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Time Left for Intervention in the Suicidal Process in Borderline Personality Disorder

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The objective of this study was to measure the duration of the suicidal process among patients diagnosed with Borderline Personality Disorder (BPD). The sample included 110 female patients who met DSM-IV-TR criteria for BPD and were consecutively admitted after suicide-related behavior. A total of 63 patients (58%) reported that their suicidal process lasted 10 minutes or less. After being adjusted, the β coefficient of impulsivity scales in women with a suicidal process ≤ 10 minutes was lower compared to those observed in women with > 10 min ($\beta = -0.03$, 95% CI = $-0.06 = -0.01$, $p < 0.01$). Suicidal patients with BPD can be divided into two groups; patients who report a suicidal process less than 10 minutes show a higher degree of impulsivity.

Keywords borderline personality disorder, impulsivity, suicidal process, suicide-related behavior

INTRODUCTION

Borderline personality disorder (BPD) is a complex and serious mental disorder characterized by a pervasive pattern of instability in affect regulation, impulse control, interpersonal relationships, and self-image; while, concurrently defined by repeated self-injury and chronic suicidality (American Psychiatric Association, Lopez Ibor Aliño, & Valdés Miyar, 2005). Given suicidal threats, gestures, and attempts are particularly common among patients diagnosed with

BPD, the psychiatric diagnosis is defined, in part, by suicidal behavior.

BPD is thought as the most frequently diagnosed personality disorder; representing 10% of outpatients and 20 to 40% of all hospitalized patients (Carpenter, Mulligan, Bader et al., 1985; Geller, 1986; Green, 1988; Hadley, McGurrin, Pulice et al., 1990; Surber, Winkler, Monteleone et al., 1987; Woogh, 1986). Previous reports indicate that up to 70% of patients with BPD attempt suicide (Gunderson & Links, 2008). In fact, data suggest individuals diagnosed with BPD have a 5 to 10% life-time risk of dying by suicide (Black, Blum, Pfohl, 2004). Nonetheless, the appropriate assessment and management of suicide risk among patients diagnosed with BPD

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remains one of the greatest challenges in modern psychiatry (Goodman, Roiff, Oakes et al., 2012).

Suicidal behavior may be understood as an orderly progression, estimated as the time span between the first current suicidal thought and the proceeding suicidal act (Deisenhammer, Ing, Strauss et al., 2009). Thus, the length of the suicidal process can be thought as the time available for clinical intervention. Indeed, the approximated time frame is of major importance for the efficiency and feasibility of the design and implementation of successful suicide prevention and intervention strategies. Deisenhammer and colleagues (2009) examined the suicidal process among psychiatric patients and found that 48% of their patient sample experienced a suicidal process continuing for no longer than 10 minutes (Deisenhammer, Ing, Strauss et al., 2009). Interestingly, there were no observed differences in impulsivity or other clinical variables between the patients with a suicidal process of 10 minutes or less compared to those with a suicidal process that continued for longer than 10 minutes (Deisenhammer, Ing, Strauss et al., 2009).

Individuals diagnosed with BPD differ from patients diagnosed with other psychiatric disorders via multiple clinical symptoms (Oldham, 2006). Specifically, higher rates of impulsivity are recognized as a frequent characteristic among patients with BPD (Lieb, Zanarini, Schmahl et al., 2004). Moreover, following comparison of patients with Axis I and II disorders, Boisseau and colleagues (2013) found BPD to be the only psychiatric disorder significantly more prevalent among the patients with recurrent suicide attempts. Further, patients with multiple suicide attempts report higher rates of impulsivity compared to patients with a single suicide attempt (Boisseau, Yen, Markowitz et al., 2013). These findings are consistent with research suggesting impulsivity as a critical

risk factor for suicidal behavior among patients with BPD (Chesin, Jeglic, & Stanley, 2010; Gvion & Apter, 2011).

The aim of the current study is to determine the time length of the suicidal process among a group of suicidal female patients diagnosed with BPD. Secondly, we aim to explore the factors that may contribute to the variation in the time intervals for differing suicidal processes. We hypothesized that a higher percentage of suicidal patients would report experiencing a brief suicidal process (less than 10 minutes). Additionally, we expected that patients with a brief suicidal process would present higher levels of impulsivity. To our knowledge there is no published data reporting the characteristics and duration of the suicidal process among patients diagnosed with BPD.

METHOD

Study Design

The study used a cross-sectional design to compare demographic and clinical variables between female patients, diagnosed with BPD, who were admitted following suicide-related behavior.

Participants. The sample consisted of 116 women diagnosed with BPD consecutively admitted at the “Dr. Braulio A. Moyano” Neuropsychiatric Hospital from July 2010 to December 2012 after suicide-related behavior. The “Dr. Braulio A. Moyano” Hospital, a neuropsychiatric hospital for women, serves a large urban catchment area in Buenos Aires, Argentina. The hospital predominantly treats lower-income, uninsured patients.

Procedure. The present study was approved by the Ethics Committee of the “Dr. Braulio A. Moyano” Neuropsychiatric Hospital. Following hospital admission, all potential

patients were given a complete description of the study and invited to participate. Inclusion criteria included meeting *Diagnostic and Statistical Manual-Fourth Edition Text Revision* (APA, Lopez Ibor Aliño, & Valdés Miyar, 2005) criteria for BPD and consulting for recent suicide-related behavior that occurred in the last 72 hours. Further, only patients between 18 and 65 years of age and who possessed the ability to read and speak in Spanish were included. Suicide-related behavior was defined as potentially self-injurious behavior for which there is explicit or implicit evidence for *either* that (a) the patient intended at some level to kill herself, *or* (b) the patient wished to use the *appearance* of intending to kill herself in order to attain a different outcome (e.g., to seek help, to punish others, to receive attention). Suicide-related behavior is comprised of suicidal acts (suicide attempt and completed suicide) and instrumental suicide-related behavior (suicide threat, other instrumental suicide-related behavior and accidental death associated with instrumental suicide-related behavior) (O'Carroll, Berman, Maris et al., 1996). Patients were excluded if they met criteria for mental retardation. After being fully informed of the study purpose and study methods, each patient who accepted to participate provided written informed consent.

Measures and Assessment. Each patient underwent a structured clinical evaluation by a trained psychiatrist to determine the psychiatric diagnosis based on DSM-IV-TR criteria. After diagnostic criteria were established, patients with BPD were given an assessment battery that included a list of questions regarding demographic and clinical variables. To measure impulsivity, the Spanish version of the Barratt Impulsiveness Scale, version 11 (BIS-11) was administered (Lopez, Cetkovich-Bakmas, Lischinsky et al., 2012; Oquendo, Baca-García, Graver et al., 2001). Item 10 from the Montgomery-Asberg Depression Rating Scale (MADRS) was used to measure

suicidal behavior. This item specifically targets suicidal thoughts indexed by six statements (e.g., explicit plans for suicide when there is an opportunity. Active preparations for suicide). Patients were instructed to refer to their suicidal process as the time span between the first current thought of suicide (specific to the most recent suicidal act) and the occurrence of the most recent suicidal act. Following, each patient completed a semi-structured interview specific to the duration of their suicidal process; time intervals were used to determine the duration of the suicidal process that led to their current hospitalization (i.e., <10 minutes, 11–30 minutes, 31–60 minutes, 1–6 hours, 6–24 hours, 1–7 days, 1–4 weeks, and 1–12 months). Furthermore, we included two additional questions: 1) *Did you contact someone during the suicide process?* and 2) *If you had access to professional telephone assistance during the time frame of your suicidal process would you have used it?*

Statistical Analysis. The analysis of data was completed specific to the variable type. The categorical variables were represented as frequency or percentage, and a χ^2 test was used for comparison; while, mean \pm standard deviations (SD) were used to represent continuous variables. A t-test was used to compare variables when the distribution was normal. Multiple logistic regression model analysis was performed to analyze the potential factors that may affect the length of the suicidal process in patients with BPD. For this, the sample was dichotomized into two groups based on the length of the suicidal process. The first group contained patients with a suicidal process that lasted 10 minutes or less, and the second group included the patients who reported a suicidal process with a time duration longer than 10 minutes. The 10-minute time frame was used in order to compare our results with previously reported data of general psychiatric patients (Deisenhammer, Ing, Strauss et al., 2009).

The length of the suicidal process was analyzed as a dependent variable. A univariate logistic regression analysis was conducted to calculate the crude β coefficients and the 95% CI of the independent variables. To adjust for the association of possible confounders, the independent variables that presented a p value ≤ 0.20 or lower were included in a multivariate analysis (logistic regression); including BIS-11 total score, age, age at first suicide attempt, and years of education. Additionally, patients' history of sexual abuse was also included in the model due to its clinical importance on suicide-related behavior. Adjusted β coefficients and the 95% CI are reported. Further, multivariate significance was evaluated using Wald tests. The threshold for statistical significance was set at $p < 0.05$. Finally, all statistical analyses were conducted using STATA 8.0 software.

RESULTS

A total of 116 patients who were consecutively admitted at the "Dr. Braulio A. Moyano" Neuropsychiatric Hospital between July 2010 and December 2012 due to suicide-related behavior were evaluated. All patients included in the current study met DSM-IV-TR diagnostic criteria for BPD. One hundred and ten patients met inclusion criteria, while six patients were excluded due to failure to provide informed written consent ($N=5$) or inability to read and speak in Spanish ($N=1$). The female sample ($n=110$) was represented by a mean age of 35 years, and the majority of patients were Argentine ($n=100$). Other patient demographic variables indicate that 30% of the sample was married, 40% of the sample had a stable occupation, and the patient sample completed a mean of 10 years of education. Clinically relevant, nearly half of the patient sample endorsed a history of sexual abuse (46%). Moreover, 80% of patients had an

Axis I diagnosis of Major Depressive Disorder (MDD). On average, patients were 25 years old at their first suicide-related act, and patients report a mean of 4 previous attempts, while half of the sample reported no previous hospital admissions due to suicide-related behavior. Additional clinical and demographic variables may be found in Table 1.

Figure 1 displays the percentage of patients in specific categories according to the relevant time that elapsed between the first current thought of suicide and the actual suicidal act. Sixty-three patients (58%) report a time frame of 10 minutes or less between the first suicidal thought and the corresponding suicide-related act. The other 47 patients (42%) reported a time frame longer than 10 minutes. It is noteworthy that there were two minor increasing peaks of patients in the time periods of 11–30 minutes (11 patients, 10%) and 1–6 hours (14 patients, 14%). Patients reporting a suicidal process that developed rapidly (≤ 10 minutes) showed higher rates in the BIS-11 total scores (69.73 ± 16.15 , $n=63$) compared to patients with a suicidal process that lasted longer (>10 minutes, 60 ± 17.43 , $n=47$, $p=0.0031$; Figure 2). A high percentage of patients within both groups reported interpersonal contact during the suicide process; contact were established mostly with a partner, relative, or friend (≤ 10 minutes = 72%; > 10 minutes = 73%). Moreover, in both groups, the majority of patients indicated that if they had access to professional telephone assistance during the suicidal process they would have used it (≤ 10 minutes = 74%; > 10 minutes = 82%).

Results from the univariate regression analysis indicate significantly different scores for the β coefficient of years of age, years of education, age at first suicidal act, and the total BIS-11 scores reported for patients experiencing a suicidal process equal to or less than 10 minutes compared to those with a suicidal process that lasted

TABLE 1. Demographic and Clinical Variables of the Sample (n = 110)

Mean age (SD, range)	35.2 (11.6, 18–61)
Years of education (SD, range)	10.5 (2.9, 2–17)
Relationship status, N (%)	
Single	48 (44%)
Married/living with a partner	30 (27%)
Divorced	27 (25%)
Widowed	5 (4%)
Axis I diagnosis, N (%)	
MDD	80 (73%)
TAS	9 (8%)
PTSD	6 (6%)
Others	15 (13%)
Age at first suicide-related behavior (SD, range)	24.9 (11.5, 8–61)
Prior suicide-related behavior (SD, range)	4.6 (5.8, 0–30)
Prior hospitalization (SD, range)	2.1 (2.9, 0–15)
History of sexual abuse, N (%)	51 (46%)
Use of drugs, N (%)	50 (45%)
Characteristic of the suicide methods, N (%)	
Drug ingestion	60 (54%)
Cutting	18 (16%)
Others	32 (30%)
Practice a religion, N (%)	46 (42%)
Occupation, N (%)	
Work	40 (36%)
Housewife	32 (29%)
Unoccupied	38 (35%)
Family history of psychiatric illness, N (%)	55 (77%)
MADRS item 10 (SD, range)	3.86 (1.41, 2–6)
Barratt Impulsive Scale (SD, range)	65.57 (17.32, 24–104)

Note. SD = standard deviation; N = number of patients.

longer than 10 minutes (Table 2). These variables were then included in the multivariate regression analysis. After adjustment for age, age at first suicide attempt, and years of education, results from the multivariate regression analysis indicate women reporting a suicidal process less than 10 minutes report a significantly lower β coefficient for the BIS-11 total score compared to the patients who reported a suicidal process with a duration longer than 10 minutes ($\beta = -0.03$, 95% CI: -0.06 – -0.01 , $p < 0.01$, Table 3).

DISCUSSION

Findings from the present study indicate patients' report of the time between their first suicidal thought and action varies. Specifically, among a female patient sample diagnosed with BPD, almost two thirds report the time frame between the emergence of the first current suicidal thought and the actual corresponding suicide-related act to last less than 10 minutes. Additionally, impulsivity affects the duration of the suicidal process duration in this patients. Past literature has defined the suicidal process in various forms. Some studies have defined the suicidal process as the time between the first occurrence of *lifetime* suicidal ideation and the suicidal act (Neeleman, de Graaf, & Vollebergh, 2004; Runeson, Beskow, & Waern, 1996); while others have defined the suicidal process as the time span between the first *current* thought of suicide and the occurrence of the corresponding suicidal act (Deisenhammer, Ing, Strauss et al., 2009). For this study, we adopted the latter definition to gain a clear understanding of the linkage between patients' suicidal thoughts and subsequent actions.

To our knowledge, no study to date has examined the suicidal process among female patients diagnosed with BPD. To address this gap, we examined the time

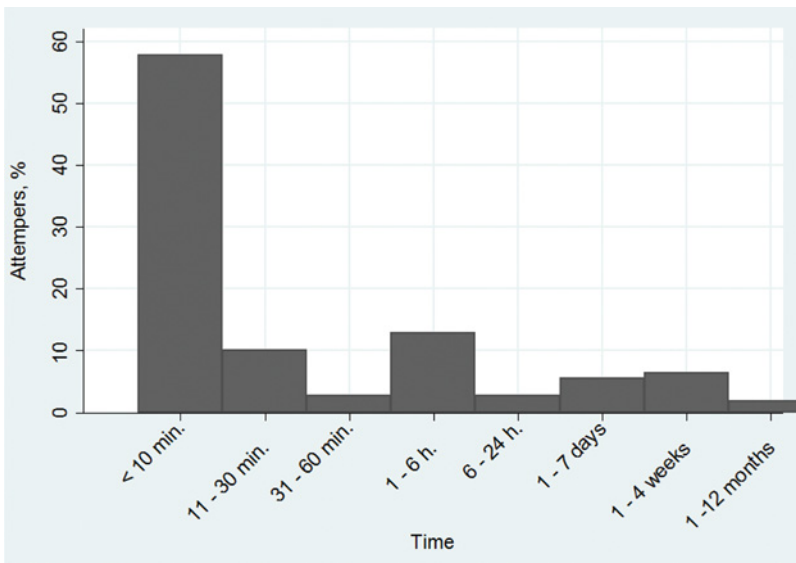


FIGURE 1. Percent of patients divided in groups categorized by the time interval between occurrence of the first suicidal thought and the corresponding suicide-related behavior: 63 patients (58%) in the interval of <10 minutes, 11 patients (10%) in the interval 11–30 minutes, 3 patients (3%) in the interval of 31–60 minutes, 14 patients (13%) in the interval of 1–6 hours, 3 patients (3%) in the interval of 6–24 hours, 6 patients (5%) in the interval of 1–7 days, 7 patients (6%) in the interval of 1–4 weeks, 2 patients (25%) in the interval of 1–12 months.

duration between the emergence of the first current suicidal thought and the subsequent suicide-related behavior. Data were obtained by patients' retrospective reports

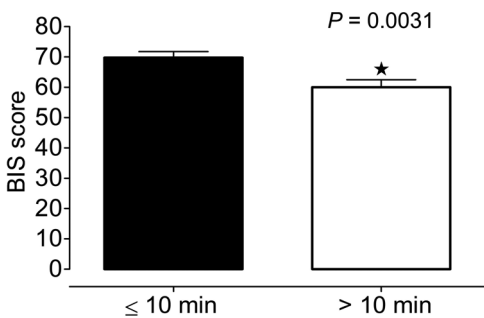


FIGURE 2. Impulsiveness related to the length of the suicidal process. The BIS scores of patients in which the suicidal process last ≤ 10 minutes showed higher rates (69.73 ± 16.15 , $n = 63$) than patients in which the suicidal process last >10 minutes (60 ± 17.43 , $n = 47$, $p = 0.0031$).

after the period immediately preceding the suicide-related behavior. Approximately 60% of the patient sample endorsed a suicidal process that lasted less than 10 minutes. Findings by Deisenhammer and colleagues report 48% of their patient sample experienced a suicidal process that lasted less than 10 minutes (Deisenhammer, Ing, Strauss et al., 2009). All the patients in the current sample met diagnostic criteria of BPD, while the patient sample in the study by Deisenhammer and colleagues was a heterogeneous clinical patient sample, and less than 15% of the patients in their sample had a diagnosis in Axis 2, while the percentage of patients with BPD is not specified (Deisenhammer, Ing, Strauss et al., 2009).

Suicidal thoughts and suicidal behavior, along with impulsivity, are among the most relevant clinical features of patients diagnosed with BPD (Paris,

TABLE 2. Comparison between Length of Suicidal Process and Clinically Relevant Variables

Independent variable	Length of suicidal process		β coefficient (SD) (>10 min/ ≤ 10 min)	95% CI	<i>p</i>
	>10 min (N = 47)	≤ 10 min (N = 63)			
Age, mean ± SD	36.91 ± 11.56	33.92 ± 11.53	0.02 (0.01)	-0.10-0.06	0.18*
Years of education, mean ± SD	10.98 ± 3.05	10.21 ± 2.77	0.09 (0.07)	-0.04-0.23	0.17*
Living with a partner, N (%)	14 (29.79%)	16 (25.40%)	0.23 (0.43)	-0.62-1.08	0.60
Age first attempt, mean ± SD	28.68 ± 12.65	22.09 ± 9.84	0.05 (0.02)	0.02-0.09	0.004*
Prior attempts of suicide, N (%)	37 (78.72%)	55 (87.3%)	-0.62 (0.04)	-1.64-0.40	0.23
Prior hospitalization, N (%)	28 (59.57%)	38 (60.32%)	-0.03 (0.39)	-0.80-0.74	0.94
History of sexual abuse, N (%)	20 (42.55%)	31 (49.21%)	-0.27 (0.38)	-1.03-0.49	0.49
History of drug use, N (%)	18 (38.30%)	32 (50.79%)	-0.51 (0.39)	-1.28-0.26	0.20
Use of drugs, N (%)	17 (36.17%)	28 (44.44%)	-0.35 (0.40)	-1.12-0.43	0.38
Family history of psychiatric illness, N (%)	39 (82.98%)	50 (79.37%)	-0.06 (0.44)	-0.92-0.80	0.89
Occupation, N (%)	18 (39.13%)	22 (34.92%)	0.18 (0.40)	-0.61-0.97	0.96
MADRS item 10, mean ± SD	4.00 ± 1.58	3.70 ± 1.37	0.14 (0.15)	-0.16-0.45	0.36
Barratt Impulsive Scale, mean ± SD	60.00 ± 17.43	69.73 ± 16.15	-0.03 (0.01)	-0.06-0.01	0.005*

Note. SD = standard deviation; CI = confidence interval. **p* value < 0.20, variables considered to enter the multiple regression logistic analysis.

2002; Paris, Zweig-Frank, Kin et al., 2004; Siever & Davis, 1991; Soloff, Lynch, Kelly et al., 2000). Impulsivity encompasses a broad range of behaviors that reflect impaired self-regulation, such as poor planning (Moeller, Barratt, Dougherty et al., 2001), premature responding before considering consequences (Evenden, 1999), sensation seeking (Hur & Bouchard, 1997), risk-taking (Gvion & Apter, 2011),

and the inability to inhibit responses and preferences for immediate rewards over delayed rewards (Crean, de Wit, & Richards, 2000) Patients diagnosed with BPD often report higher scores in the BIS-11 compared to healthy controls (Berlin, Rolls, & Iversen, 2005; Domes, Winter, Schnell et al., 2006; Jacob, Gutz, Bader et al., 2010; Kunert, Druecke, Sass et al., 2003; Paris, Zweig-Frank, Kin et al., 2004; Rentrop, Backenstrass,

TABLE 3. Multiple Logistic Regression Analysis

Length of suicidal process	Crude β coefficient (SD)	95% CI	<i>p</i>	Adjusted β coefficient (SD)	95% CI	<i>p</i>
Barratt Impulsive Scale	-0.03 (0.01)	-0.06-0.01	0.005	-0.03 (0.01)	-0.06-0.01	0.01*
Age	0.02 (0.01)	-0.10-0.06	0.18	-0.02 (0.02)	-0.06-0.02	0.38
Years of education	0.09 (0.07)	-0.04-0.23	0.17	0.07 (0.07)	-0.08-0.22	0.35
Age first attempt	0.05 (0.02)	0.02-0.09	0.004	0.06 (0.02)	0.01-0.10	0.01*
History of sexual abuse	-0.27 (0.39)	-1.03-0.49	0.49	-0.03 (0.44)	-0.88-0.82	0.94

Note. CI = confidence interval; SD = standard deviation. **p* value < 0.05.

Jaentsch et al., 2008). Moreover, impulsivity levels are consistently a robust predictor of the clinical course of BPD. For this reason some authors consider impulsivity as a central aspect of the clinical model (Links, Heslegrave, & van Reekum, 1999). Taking into account the substantial amount of research indicating an association between impulsivity and suicidal behavior (Chesin et al., 2010; Gvion & Apter, 2011), we hypothesized that impulsivity would be related to the brief duration of the suicidal process among patients with BPD. As hypothesized, patients with a suicidal process lasting 10 minutes or less endorsed higher scores in the BIS-11 compared to those patients who experienced a suicidal process longer than 10 minutes.

Indeed, impulsivity is related to suicidality among BPD patients (Chesin et al., 2010; Dougherty, Mathias, Marsh et al., 2004; Giegling, Olgiati, Hartmann et al., 2009). Particularly, impulsivity is associated with certain aspects of suicidality such as the number of previous suicide attempts (Chesin et al., 2010; Wilson, Fertuck, Kwitel et al., 2006) and the lethality of the attempts (Chesin et al., 2010). Our findings demonstrate that the duration of the suicidal process is another feature of suicidality associated with impulsivity in this clinical BPD sample of female patients. Interestingly, independent of impulsivity, the patients who reported a suicidal process with a duration of 10 minutes or less also experienced their first suicide-related behavior at a younger age in comparison to the patients experiencing a suicidal process that lasted longer than 10 minutes, suggesting an early onset of the psychopathology (e.g., risk for suicidal behavior and impulsivity) in this group of patients. Unfortunately, the cross-sectional design of our study allows us only to generate hypotheses that must be further examined in future work with appropriate designs.

Previous studies evidence an association between history of sexual abuse and

suicidal-related behavior (Brodsky, Malone, Ellis et al., 1997; Roberts & Hawton, 1980). This association may be mediated by a relationship between childhood abuse experiences and the development of particular personality traits, such as impulsivity and anger dysregulation (Brodsky, Malone, Ellis et al., 1997). Moreover, impulsivity may be related to suicidal related behavior, increasing the number of previous suicide attempts and the lethality. Accordingly, impulsivity may play a role in the association between childhood trauma and suicide (Braquehais, Oquendo, Baca-Garcia et al., 2010; Brodsky & Stanley, 2001). Thus we analyzed the influence of the history of sexual abuse on the relationship between duration of the suicidal process and impulsivity; results show that history of sexual abuse does not act as a confounder for this relationship.

The results obtained in the present study are of high clinical relevance, given patients diagnosed with BPD represent up to 42% of all hospitalized patients. Further, these patients yield a very high rate of suicides, which is a significant problem in terms of public health (Carpenter, Mulligan, Bader Chesin et al., 1985; Geller, 1986; Green, 1988; Hadley, McGurrin, Pulice et al., 1990; Surber, Winkler, Monteleone et al., 1987; Woogh, 1986). Therefore, a further understanding of the suicidal process among these particular patients may be beneficial to help establish strategies for effective intervention. Of importance, our results suggest a high percentage of patients with BPD report an interpersonal contact (in most cases a partner, relative, or friend) during the suicide process (>70%). Thus, in regards to the development and refinement of specific intervention strategies for these patients, training for suicide crisis intervention for the contacts of patients diagnosed with BPD may be beneficial and help prevent the transition from suicidal ideation to suicidal behavior. Results also

indicate that a large percentage of patients attempting suicide do so in a time interval as short as 10 minutes. Intervention strategies for these critical situations require attention that can be delivered quickly and effectively. Structured telephone interventions (e.g., Dialectical Behavior Therapy) could be useful for situations when the immediate availability of the therapist is necessary to prevent suicide (Linehan, 1993). Additionally, our results show more than 70% of the patients affirmed that they would utilize professional telephone assistance during the suicidal process if it were available. Although this question may be overestimated by courtesy bias, it may still be important to take into account when planning intervention strategies for suicidal behavior among patients diagnosed with BPD.

This study is characterized by various limitations that should be considered. First, the results are based on retrospective, subjective patient reports. Secondly, although we evaluated patients within 72 hours of the event, to avoid recall bias, there may still be a tendency to alter the circumstances that led to the suicide-related behavior. Additionally, there was no way to determine whether the reported suicide-related behavior was exaggerated or minimized compared to actual behavior. Despite these limitations, the aim of this study was to obtain the subjective view of victims. Therefore, we consider the results as a valid step to help approach the suffering of these victims. Moreover, the sample consisted of only female patients and results may not be similar for male patients; however, this should not be a major limitation being that 75% of clinical patients diagnosed with BPD in clinical settings are women (Gunderson & Links, 2008). Given the study included a clinically severe sample, being all patients were hospitalized in a psychiatric hospital of high complexity due to a suicide-related behavior, these results may not be generalized to patients with milder forms of BPD.

These findings indicate that suicidal patients diagnosed with BPD can be divided into two groups based on the duration of their suicidal process. Patients with a suicidal process that lasted less than 10 minutes expressed a higher degree of impulsivity, while the other group of patients reported a suicidal process of longer duration. In respect to the first group, which represents nearly two thirds of patients, there is little time to intervene. That being said, it is important to incorporate rapid intervention strategies that may be useful for suicide prevention among this population.

AUTHOR NOTE

Federico M. Daray, 3^{ra} Cátedra de Farmacología, Facultad de Medicina, Universidad de Buenos Aires and Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET), Argentina.

Germán L. Teti, 3^{ra} Cátedra de Farmacología, Facultad de Medicina, Universidad de Buenos Aires and Servicio de Guardia, Hospital “Braulio A. Moyano”, Buenos Aires, Argentina.

Sasha M. Rojas, Department of Psychological Science, University of Arkansas, Fayetteville, Arkansas, USA.

Adrián P. Fantini and Christian Cárdenas-Delgado, Servicio de Guardia, Hospital “Braulio A. Moyano”, Buenos Aires, Argentina.

Arnaldo Armesto, 3^{ra} Cátedra de Farmacología, Facultad de Medicina, Universidad de Buenos Aires, Argentina.

María N. C. Derito, Servicio de Guardia, Hospital “Braulio A. Moyano”, Buenos Aires, Argentina.

Federico Rebok, 3^{ra} Cátedra de Farmacología, Facultad de Medicina, Universidad de Buenos Aires; Servicio de Guardia, Hospital “Braulio A. Moyano”, Buenos Aires, and Carrera de Investigador, Gobierno de la Ciudad de Buenos Aires, Argentina.

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Correspondence concerning this article should be addressed to Federico M. Daray, Facultad de Medicina, Universidad de Buenos Aires, Paraguay 2155, piso 9, C1121ABG, Ciudad de Buenos Aires, Argentina. E-mail: fdaray@hotmail.com

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REFERENCES

- American Psychiatric Association, Lopez Ibor Aliño, J. J., & Valdés Miyar, M. (2005). *DSM IV TR : manual diagnóstico y estadístico de los trastornos mentales : texto revisado* (1{487} ed.). Barcelona [etc.]: Masson.
- Berlin, H. A., Rolls, E. T., & Iversen, S. D. (2005). Borderline personality disorder, impulsivity, and the orbitofrontal cortex. *American Journal of Psychiatry*, *162*, 2360–2373.
- Black, D. W., Blum, N., Pfohl, B., & Hale, N. (2004). Suicidal behavior in borderline personality disorder: prevalence, risk factors, prediction, and prevention. *Journal of Personality Disorders*, *18*, 226–239
- Boisseau, C. L., Yen, S., Markowitz, J. C., Grilo, C. M., Sanislow, C. A., Shea, M. T., . . . McGlashan, T. H. (2013). Individuals with single versus multiple suicide attempts over 10years of prospective follow-up. *Comprehensive Psychiatry*, *54*, 238–242.
- Braquehais, M. D., Oquendo, M. A., Baca-Garcia, E., & Sher, L. (2010). Is impulsivity a link between childhood abuse and suicide? *Comprehensive Psychiatry*, *51*, 121–129.
- Brodsky, B. S., Malone, K. M., Ellis, S. P., Dulit, R. A., & Mann, J. J. (1997). Characteristics of borderline personality disorder associated with suicidal behavior. *American Journal of Psychiatry*, *154*, 1715–1719.
- Brodsky, B. S., & Stanley, B. (2001). Developmental effects on suicidal behavior: The role of abuse in childhood. *Clinical Neuroscience Research*, 331–336.
- Carpenter, M. D., Mulligan, J. C., Bader, I. A., & Meinzer, A. E. (1985). Multiple admissions to an urban psychiatric center: a comparative study. *Hospital Community Psychiatry*, *36*, 1305–1308.
- Chesin, M. S., Jeglic, E. L., & Stanley, B. (2010). Pathways to high-lethality suicide attempts in individuals with borderline personality disorder. *Archives of Suicide Research*, *14*, 342–362.
- Crean, J. P., de Wit, H., & Richards, J. B. (2000). Reward discounting as a measure of impulsive behavior in a psychiatric outpatient population. *Experimental and Clinical Psychopharmacology*, *8*, 155–162.
- Deisenhammer, E. A., Ing, C. M., Strauss, R., Kemmler, G., Hinterhuber, H., & Weiss, E. M. (2009). The duration of the suicidal process: How much time is left for intervention between consideration and accomplishment of a suicide attempt? *Journal of Clinical Psychiatry*, *70*, 19–24.
- Domes, G., Winter, B., Schnell, K., Vohs, K., Fast, K., & Herpertz, S. C. (2006). The influence of emotions on inhibitory functioning in borderline personality disorder. *Psychological Medicine*, *36*, 1163–1172.
- Dougherty, D. M., Mathias, C. W., Marsh, D. M., Moeller, F. G., & Swann, A. C. (2004). Suicidal behaviors and drug abuse: Impulsivity and its assessment. *Drug and Alcohol Dependence*, *76*, S93–S105.
- Evenden, J. (1999). Impulsivity: A discussion of clinical and experimental findings. *J Psychopharmacology*, *13*, 180–192.
- Geller, J. L. (1986). In again, out again: Preliminary evaluation of a state hospital’s worst recidivists. *Hospital and Community Psychiatry*, *37*, 386–390.
- Giegling, I., Olgiati, P., Hartmann, A. M., Calati, R., Moller, H. J., Rujescu, D., & Serretti, A. (2009). Personality and attempted suicide. Analysis of anger, aggression and impulsivity. *Journal of Psychiatric Research*, *43*, 1262–1271.
- Goodman, M., Roiff, T., Oakes, A. H., & Paris, J. (2012). Suicidal risk and management in borderline personality disorder. *Current Psychiatry Report*, *14*, 79–85. doi:10.1007/s11920-011-0249-4

- Green, J. H. (1988). Frequent rehospitalization and noncompliance with treatment. *Hospital and Community Psychiatry, 39*, 963–966.
- Gunderson, J., & Links, P. S. (2008). *Borderline personality disorder: A clinical guide* (2nd ed.): American Psychiatric Publishing.
- Gvion, Y., & Apter, A. (2011). Aggression, impulsivity, and suicide behavior: A review of the literature. *Archives of Suicide Research, 15*, 93–112.
- Hadley, T. R., McGurrin, M. C., Pulice, R. T., & Holohean, E. J. (1990). Using fiscal data to identify heavy service users. *Psychiatric Quarterly, 61*, 41–48.
- Hur, Y. M., & Bouchard, T. J., Jr. (1997). The genetic correlation between impulsivity and sensation seeking traits. *Behavioral Genetics, 27*, 455–463.
- Jacob, G. A., Gutz, L., Bader, K., Lieb, K., Tuscher, O., & Stahl, C. (2010). Impulsivity in borderline personality disorder: Impairment in self-report measures, but not behavioral inhibition. *Psychopathology, 43*, 180–188.
- Kunert, H. J., Druecke, H. W., Sass, H., & Herpertz, S. C. (2003). Frontal lobe dysfunctions in borderline personality disorder? Neuropsychological findings. *Journal of Personality Disorders, 17*, 497–509.
- Lieb, K., Zanarini, M. C., Schmahl, C., Linehan, M. M., & Bohus, M. (2004). Borderline personality disorder. *Lancet, 364*, 453–461.
- Linehan, M. M. (1993). *Dialectical behavioral therapy of borderline personality disorder*. New York, NY: Guilford.
- Links, P. S., Heslegrave, R., & van Reekum, R. (1999). Impulsivity: Core aspect of borderline personality disorder. *Journal of Personality Disorders, 13*, 1–9.
- Lopez, P. L., Cetkovich-Bakmas, M., Lischinsky, A., Alvarez Prado, D., & Torrente, F. (2012). [Psychometric properties of the Barratt Impulsiveness Scale in a sample of the city of Buenos Aires]. *Vertex, 23*, 85–91.
- Moeller, F. G., Barratt, E. S., Dougherty, D. M., Schmitz, J. M., & Swann, A. C. (2001). Psychiatric aspects of impulsivity. *American Journal of Psychiatry, 158*, 1783–1793.
- Neeleman, J., de Graaf, R., & Vollebergh, W. (2004). The suicidal process; prospective comparison between early and later stages. *Journal of Affective Disorders, 82*, 43–52.
- O'Carroll, P. W., Berman, A. L., Maris, R. W., Moscicki, E. K., Tanney, B. L., & Silverman, M. M. (1996). Beyond the Tower of Babel: A nomenclature for suicidology. *Suicide and Life-Threatening Behavior, 26*, 237–252.
- Oldham, J. M. (2006). Borderline personality disorder and suicidality. *American Journal of Psychiatry, 163*, 20–26.
- Oquendo, M. A., Baca-García, E., Graver, R., Morales, M., Montalvan, V., & Mann, J. (2001). Spanish adaptation of the Barratt Impulsiveness Scale (BIS-11). *European Journal of Psychiatry, 15*, 147–155.
- Paris, J. (2002). Chronic suicidality among patients with borderline personality disorder. *Psychiatric Services, 53*, 738–742.
- Paris, J., Zweig-Frank, H., Kin, N. M., Schwartz, G., Steiger, H., & Nair, N. P. (2004). Neurobiological correlates of diagnosis and underlying traits in patients with borderline personality disorder compared with normal controls. *Psychiatry Research, 121*, 239–252.
- Rentrop, M., Backenstrass, M., Jaentsch, B., Kaiser, S., Roth, A., Unger, J., & Renneberg, B. (2008). Response inhibition in borderline personality disorder: Performance in a Go/Nogo task. *Psychopathology, 41*, 50–57.
- Roberts, J., & Hawton, K. (1980). Child abuse and attempted suicide. *British Journal of Psychiatry, 137*, 319–323.
- Runeson, B. S., Beskow, J., & Waern, M. (1996). The suicidal process in suicides among young people. *Acta Psychiatrica Scandinavica, 93*, 35–42.
- Siever, L. J., & Davis, K. L. (1991). A psychobiological perspective on the personality disorders. *American Journal of Psychiatry, 148*, 1647–1658.
- Soloff, P. H., Lynch, K. G., Kelly, T. M., Malone, K. M., & Mann, J. J. (2000). Characteristics of suicide attempts of patients with major depressive episode and borderline personality disorder: a comparative study. *American Journal of Psychiatry, 157*, 601–608.
- Surber, R. W., Winkler, E. L., Monteleone, M., Havassy, B. E., Goldfinger, S. M., & Hopkin, J. T. (1987). Characteristics of high users of acute psychiatric inpatient services. *Hospital and Community Psychiatry, 38*, 1112–1114.
- Wilson, S. T., Fertuck, E. A., Kwitel, A., Stanley, M. C., & Stanley, B. (2006). Impulsivity, suicidality and alcohol use disorders in adolescents and young adults with borderline personality disorder. *International Journal of Adolescent Medicine and Health, 18*, 189–196.
- Woogh, C. M. (1986). A cohort through the revolving door. *Canadian Journal of Psychiatry, 31*, 214–221.