RASSEGNA ITALIANA DI CRIMINOLOGIA
ANNO XIII N. SPECALE 2019

IMPULSIVITY AND VIOLENT BEHAVIOR: THE EMPLOYMENT OF DIALECTICAL BEHAVIOR THERAPY IN A FORENSIC SETTING

L'IMPULSIVITÀ E IL COMPORTAMENTO VIOLENTO: L'IMPIEGO DELLA TERAPIA DIALETTICA COMPORTAMENTALE IN AMBITO FORENSE

Brunella Lagrotteria • Giuseppe Alessandro Nicolò • Giovanna Paoletti • Valeria Bianchini • Elena Bilotta • Camillo Fedele • Laura Silveri • Barbara Foroni • Michela Marconi

Abstract

Background: Recent studies have shown that forensic psychiatric patients are among the most aggressive across the entire psychiatric population: these observations have proved their consistency in North America, Europe and Australia (1) with a percentage of 45.6% of patients committing aggressive acts in high security forensic units compared to 21.3% of patients committing aggressive acts in generic mental health facilities (2). Despite DBT starts as an appropriate treatment in reducing impulsive behavior (suicide and self-injuries, rage, aggressiveness, depression) in patients with borderline personality disorder (NICE, 2009), lately DBT has been empirically supported both in reducing maladaptive behaviors and in enhancing adaptive behavior in hard to treat forensic psychiatric population. We present a study carried out in the Rems Castore of Subiaco (DSMDP ASL RM5) that engaged a total of 30 psychiatric offenders undergoing detention. **Objective:** to detect if the forensic adaptation of standard DBT model by M.M. Linehan proves to be more effective on impulsivity and alexithymia then treatment as usual. **Sample:** 30 psychiatric offenders undergoing detention in REMS Castore are divided into a DBT experimental group (n=15) and a control group (n=15). The samples differ for clinical features (psychosis, bipolar disorder, personality disorder) and offences. **Procedures:** the experimental group undergoes individual DBT psychotherapy and DBT skills group, while the control group is treated as usual (supportive psychotherapy and nonspecific skills group). The attendance is weekly and the sample undergoes a full 12 months treatment. Impulsivity and alexithymia assessment is performed at baseline (T0) and after 12 months (T1) of DBT treatment application. **Data analysis:** statistical analysis is performed with SPSS software (21), ANOVA repetitive factor and between groups factors. **Results:** it results an interaction effect between the alexithymia scores registered on TAS-20 and the DBT experimental group. This treatment is more effective in improving alexithymia in the experimental group than in the control group (an interaction effect resulted between the alexithymia scores registered on TAS-20 and the DBT experimental group). As for impulsivity, all patients improve independently of the group they were assigned to (no interaction effect resulted).

Keywords: emotional dysregulation • impulsivity • alexithymia • violent behavior • DBT treatment

Riassunto

Studi recenti dimostrano che pazienti psichiatrici forensi sono tra i più aggressivi della popolazione psichiatrica complessiva, in una percentuale compresa tra il 45,6% (atti aggressivi in strutture forensi ad alta sicurezza) ed il 21,3% (atti aggressivi in strutture della salute mentale generiche) (2). Nonostante la DBT nasca come trattamento d'elezione per gli agiti impulsivi in pazienti con disturbo borderline di personalità (NICE, 2009), studi empirici supportano l'efficacia della DBT per la riduzione di comportamenti disadattivi e l'incremento di condotte adattive in pazienti psichiatrici forensi. E' stato condotto uno studio nella R.E.M.S. "Castore" di Subiaco (RM) (DSMDP ASL RM5), che ha coinvolto 30 pazienti psichiatrici sottoposti a detenzione. **Obiettivo**: rilevare se il modello DBT standard adattato a popolazioni psichiatriche forensi è più efficace su impulsività e alessitimia rispetto al trattamento generico. **Metodo**: 30 pazienti psichiatrici in regime detentivo, divisi in gruppo sperimentale DBT (n = 15) e gruppo di controllo (n = 15). I due campioni differiscono per caratteristiche cliniche (psicosi, disturbo bipolare, disturbo di personalità) e reati. **Procedure**: il gruppo sperimentale è sottoposto a psicoterapia DBT individuale e gruppo di abilità DBT, mentre il gruppo di controllo a trattamento generico (psicoterapia di supporto e gruppo di abilità non specifiche), entrambi per 12 mesi a cadenza settimanale. L'impulsività e l'alessitimia sono state misurate prima del trattamento DBT (T0) e dopo 12 mesi (T1) dell'applicazione della DBT. **Analisi dei dati**: L'analisi statistica è stata condotta con l'ausilio del software SPSS (21), Anova con fattore ripetuto e fattore between groups. **Risultati:** il trattamento DBT risulta più efficace nel migliorare l'alessitimia nel gruppo sperimentale (effetto d'interazione tra alessimia e campione sottoposto a DBT); mentre per l'impulsività i due gruppi migliorano indipendentemente dal tipo di gruppo a cui appartengono (nessun effetto d'interazione).

Parole chiave: Disregolazione emotiva • Impulsività • Alessitimia • Comportamenti violenti • Trattamento DBT

Per corrispondenza: Raffaelo LIARDO, email: raffaello.liardo@aslcaserta.it
Bunella LAGROTTERIA, DSMDP Asl Roma 5, Rems "Castore" Subiaco (Rm), Terzo Centro di Psicoterapia Cognitiva, brunellalagrotteria@gmail.com
Giuseppe Alessandro NICOLÒ, DSMDP Asl Roma 5, Terzo Centro di psicoterapia Cognitiva, LUMSA Roma
Giovanna PAOLETTI, DSMDP Asl Roma 5, Rems "Castore" Subiaco (Rm)
Valeria BIANCHINI, DSMDP Asl Roma 5, Rems "Castore" Subiaco (Rm)
Elena BILOTTA, Terzo Centro of Cognitive Psicotherapy, Rome
Camillo FEDELE, DSMDP Asl Roma 5, Rems "Castore" Subiaco (Rm)
Laura SILVERI, DSMDP Asl Roma 5, Rems "Castore" Subiaco (Rm)
Barbara FORONI, DSMDP Asl Roma 5, Rems "Castore" Subiaco (Rm)
Michela MARCONI, DSMDP Asl Roma 5, Rems "Castore" Subiaco (Rm)

© Pensa MultiMedia Editore – ISSN 1121-1717 (print) – ISSN 2240-8053 (on line)

DOI: 10.7347/RIC-NS2019-p77

Impulsivity and violent behavior: the employment of dialectical behavior therapy in a forensic setting

Introduction

Impulsivity, considered as a failure of inhibitory control, both motor and cognitive, is a trans-diagnostic feature of several mental disorders: anyway the comprehension of the concept and the approach to its assessment and treatment deserve further research especially in different psychiatric populations in residential and forensic settings. The identification of the role played by psychological and pharmacological interventions in modulating the development of impulsivity may prevent progression towards personality disorders and the related adverse effects. (McHugh, 2018).

Even though international literature suggests that most of the patients affected by severe mental disorders do not have an history of violence, this is highly represented, instead, in psychiatric offenders, a population that is resistant to the few treatments supported by scientific evidence: the lack of clinical trials on interventions in forensic settings or that relate specifically to impulsivity and violent behavior stands out as especially challenging (Trestman, 2017).

The National Collaborating Center for Mental Health (NCCMH) guidelines recognize that, more than any other interventions, there are proves of effectiveness of the dialectical behavior therapy (DBT) in reducing suicide attempts and self-harm, rage and aggression (NICE, 2009). Recent studies show that forensic psychiatric patients are among the most aggressive across the psychiatric population: these observations have proved their consistency in North America, Europe and Australia (1) with a percentage of 45.6% of patients committing aggressive acts in high security forensic units compared to 21.3% of patients committing aggressive acts in generic mental health facilities (2). A recent international study has shown that forensic psychiatric patients are among the most aggressive across the entire psychiatric population: these observations have proven their validity in North America, in Europe and (Daffern, 2004). Several interventions have been adopted, many of them borrowed from other offender populations, with the aim of reducing violent behavior, and their evidence in a serious mentally ill population is uncertain (Rampling, 2016). The American Psychological Association (APA) and the National Collaborating Center for Mental Health (NICE) guidelines mention dialectical behavior therapy (DBT) as one of the most effective treatments in reducing suicide attempts, self-harm, rage, aggression and depression in patients with borderline personality disorder (2009): considering the lack of scientific evidence on psychotherapy interventions in forensic settings, DBT has been empirically supported in reducing maladaptive behaviors and in enhancing adaptive behaviors in the severely ill forensic psychiatric population.

DBT is currently employed in several forensic units across the world with patients affected by personality disorders and psychotic disorders. In a fairly recent study that engaged eight forensic male patients, Evershed and colleagues (2003) found out that patients treated with a DBT protocol reached better results compared to the control group in reducing the severity of violent acts, the level of hostility and rage. This outcome has been recently confirmed by a Swedish analysis of a forensic sample that underwent cognitive behavioral approaches and dialectical behavior therapy reducing violent behavior and contributing to adherence and overall treatment outcome (Burmeister, 2014).

Dialectical Behavior Therapy has been initially intended by Linehan for patients with chronic suicidality in borderline personality disorder: according to scientific literature it was the first effective therapy for DBP (Linehan, 2015). Dialectical Behavior Therapy is based on a dialectical and biosocial theory that focuses on the role of emotional dysregulation and behavior in psychological disorders (Linehan, 2015); Standard DBT treatment includes a combination of individual psychotherapy, skills group training, phone coaching and consultation team among therapists. The term "dialectical" refers to persuasive dialogue and to the nature of the relationship, to the approaches and strategies used by the therapist to favor change. DBT Skills Training Groups aim to modify maladaptive behavior that may interfere with therapy and with the patient's quality of life, that are generated by an emotional dysregulation. The aim, in learning specific emotional regulation skills, is helping the subject to modify his/her emotional patterns, both behavioral and interpersonal. In particular DBT skills refer to four specific modules: learning the skill of emotional regulation; of mindfulness, the skill of interpersonal effectiveness and of distress tolerance. Each group session is generally very "structured" and defined by steps. Each session starts with a mindfulness exercise, followed by a brief recap of the previous meeting and supervision of the assigned homework, followed by the teaching of a new skill (through frontal teaching, role-playing and cognitive behavioral techniques); the ultimate goal is to interrupt dysfunctional target behaviors and learn and master new skills.

Impulsivity stands as a key feature across several mental disorders (Dowson, 2004; Zilberman, 2003): personality disorders (cluster C), mood disorders (in bipolar disorder along with mood elevation), psychotic and schizophrenic disorders, disorders linked to substance abuse and addiction, neurocognitive disorders. The definition of impulsivity is not definitely established but a common core resides in the high harm potential for others or oneself. Scientific literature (Di Genova, 2004) distinguishes functional and dysfunctional impulsivity: the first one intended as a tendency to act without premeditation when the goal is beneficial, the second instead leads to negative consequences. The na-

ture of impulsivity implies three major assumptions: it is a rapid response, that favors behaviors that are *not goal-oriented*, it may arise *without encouraging stimuli* and when there is *no strong cognitive control*. Some studies (Fossati, 2002; Fossati, 2001) have demonstrated correlation between impulsivity and action oriented traits, such as a tendency towards alcohol and nicotine use.

As for aggressive behaviors, literature distinguishes (Nicolò et al. 2012) between adaptive aggression (defensive, proportional to the event for intensity frequency and duration) and maladaptive aggression (pathological, not proportional to the event for intensity duration and frequency, disrespectful of social rules). The latter is consequently distinguished in impulsive and proactive: the first one implies high arousal of the autonomic nervous system, along with emotions such as rage, fear, education, to comprehend the consequences of one's actions, representing the response to an immediate threat; the second one, instead, does not imply any arousal of the autonomic nervous system, without consequent emotions and perception of immediate menace, cognitive premeditation, goal directed, cold blooded, not elicited behavior, aversive, harm oriented, dominance oriented, aiming towards coercion of the other (Nicolò, 2012). Meloy (1997) specifically differentiates between affective and predatory violence *(Table 1)*.

AFFECTIVE VIOLENCE	PREDATORY VIOLENCE
Intense Autonomic ***Arousal***	***1.*** No or little Autonomic ***Arousal***
Subjective ***emotional*** experience	2. no conscious ***emotion***
Reactive and immedate violence	3. Intentional or predictable violence
Perception of internal or external ***threat***	4. No perception of immediate ***threat***
Aim: harm reduction	5. Variable ***aims***
It may vary target	6. Fixed target
Time-limited behavioral sequence	7.Behavioral sequence not time-limited
Preceded by public display of attitude	8.Preceded by private rituals
Mainly emotional/difensive	9.Mainly cognitive/assault
Enhanced and widespread awareness	10.Intensified and focused awareness

Table 1. affective and predatory violence differences (Meloy, 1997)

Aggressive behavior is a frequent expression or result of specific aspects of different psychopathological conditions: for instance in schizophrenia and in the chronic delusional disorder, aggressive behaviors are determined by hallucinations or delusions; in bipolar disorder aggression is found during manic episodes, along with irritability, hyperactivity, low frustration tolerance, difficulties in adjusting emotional responses to a specific context; in borderline personality disorder aggression is linked to emotional dysregulation, unstable relationships, hyper-reaction to environmental stimuli and impulsivity, along with alcohol or drug abuse. Literature has tried to identify the predisposing factors for maladaptive types of aggression and a certain agreement has been reached on key factors such as: alexithymia, emotional dysregulation, impulsivity (Loas, 2015; Nemiah, 1970; Taylor, 1997). According to Jenkins et al (2014) the lack of awareness of one's emotions may underlie emotional dysregulation, leading to maladaptive behaviors aimed to tone down subjective pain, such as self-injuries (Linehan, 1993). Other studies (Bousardt, 2015) identify the precursor of aggression in the incapacity to recognize and reflect upon one's emotions and in impulsive behaviors. According to several studies (Garofalo, 2016; Roberton, 2014) emotional dysregulation predicts aggressive behaviors in offenders.

As for alexithymia, it corresponds to the difficulty in recognizing, exploring and expressing one's interior experiences; according to literature (Caretti, 2014; Taylor, 2014) this capacity contributes to state of mind regulation. Alexithymia dimensions are:

Difficulties in identifying feelings and in distinguishing between feelings and bodily sensations linked to emotional arousal.

Difficulties in describing feelings to others.

Diminished imaginative capacities, few fantasies.

Outward oriented cognitive style.

Alexithymic subjects feature concrete not insightful thinking and oriented to practical issues; they hardly establish intimate relationships, keeping superficial, not having mentalization and tuning skills of others; they tend toward social conformism and conflict avoidance; they tend to approach others in a distant, not empathic and detached manners.

It is common knowledge in the scientific world that emotional dysregulation represents a relapse risk factor thus becoming a priority in the treatment of the forensic psychiatric population (Taylor, 1997). The most common diagnoses among mentally ill offenders are Antisocial and Borderline Personality Disorder (Howard et al, 2013), and Schizophrenia (Dingfelder, 2004).

Recent studies (Rosenfeld at all., 2012; Galietta and Rosenfeld, 2012; Tomlison and Hoaken, 2017; Tomlinson, 2018) deal with Marsha M. Linehan DBT effectiveness adapted for forensic patients. Specifically it has proved to be effective in reducing aggressive behaviors, rage and hostility in forensic psychiatric samples (Tomlinson, 2017), and on suicidal and self-harm conducts (Mehlum, 2016; Fischer, 2015; James, 2015).

Goals and methods

The present study aims to describe the adaptation of Dialectic Behaviour Therapy DBT of Marsha M. Linehan (Linehan, 2015) in a forensic setting to test its effectiveness on impulsivity and alexithymia.

Partecipants

The study was developed and carried out within the R.E.M.S. "Castore" in Subiaco (DSMDP ASL Rome 5), and enrolled 30 mentally ill offenders undergoing a custodial measure, that were divided into an "experimental" group that followed a protocol of individual therapy and DBT group skills, and a "control" group (n=15), that followed treatment as usual (psychotherapy integrated sessions, groups on daily skills and recreational activities). The diagnostic features of the sample are reported in Table 2.

	"experimental" Group	" control" Group
Schizophrenia	8	11
Schizoaffective Disorder	2	2
Borderline Personality Disorder	2	/
Bipolar Disorder	1	/
Conduct Disorder	1	/
Antisocial Personality Disorder	1	2
Total	15	15

Table 2. Participants' diagnoses

The following *inclusion criteria* were established:

- IQ > 70;
- Past history of impulsive and aggressive behaviors;
- Significant score at TAS-20 (Alexithymia);
- Personal initiative in enrolling in the "experimental" DBT group

Procedures e measurements

The experimental group underwent DBT treatment (individual psychotherapy and DBT groups) for 12 months. DBT protocol required some adaptation compared to its standard version, to adjust it to the different features, both of the patients and of the setting they stay in (inpatient in a custodial setting as opposed to outpatients' settings where DBT is usually administered in Italy). Taking into account all the data from recent scientific literature on effective treatments in psychiatric forensic patients, this study aimed to detect whether the adaptation of the standard model of Dialectical Behavior Therapy by Marsha M. Linhean (individual psychotherapy and skills groups) showed better effectiveness on impulsivity and alexithymia compared to treatment as usual (individual sessions and groups on non-specific skills) on a sample of mentally ill offenders currently inpatients undergoing a custodial measure in a R.E.M.S., affected by different psychiatric disorders (psychoses, bipolar disorders, personality disorders). Impulsivity and alexithymia were assessed through BIS-11 (Barratt Impulsiveness Scale, Patton et al., 1995) and TAS-20 (Toronto Alexithymia Scale, Taylor, Bagby, Parker, 1992) administration respectively at the beginning (T0) and after 12 months (T1). The adaptation of DBT standard version has been

necessary to overcome several patients and setting related factors: the first one is the psychopathological heterogeneity of the sample, DBT treatment is usually intended for borderline personality disorder patients, while our sample had more psychotic patients; this target implied taking into consideration a greater level of cognitive impairment of our inpatients than of borderline personality disorder patients. Other relevant differences are average education and IQ (lower in our inpatients than the average detected in borderline personality disorder patients). Another feature that called for amendments to the original protocol was the setting. Within R.E.M.S. inpatients undergo treatment in a residential and custodial setting that strongly differs from the ambulatory care received by borderline outpatients that are treated with DBT. R.E.M.S.'s internal regulation also does not contemplate DBT principles but focuses on judicial, clinical, sanitary criteria more than on the dialectical model that inspire all the principles that regulate DBT; staff training also stands out as a drawback, not being all the professionals involved specifically trained in DBT (both psychiatrist and nurses) as opposed to the staff employed in DBT residential settings in Italy. Lastly another disadvantage is represented by "motivation": offenders usually are less genuinely motivated than a common borderline patient in a private residential setting of care, aiming to seek secondary advantages that may affect custodial aspects.

Table 3 highlights the major differences between a protocol adapted in a forensic setting and the original one.

FORENSIC SETTING PROTOCOL	VS	DBT STANDARD PROTOCOL
60' group sessions	**VS**	Group sessions around **1h30'/2h**
Treatment duration 12 months	**VS**	**Treatment duration 6 months**
Simplified sessions (es. Mindfulness module)	**VS**	**Standard sessions**
No strict application of DBT rules/principles (staff with heterogeneous background, not specifically trained in DBT, rules influenced by judicial, custodial and sanitary aspects).	**VS**	**Strict application of DBT principles** in all residential settings that follow a DBT protocol, (the entire staff is DBT trained and each professional applies its principles in treatng the patients)
No complete application of behavior DBT group rules (such as missing sessions) influenced by motivation, residential and custodial setting, attendance issues,psychopathological gravity	**VS**	**Inflexible and steady rules coherent with the dialectical perspective**
Treatment is limited to the custodial period duration	**VS**	**The end of the treatment is determined by the fulfillment of the therapeutic goals that were previously agreed**
No application of some skills and activities that are contemplated in the standard protocol (phone coaching, spare time)	**VS**	**Standard protocol application**

Table 3. DBT protocol description in a standard and forensic setting

Data Analysis

To detect differences in the alexithymia and impulsivity scores between the two groups at T0 (beginnng) and T1 (after 12 months), an ANOVA 2 (before and after treatment) X 2 (experimental/control) was performed with repeated measurements of the first factor. Any detected interaction will be broken down applying the test to verify its intensity and the simple effect direction.

Results

ANOVA on alexithymia score shows a main effect on the repeated before-after factor ($F(1,28)= 20.63$; $p<.001$), a main not significant effect for the experimental/control ($F(1,28)=3.17$; $p=.086$), and –most important– a significant interaction effect: $F(1,28)= 8.61$; $p=.007$. In table 4 the average score of the two groups are reported while figure 1 shows the interaction between the belonging group and change over time in the alexithymia scores. The means profile reveals how improvement is higher in the experimental group ($t= 3.91$, $df= 14$; $p=002$) compared to the still significant one registered in the control group ($t= 2.72$, $df=14$; $p=.016$).

	Alexithymia T0 M(ds)	Alexithymia T1 M(ds)
Experimental Group	56.13(12.57)	48.07(12.90)
Control Group	59.80(8.76)	58.07(8.66)

Table 4. Average alexithymia score in the two groups at T0 e T1

Note: N experimental group = 15; N control group = 15.

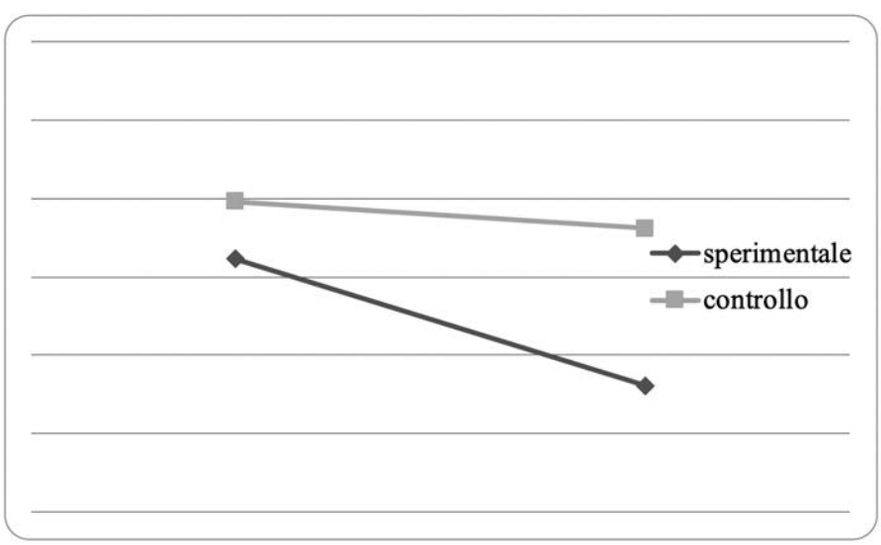

Figure 1. Time-group interaction in alexithymia score

As for impulsivity average scores, ANOVA shows a main before-after effect ($F(1,28)= 12.93$; $p=001$) leading to average improvement in both groups. Neither the main group effect ($F(1,28)=1.69$; $p=.203$) nor the interaction ($F(1,28) = 2,20$; $p=.149$) are substantial. The average values of the two groups are represented in table 5.

	Impulsivity T0 M(ds)	Impulsivity T1 M(ds)
Experimental Group	63.40(14.41)	58.27(11.57)
Control Group	67.33(10.69)	65.20(9.81)

Table 5. Average Score of impulsivity in the two groups at T0 e T1

Ultimately, results show how DBT effectiveness seems to be associated with an improvement in alexithymia scores, that decrease more in the experimental group rather than in the control one. No differences in impulsivity scores are detected between the two groups, that equally decrease after one year of treatment.

Limitations

When analyzing the results we must take into account several limitations of our study: one is represented by the sample diagnostic heterogeneity, opposed to the common application of DBT to only borderline personality disorders patients. Education tends to be lower in our sample (due to cognitive impairment, cultural background, learning difficulties, biased self-report tools) than in the average borderline personality disorder samples; IQ also scores lower results if compared to borderline mean values. Another restriction is represented by the small size of our sample, that we hope to overcome soon, replicating the study with larger numbers. Furthermore the peculiarity of the setting (custodial and regulated by judicial and clinical parameters while standard DBT is applied commonly in outpatients) leads to the necessity of an adjustment of the standard protocol to a forensic setting. Differences were also detected in patients' motivation to treatment, that is freely chosen by outpatients that undergo DBT, as opposed to psychiatric offenders that in R.E.M.S. are bound by a judiciary act. This may reflect in a "fake", or biased by judiciary enforcement, motivation. Treatment duration is linked exclusively to patients' permanence in R.E.M.S. established by law and determined by the degree of dangerousness to public safety and not by clinical parameters (i.e. therapeutic goals). The sample was uneven for clinical and criminal features: subjects affected by very diverse disorders were included: psychoses, bipolar disorders, personality disorders in co-morbidity for substance abuse. Ultimately this study was carried out employing self-report measurements that may resent of the standard limitations that these assessments are subjected to.

Conclusions and clinical considerations

The results of our work confirm the recent literature data on DBT effectiveness, compared to usual treatment in forensic psychiatric population, on impulsivity and alexithymia. Several considerations arise in discussing this paper, especially from a clinical perspective: an intervention focused on emotional regulation helps even severely ill patients to improve not only emotional regulation but also learning and mastering specific DBT skills such as reading abilities, management and awareness of emotions and thoughts leading to better metacognition. (i.e. greater differentiation abilities developed after learning specific mindfulness skills, emotional regulation-fact checking). Specific and secondary outcomes encourage the clinician in pursuing DBT treatment in mentally ill offenders, relying on the common features that the targeted forensic population shares with borderline personality disorder, in psychopathological terms and in examining risk factors for impulsivity, violent acts, aggression; all predictors of criminal recidivism. Our therapeutic results should encourage further adaptation of DBT protocol to forensic settings.

References

Bowers, L., Stewart, D., Papadopoulos, C., Dack, C., Ross, J., Khanom, H., & Jeffery D. (2011). *Inpatient violence and aggression: A literature review. Report from the conflict and containment reduction research programme. London: Section of Mental Health Nursing, Health Service and Population Research Institute of Psychiatry*. Kings College London.

Burmeister, K., Höschel, K., von Auer, A.K., Reiske, S., Schweiger, U., Sipos V., Philipsen, A., Priebe, K., & Bohus, M. (2014). Dialectical Behavior Therapy (DBT)-developments and empirical evidence. *Psychiatr Prax*. Jul; 41(5):242-9. doi: 10.1055/s-0034-1369905. German.

Bousardt, A.M., Hoogendoorn, A.W., Noorthoorn, E.O., Hummelen, J.W. & Nijman, H. L. (2015). Predicting inpatient aggression by self-reported impulsivity in forensic psychiatric patients. *Criminal Behaviour and Mental Health*.

Caretti, V., & La Barbera, D. (2005). *Alessitimia*. Roma: Astrolabio.

Daffern, M., Mayer, M.M., & Martin, T. (2004). Environment contributors to aggression in two forensic psychiatric hospitals.

The International Journal of Forensic Mental Health, 3(1), 105-114. doi: http://dx.doi.org/10.1080/14999013.2004.1047-1200.

Di Genova, A., Rinaldi, O., Tomassini, A., Stratta, P., Marinelli, M., Aniello, M., & Rossi, A. (2004). Studio dell'impulsività in una popolazione affetta da disturbo dell'umore. *Journal of Psychopathology*, 10, 3.

Dingfelder, S. F. (2004). Treatment for the "untreatable". *Monitor on Psychology*.

Dowson, J., Bazanis, E., Rogers, R., Prevost, A., Taylor, P., & Meux, C., et al. (2004). Impulsivity in patients with borderline personalitydisorder. *Comprehensive Psychiatry*, 45, 29-36.

Evershed, S., Tennant, A., Boomer, D., Rees, A., Barkham, M., & Watson, A. (2003). Practice-based outcomes of dialectical behaviour therapy (DBT) targeting anger and violence, with male forensic patients: A pragmatic and non-contemporaneous comparison. *Criminal Behaviour and Mental Health*, 13(3), 198-213. doi: 10.1002/cbm.542.

Fischer, S., & Peterson C. (2015). Dialectical Behavior Therapy for Adolescent Binge Eating, Purging, Suicidal Behavior, and Non-Suicidal Self-Injury: A Pilot Study. *Psychotherapy*, 52(1): 78-92.

Fossati A., Acquarini E., Di Ceglie A., & Barratt E.S. (2002). Psychometric properties of an adolescent version of the Barratt Impulsiveness Scale-11 for a sample of Italian high school students. *Percept Mot Skills*, 95, 621-35.

Fossati, A., Di Ceglie, A., Acquarini, & E., Barratt, E.S. (2001). Psychometric properties of an Italian version of the Barratt Impulsiveness Scale-11 (BIS-11) in nonclinical subjects. *Journal of Clinical Psychology,* 57, 815-28.

Galietta, M., & Rosenfeld, B. (2012). Adapting Dialectical Behavior Therapy (DBT) for the Treatment of Psychopathy. *International Journal of Forensic Mental Health*, 11, 4, The 2nd Bergen Conference on the Treatment of Psychopathy.

Garofalo, C., Holden, C.J., Zeigler-Hill, V., & Velotti, P. (2016). Understanding the connection between self-esteem and aggression: The mediating role of emotion dysregulation. *Aggressive Behavior,* Jan-Feb, 42(1), 3-15.

Howard, R., McCarthy, L., Huband, N., & Duggan, C. (2013). Reoffending in forensic patients released from secure care: The role of antisocial/borderline personality disorder co-morbidity, substance dependence and severe childhood conduct disorder. *Criminal Behaviour and Mental Health*, 23(3), 191-202.

James, S., Freeman, K.R., Mayod, Riggs, M.L., Morgan, J.P., Schaepper, M.A., & Montgomery, S.B. (2015). Does Insurance Matter? Implementing Dialectical Behavior Therapy with Two Groups of Youth Engaged in Deliberate Self-Harm. *Administration and Policy in Mental Health and Mental Health Services Research*, 42(4), 449-461.

Jenkins, A.L., McCloskey, M.S., Kulper, D., Berman, M.E. & Coccaro, E.F. (2014). Self-harm behavior among individuals with intermittent explosive disorder and personality disorders. *Journal of Psychiatric Research*, 60, 125-131.

Linehan, M.M. (1993). *Cognitive-Behavioural Treatment of Borderline Personality Disorder*. New York: Guilford Press.

Linehan, M.M., & Wilks, C.R. (2015). The Course and Evolution of Dialectical Behavior Therapy. *American Journal of psychotherapy*, 69 (2), 97-110.

Linehan, M.M., & Armstrong Suarez, et al. (2015). Cognitive behavioral treatment of chronically parasuicidal borderline patients. *Archives of General Psychiatry*, 63 (7), p.p. 757-766

Linehan, M.M. (2015). *DBT Skills training Manuale*" R. Cortina.

Loas, G., Baelde, O., & Verrier, A. (2015). Relationship between alexithymia and dependent personality disorder: a dimensional analysis. *Psychiatry Research*, 225, 484-488.

McHugh, C., & Balaratnasingam, S. (2018). Impulsivity in personality disorders: current views and future directions. *Current opinion in Psychiatry*, Jan, 31(1), 63-68. doi: 10.1097/YCO.-0000000000000383.

Mehlum, L., Ramberg, M., Tørmoen, A.J., Haga, E., Diep, L.M., Stanley, B.H., Miller, A.L., Sund, A.M., & Grøholt, B. (2016). Dialectical Behavior Therapy Compared with Enhanced Usual Care for Adolescents with Repeated Suicidal and Self-Harming Behavior: Outcomes Over a One-Year Follow-up. *Journal of The American Academy of Child &Adolescent Psychiatry*, 55(4), 295-300.

Meloy, J.R. (1997). Predatory violence during mass murder. *Journal Forensic Sciences*, 42, 326.

Nemiah, J.C. & Sifneos, P.E. (1970). Psychosomatic illness: a problem in communication. *Psychotherapy & Psychosomatics*, 18, 154-160

Nicolò, G, Pompili, E., Silvestrini, C., Lagrotteria, B., Laglia, C., Gestione dell'aggressività. In Nicolò G., Pompili E. (eds.) (2012). *Manuale di Psichiatria Territoriale*. Pacini.

Patton, J.H., Stanford, M.S., Barratt, E.S. (1995). Factor structure of the Barratt Impulsiveness Scale. *Journal of Clinical Psychology*, 51 (6), 768-74.

Rampling, J., Furtado, V., Winsper, C., Marwaha, S., Lucca, G., Livanou, M., & Singh, S.P. (2016). Non-pharmacological interventions for reducing aggression and violence in serious mental illness: A systematic review and narrative synthesis. *European Psychiatry*, Apr, 34, 17-28. doi: 10.1016/j.eurpsy.-2016.01.2422. Epub 2016 Feb 27.

Roberton, T., Daffern, M., & Bucks, R.S. (2014). Maladaptive emotion regulation and aggression in adult offenders. *Psychology Crime and Law*, 20, 933-954.

Rosenfeld, B., Galietta, M., Ivanoff, A., Garcia-Mansilla, A., Martinez, R., & Fava, J. (2012 online). Dialectical Behavior Therapy for the Treatment of Stalking Offenders. *Journal International Journal of Forensic Mental Health* Volume 6, 2007 - Issue 2.

Taylor, G.J., Bagby, R.M., & Parker, J.D.A. (1997). *Disorders of Affect Regulation: Alexithymia in Medical and Psychiatric Illness*. Cambridge University Press, Cambridge 11.

Taylor G.J., Bagby R.M., & Parker J.D.A. (1992). *Toronto Alexithymia Scale.(*trad. it. Caretti V., La Barbera D., Craparo G., 2005).

Taylor G.J., Bagby R.M., Parker J.D.A. (1997). *Disorders of Affect Regulation: Alexithymia in Medical and Psychiatric Illness*. Cambridge University Press, Cambridge.

Taylor J., Michael B. R., & Caretti V. (2014). *La valutazione dell'alessitimia con la TSIA*. Milano: Raffaello Cortina.

The British Psychological Society and The Royal College of Psychiatrists: Borderline Personality Disorder: Treatment and Management, National Clinical Practice Guideline Number 78. Nice: National Collaborating Centre for Mental Health; 2009.

Tomlinson, M., Peter, N.S., & Hoaken (2017). The Potential for a Skills-Based Dialectical Behavior Therapy Program to Reduce Aggression, Anger, and Hostility in a Canadian Forensic Psychiatric Sample: A Pilot Study. *International Journal of Forensic Mental Health*, 16, 3.

Tomlinson, M. (2018). A Theoretical and Empirical Review of Dialectical Behavior Therapy Within Forensic Psychiatric and Correctional Settings Worldwide. *International Journal of Forensic Mental Health*, 72-95.

Trestman, R.L. (2017). Treating Aggression in Forensic Psychiatric Settings, *Journal of the American Academy of Psychiatry and the Law* Online. Mar;45(1): 40-43.

Zilberman, M.L., Tavares, H., & Nady el-Guebaly (2003). Relationship between craving and personality in treatment-seeking women with substance-related disorders. *BMC Psychiatry*, 3, 1.