seen widespread development within forensic settings, particularly with regard to risk assessment (Walters, 2002) and treatment outcome (Beech, Fisher & Becket, 1999; Blud, Travers, Nugent, & Thornton, 2003). Personality assessments have also been of value in areas such as criminal responsibility (Melton, Petrila, Poythress & Slobogin, 1997), risk of harm to self and others (Otto, 2002), and validity of response style, especially in relation to malingering (Rice, Harris, & Quinsley, 1996).

Among different assessment tools Personality Assessment Inventory (Morey, 1991) is a measure of clinical characteristics and psychopathology. A large survey of psychological test use in forensic assessment found that multiscale personality inventories were most commonly used measures by forensic psychologists, with the MMPI-2 and the PAI being the most commonly used multiscale inventories (Archer et al., 2006). The efficacy of the PAI in forensic settings has been empirically investigated, and results have been favorable (Jung, Toop, & Ennis, 2017).

The PAI provides information that can aid in offender classification, treatment planning, and risk assessment, and can be used to assess for potential risk of aggression towards self and others, to classify offenders, and even to predict the likelihood of disciplinary action being taken against an inmate during incarceration or recidivism once an inmate is released from custody (Matlasz et al., 2017). Douglas, Hart, and Kropp (2001), in their investigation of the validity of the PAI for forensic assessment, concluded that the tool has utility in measuring key forensic related domains, including violence, personality disorder, and psychosis.

The AGG scale has been subjected to a considerable amount of research in terms of the prediction of antisocial behavior. In sample of 129 forensic patients, Douglas, Hart and Kropp (2001) reported that AGG and ANT moderately discriminated between violent and nonviolent patients, with AGG-P being the most critical AGG subscale in terms of differentiating these patients. The Aggression (AGG) scales and subscales of the PAI have also been found to possess structural validity and to be significantly related to institutional misconduct and recidivism (Newberry, & Shuker, 2012).

Concerning ANT scale of PAI, several studies have evaluated the relationship between the PAI and antisocial behavior (Douglas et al., 2007). Edens, Buffington-Vollum, Colwell, Johnson, and Johnson (2002) reported that ANT postdicted institutional infractions among sample of sex offenders, even after controlling for the PCL-R. A subsequent prospective analysis of a subset of this sample reported that the ANT scale possessed some unique predictive validity vis-à-vis the PCL-R for the prediction of certain types of institutional infractions (Buffington-Vollum, Edens, Johnson, & Johnson, 2002).

2. Objectives

The goal of the present study was to identify differences in aggressive potential and antisocial traits between forensic psychiatric patients and patients from general psychiatric wards. Diagnostic categories representing psychopathology, demographic variables (age) and type of criminal act were examined as well. Further, we explored whether any of variables could discriminate between subjects with diminished legal responsibility for reason of insanity and subjects with full legal responsibility for their criminal act. We hypothesized subjects from the group of forensic psychiatric patients will score significantly higher on the AGG and ANT scale and AGG-A, AGG-V, AGG-P, ANT-E, ANT-A, ANT-S subscales and VPI index of PAI compared to subjects from general psychiatric wards.

3. Methods

3.1. Setting and assessment model

The study was designed as retrospective and clinical including data from assessment procedures performed during hospital treatment of forensic psychiatric in-patients and in-patients from general psychiatric wards.

3.2. Sample

Participants included were 120 in-patients (all males) with average age 33,8 years (SD=12,1), among them 60 in-patients from forensic psychiatric ward (34 with court order – group 1 and 26 incarcerated – group 2) and 60 in-patients from general psychiatric wards. They were admitted to Psychiatric Department of University Medical Centre in the period from March 2013 to January 2020. The inclusion criterion for the study was the availability of psychological report including PAI with valid record of responses. Among 60 subjects from forensic psychiatric ward as showing in table 1, 21 committed murder, attempted murder, manslaughter or attempted manslaughter (criminal act type 1), 19 other, less severe type of violent crime (type 2) and 20 non-violent criminal act (type 3). 34 subjects were sent to hospital treatment by court order after committing a violent crime and found not guilty by reason of insanity caused by severe mental illness at the time of offense and 26 represented prison inmates who were hospitalized at the forensic unit due to various mental disorders.

Diagnosis and demographic details and were obtained from hospital computer data base and psychological assessment reports with PAI records from hospital archives.

3.3. Measures

Personality Assessment Inventory (PAI) is a 344-item self-report questionnaire made up of 22 nonoverlapping scales (4 validity, 11 clinical, 5 treatment and 2 interpersonal style scales (Morey, 1991). The ANT scale of the PAI purports to measure affective, interpersonal, and behavior features commonly associated with psychopathy and antisocial personality. It is comprised of three subscales and each subscale is purported to assess a conceptually distinct aspects of the larger construct: Egocentricity (ANT-E) interpersonal style that is self-centered, remorseless and emotionally callous, Antisocial Behaviors (ANT-A) or conduct problems and antisocial behavior and Stimulus Seeking (ANT-S), a proneness for boredom and a penchant for thrill-seeking. The AGG scale was constructed to measure attitudes and behaviors that are relevant to hostility, anger and aggression. AGG also has three subscales, namely Aggressive Attitude (AGG-A, poor management and frustration tolerance), Verbal Aggression (AGG-V, lack of limitation when faced with confrontation, insulting with little or no provocation) and Physical Aggression (AGG-P, physical outburst, fights, damage to property and threats of violence). Violence Potential Index (VPI) scores are based on the presence (1 point) or absence (0 point) of 20 different PAI profile features, including scores on ANT and AGG subscales.

3.4. Data analysis

All analyses were carried out on SPSS 23 statistical software package for Windows 10. Beside descriptive statistical methods univariate and multivariate analysis of variance were used.

3.5. Results

Table 1. Comparison between two groups of forensic in-patients.

	Group of forensic in-patients		total
	Court ordered to treatment	incarcerated	
Type of criminal act – type 1	16	5	21
type 2	10	9	19
type 3	8	12	20
total	34	26	60

Table 2. Chi-Square Test.

	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	5,648	2	,059

Table 3. Multivariate analysis of variance – dependent variables ANT, AGG and VPI.

dependent variable		Type III Sum of squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Forensic inpatients/	ANT	589,003	1	589,003	4,934	,028**	,041
general psychiatric	AGG	159,584		159,584	,904	,344	,008
inpatients	VPI	354,696		354,696	1,361	,246	,012
Type of criminal act	ANT	108,206	1	108,206	,907	,343	,008
	AGG	86,641		86,641	,490	,485	,004
	VPI	17,840		17,840	,680	,794	,001
Diagnosis of ICD-10	ANT	205,048	1	205,048	1,718	,193	,015
	AGG	17,847		17,847	,101	,751	,001
	VPI	126,440		126,440	,485	,488	,004

*p<,01 **p<,05

Table 4. Univariate analysis of variance – dependent variable ANT.

	df	Mean Square	F	Sig.	Partial Eta Squared
Forensic inpatients/general psychiatric inpatients	1	836,840	7,183	,008*	,059
Age	1	651,051	5,588	,020**	,046
Type of criminal act	1	148,026	1,271	,262	,011
Diagnosis of ICD-10	1	11,069	0,095	,758	,001

*p<,01 **p<,05

Table 5. Multivariate analysis of variance.

dependent variable		Type III Sum of squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Forensic inpatients/	ANT-A	1104,753	1	1104,753	8,392	,005*	,068
general psychiatric	ANT-E	876,186	1	876,186	8,412	,004*	,068
inpatients	ANT-S	59,138	1	59,138	,427	,515	,004
Age	ANT-A	596,151	1	596,151	4,528	,035**	,038
	ANT-E	231,626	1	231,626	2,051	,155	,018
	ANT-S	476,794	1	476,794	3,441	,066	,029
Type of criminal act	ANT-A	183,908	1	183,908	1,397	,240	,012
	ANT-E	204,160	1	204,160	1,960	,164	,017
	ANT-S	14,957	1	14,957	,108	,743	,001
Diagnosis of ICD-10	ANT-A	220,994	1	220,994	1,679	,198	,014
	ANT-E	277,032	1	277,032	2,660	,106	,023
	ANT-S	22,214	1	22,214	,160	,690	,001

*p<,01 **p<,05

4. Discussion

Present study was an empirical attempt to examine differences in antisocial traits and aggressive potential between forensic in-patient and general psychiatric in-patients. Among forensic in-patients two different groups were compared in terms of type of criminal act, aggression and antisocial traits, namely patients court ordered to treatment and incarcerated patients. Also other factors (age, diagnosis of ICD-10) that could contribute to aggressive potential and antisocial traits were investigated. We

hypothesized forensic in-patients will show significantly higher level of aggressive potential and antisocial traits compared to general psychiatric in-patients measured by PAI scales and subscales. Our hypotheses were partially confirmed.

First, the type of criminal act and possible differences were defined in both group of forensic patients. All criminal acts were divided into three groups according to the level of violence type 1 having the highest level of violence and type 3 lowest. Frequencies of the types of criminal act were then compared between the groups of forensic in-patients and differences were tested by chi square test (table 1 and table 2). Although the level of significance was not fully reached (p=,059), the trend of court-ordered-to-treatment patients being prone to more violent criminal acts then incarcerated patients is clearly recognizable.

Multivariate analysis of variance in table 4 shows three main PAI measures (clinical scale ANT, treatment scale AGG and VPI index) applied to the group of forensic in-patients and general psychiatric in-patients. The two groups of inpatients differ significantly only on the ANT scale, where forensic in-patients scored significantly higher on ANT scale compared to general psychiatric in-patients (table 6). There were no significant differences in AGG and VPI between forensic in-patients and general psychiatric in-patients. No significant correlation was found between the level of violence of criminal act and any of PAI measures nor between diagnosis and PAI measures.

In following univariate anal we explored further the ANT in different groups of patients. In table 5 correlation between age and ANT score can be found and comparison between different types of criminal act and different diagnosis considering ANT score. There is a significant negative correlation between patients' age and ANT score, which means the level of antisocial traits decline with aging and older patients have less prominent antisocial traits then younger. No significant correlation was found between type of criminal act and ANT score, nor between diagnostic categories and ANT score.

To investigate the nature of antisocial traits in both groups of patients more precisely another multivariate analysis was performed. As showed in table 6, there is a significant difference in both ANT-A and ANT-E scores between forensic and general psychiatric in-patient, where forensic in-patients obtained significantly higher scores on ANT-A and ANT-E scales then general psychiatric in-patients. On the third ANT subscale, the ANT-V there was no significant difference between the two groups. ANT-A subscale incorporates various patterns of antisocial behaviors or conduct problems and it is not surprising to expect higher level of antisocial behavior among forensic in-patients considering the fact that each of them has been involved in some type of criminal activity. ANT-E subscale, on the other hand, measures egocentricity, which is an interpersonal style that is self-centered, remorseless and emotionally callous. Therefor we are able to assume forensic in-patients will express more egocentric interpersonal style then other psychiatric in-patients. Table 5 also indicates negative correlation between ANT-A score and age meaning higher level of antisocial behavior patterns is expected in younger patients and the level of antisocial acting declines with higher age.

Present study partly confirms the results of previous investigation. PAI can play an important part of a comprehensive assessment for purposes of treatment planning and decision making in forensic settings. A growing body of literature supports the utility of the instrument for examining distorted responding, psychiatric diagnosis, character pathology, substance abuse, risk assessment and treatment consideration (Morey, & Quigley, 2002).

However, the present clinical study has a number of limitations, therefor its conclusions should be interpreted with some caution. From the aspect of methodological shortcomings it should be pointed out that the sample was relatively small and among PAI protocols (especially those from forensic in-patients group) a substantial number had scores on validity scales close to limit of being invalid.

5. Conclusion

Aggressive and antisocial behavior can be highly disrupted to treatment programming and threaten the physical safety of staff and other patients/inmates. A comprehensive assessment of personality structure of in-patients is a source of useful information which can help predicting and managing the risk of aggressive behavior in hospital setting and later after release from either hospital or prison. Nevertheless, psychological assessment process should incorporate a multimethod approach in the evaluation of an individual's personality, so personality inventories should be combined with projective techniques, structured interviews and rating scales.

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