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Author: J. Tanner D. Wyss N. Perron M. Rufer C. Mueller-Pfeiffer

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Frequency and Characteristics of Suicide Attempts in Dissociative Identity Disorders: A 12-Month Follow-Up Study in Psychiatric Outpatients in Switzerland

J. Tanner[1], BMed; D. Wyss[2], MSc; N. Perron[2,3], MSc; M. Rufer[1], MD; C. Mueller-Pfeiffer[1,2], MD

[1]Department of Psychiatry and Psychotherapy, University Hospital Zurich, University of Zurich, Zurich, Switzerland

[2]Center of Education and Research (COEUR), Psychiatric Services of the County of St. Gallen-North, Zurcherstrasse 30, 9500 Wil, Switzerland

[3]Clinical Psychology and Psychotherapy, University of Bern, Gesellschaftsstrasse 49, 3012 Bern, Switzerland

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Address correspondence: Christoph Mueller-Pfeiffer, University Hospital of Zurich, Department of Psychiatry and Psychotherapy, Culmannstrasse 8, 8091 Zurich, Phone: +41 44 255 52 80, Fax: +41 44 255 44 08, E-mail: christoph.mueller-pfeiffer@access.uzh.ch

Abstract

Introduction: Dissociative identity disorder (DID) is often accompanied by suicidal behavior. However, systematic research regarding suicide attempts in DID is rare.

Objective: Aims of this study were to examine frequency, characteristics and risk factors for suicidal behavior in DID patients.

Method: A sample of outpatients and day care patients with (N = 17) and without DID (N = 34) from psychiatric outpatient and day care units and a private practice located in Switzerland were assessed at baseline and at 12-month follow-up. At baseline, Axis I and Axis II disorders according to DSM-IV were ascertained with the Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I), the Structured Clinical Interview for DSM-IV Axis II Disorders (SCID-II), and the Structured Clinical Interview for DSM-IV Dissociative Disorders (SCID-D-R). Suicidal behavior during a 12-month period following the baseline assessment was assessed using the Longitudinal Interval Follow-Up Evaluation interview.

Results: We found that 23.5% of subjects with DID and 0% of subjects without DID attempted at least one suicide during the 12-month period of observation (p = 0.010). Medical threat of most suicide attempts was moderate to severe. Potential risk factors for suicidal behavior in DID subjects were a comorbid substance disorder or posttraumatic stress disorder, high number of any Axis I disorder, higher education, and foreign nationality.

Conclusion: Our results support previous evidence for a high risk of suicide attempts in patients with DID. The potential risk factors for suicidal behavior in DID subjects correspond largely to known risk factors for suicide in general population and mental disorders other than DID. The results emphasize the importance of assessing suicidal intentions when treating DID patients.

Keywords: Suicidality; dissociative disorders; observational study; adults; suicidal behavior

Dissociative identity disorder (DID) is characterized by two or more distinct personality states. Individuals with DID experience feelings of discontinuity of consciousness, identity, emotion, perception and behavior, which are often accompanied by recurrent episodes of amnesia (American Psychiatric Association, 2013). DID is common, with average rates of 1% in the general population, 3% in psychiatric outpatients, and 5% in psychiatric inpatients (reviewed in Dell, 2009). DID may lead to significant impairment in daily life (Mueller-Pfeiffer et al., 2012).

Suicidal behavior is a major concern in the treatment of DID patients (Putnam, Guroff, Silberman, Barban, & Post, 1986). In an American study among psychiatric outpatients, 71% of patients with a dissociative disorder (about half of them with DID according to DSM-5 criteria) reported at least one suicide attempt in the past and 67% repeated suicide attempts (Foote, Smolin, Neft, & Lipschitz, 2008). Between 1 and 2% of DID subjects complete suicide (Kluft, 1995).

Most of the studies on suicidality in dissociative disorders (Karadag et al., 2005; Öztürk & Sar, 2008; Tamar-Gurol, Sar, Karadag, Evren, & Karagoz, 2008; Yargiç, Şar, Tutkun, & Alyanak, 1998) including the one reported above (Foote, et al., 2008) retrospectively assessed lifetime events of suicidal behavior or ideation as reported by the patient. However, it is difficult to determine the actual risk for suicide in DID patients from lifetime data. In other words, knowing the average rate of DID patients who attempted suicide in the next 12 month is more informative than knowing the rate of DID patients who attempted suicide once in their life. There is only one study that retrospectively and prospectively assessed suicidal behavior in DID patients. According to the individual therapist's reports, 16% of DID patients attempted suicide in the year prior to study inclusion (Webermann, Myrick, Taylor, Chasson, & Brand, 2016). The odds of suicide attempts, as reported by the therapists, decreased by 6% each month during the 30 months of observation (Brand et al., 2013). All patients that were

investigated in the study were in ongoing treatment with therapists who followed DID treatment guidelines and who were willing to participate in a worldwide naturalistic DID treatment study (TOP DD) . Consequently, the generalizability of these findings to the population of DID patients, who rarely are in DID-specific treatment (Foote, Smolin, Kaplan, Legatt, & Lipschitz, 2006), is limited.

Here, we report results from a prospective study, that comprehensively assessed dissociative and comorbid non-dissociative psychopathology through structured interviews in a consecutively recruited sample of outpatients and day-care patients from several treatment units of a large public psychiatric service in Switzerland.

Method

Subjects and Procedure

Details regarding enrollment of subjects for the baseline assessment are reported elsewhere (Mueller-Pfeiffer, et al., 2012). In summary, all subjects between 18 and 65 years and sufficient knowledge of the German language who were in treatment (three and more sessions) between 1/2009 and 12/2010 in two psychiatric outpatient units, one psychiatric day care unit, and one psychotherapeutic day care unit of the Psychiatric Services of the County of St. Gallen-North (Switzerland) and in a private practice in the county of Zurich (Switzerland) specialized on the treatment of DD were eligible for the study. Exclusion criteria were psychotic disorder, acute suicidal ideation, substance abuse with acute intoxication or withdrawal syndrome, psychiatric disorders due to an underlying medical condition, and mental retardation. For each subject with DID, two subjects without DID were matched according to the following criteria (sorted by decreasing importance): any DSM-IV Axis II disorder (yes, no), as many DSM-IV Axis I diagnostic categories as possible (yes, no), duration of the disorder (0-1 years, 2-5 years, 6-10 years, more than 10 years), gender, and

age (±10 years). If more than two subjects were applicable, two subjects were selected by randomization.

Enrolled subjects were assessed at baseline and 12 months later by trained interviewers (with B.Sc. or M.Sc. degree). The study protocol was approved by the institutional review board of the county of St. Gallen, Switzerland. All subjects provided written informed consent. Study participation was compensated by CHF 200 (equivalent to approximately US$200). Sociodemographical data are presented in Table 1.

Measurements

Diagnoses at baseline were ascertained with the Structural Clinical Interviews for DSM-IV Disorders Axis I (SCID-I; First, Spitzer, Gibbon, & Williams, 1997), Axis II (SCID-II; First, Gibbon, Spitzer, Williams, & Benjamin, 1997) and Dissociative Disorders (SCID-D-R; Gast, Oswald, & Zundorf, 2000; Steinberg, 1994). Dissociative disorders were originally diagnosed according to DSM-IV criteria (American Psychiatric Association, 1994). After publication of the DSM-5 (American Psychiatric Association, 2013), subjects with a dissociative disorder not otherwise specified (DDNOS) Type I diagnosis according to the SCID-D-R were re-classified as DID in accordance with the revised DSM-5 criteria for DID.

. Global level of functioning was measured by the Global Assessment of Functioning Scale (GAF; Hilsenroth et al., 2000), a single-item expert rating scale (1 to 100) for evaluating current overall psychological, social and professional functioning on a continuum from psychological sickness to health. Trauma history was assessed using the Childhood Trauma Questionnaire (CTQ; Bernstein et al., 2003). The CTQ is a self-report scale that assesses how often certain events related to emotional abuse, physical abuse, sexual abuse, emotional neglect, and physical neglect occurred during childhood using a five-point scale: 1 = "never true", 2 = "rarely true", 3 = "sometimes true", 4 = "often true", 5 = "very often true".

Suicide attempts during the 12-month period were assessed using the Longitudinal Interval Follow-Up Evaluation (LIFE; Keller et al., 1987). The semi-structured interview assesses retrospectively the clinical course of symptoms and other clinical features such as suicide attempts. Suicidal behavior and medical threat to life were rated for each month using a seven-point scale: 0 = "no information or not sure", 1 = "no danger (e.g., no effect – held pills in hand)", 2 = "minimal (e.g., scratch on wrist)", 3 = "mild (e.g., took ten Aspirins – mild gastritis)", 4 = "moderate (e.g., took ten Seconals – briefly unconscious)", 5 = "severe (e.g., cut throat)", 6 = "extreme (e.g., respiratory arrest or prolonged coma)", 7 = "death".

Data Analysis

Descriptive statistics included frequencies and percentages for categorical data and means and standard deviations (SDs) for continuous data. Fisher's exact test was used to compare categorical data including the occurrence of any suicide attempt between groups. Student's t-test was used to compare continuous data between groups. A p-value ≤ 0.05 was considered as statistically significant. Due to the small number of cases showing suicidal behavior during the 12-month observation, we did not conduct inference statistics for the analysis of risk factors for suicidal behavior in DID subjects.

Results

Suicide Attempts

23.5% of subjects with DID and 0% of subjects without DID showed suicidal behavior during the 12-month observation period ($p = 0.010$). The degree of medical threat to life of the suicide attempts ranged from mild to severe with most of the events involving moderate or severe degrees of life threat. Among the four DID subjects with suicidal behavior, two subjects attempted suicide once, one made three suicide attempts and another five attempts (Fig. 1).

Potential Risk Factors for Suicide Attempts in DID Subjects

DID subjects who attempted suicide during the 12-month observation period had substantially more often a comorbid substance disorder (75%) and a trauma and stress-related disorder (i.e., PTSD; 100%) than DID subjects who did not attempted suicide (15.4% and 69.2%, respectively). DID subjects with suicide attempts had more comorbid Axis I disorders (mean = 4) than DID subjects without suicide attempts (mean = 2.9), and they reported substantially more physical and sexual abuse during childhood. DID subjects with suicide attempts were higher educated and more often of foreign (i.e. Non-Swiss) nationality (Table 2).

Discussion

The aim of this study was to prospectively investigate suicidal behavior in psychiatric outpatients with a dissociative identity disorder during 12 months of observation. We found substantially higher rates of suicide attempts in subjects with DID compared to subjects without DID. Potential risk factors for a suicide attempt in subjects with DID were a high number of comorbid Axis I disorder, specifically substance disorder and posttraumatic stress disorder, severity of physical and sexual abuse during childhood, higher education, and foreign nationality.

Every fourth DID subjects among our sample attempt suicide during the 12-month observation period in this study. This finding corroborates the excessive risk for suicide attempts in DID as it is indicated by previous retrospective studies that assessed past suicidal behavior in patients with dissociative disorders. In Turkish studies, 30% of DID subjects admitted to a specific dissociative disorder treatment program (Öztürk & Sar, 2008) , 74% of subjects with substance abuse and a comorbid dissociative disorder (Karadag, et al., 2005; Tamar-Gurol, et al., 2008), and 13% of subjects of the general population with a dissociative disorder reported a suicide attempt in the past. In a North-American study among psychiatric

outpatients, 71% of subjects with a dissociative disorder reported a lifetime suicide attempt (Foote, et al., 2008). Most of the subjects with a dissociative disorder in these studies had a DID or DDNOS Type I diagnosis according to DSM-IV (American Psychiatric Association, 1994); in DSM-5 DDNOS Type I is now reclassified as DID (American Psychiatric Association, 2013). In a naturalistic DID treatment study across several countries, 16% of DID and DDNOS subjects attempted suicide in the 12 months prior to study inclusion (Webermann, et al., 2016).

Our finding of higher comorbidity and severity of childhood abuse in DID subjects who attempted suicide is in line with the only study we are aware of that investigated risk factors for suicidality specifically in DID patients (Öztürk & Sar, 2008). Although psychiatric morbidity (Harris & Barraclough, 1997; Nock et al., 2008) and childhood trauma (Norman et al., 2012; Paolucci, Genuis, & Violato, 2001) are recognized risks for suicidal behavior, dissociation may have a stronger association with suicide attempts than adverse childhood experiences (Zoroglu et al., 2003).

Lower education has also been found to be associated with suicidality (Nock, et al., 2008), which contrasts to our finding that DID subjects who attempted suicide were higher educated. Future studies with larger samples have to determine whether higher level of education is a specific risk factor for suicidal behavior in DID, but not other mental disorders.

This study has several limitations. First, because of the small number of DID subjects (N=17), results regarding risk factors for suicide attempts in DID subjects cannot be generalized to the population of DID patients. Second, comparable to other DID studies (Öztürk & Sar, 2008; Webermann, et al., 2016), the proportion of women among DID subjects was very high (88.2%). This did not allow to determine the role of being female as risk factor for suicidality in DID, which has been found to predict suicide attempts across diagnoses (Nock, et al., 2008). Third, we did not assess previous suicidal behavior, which is a major risk for suicide attempts (Nordström, Samuelsson, & Åsberg, 1995). Fourth, the study

was conducted in subjects who were in treatment, which might be more severe cases than DID subjects without treatment. Fifth, no information is available regarding type of treatment and experience of the individual therapists which may have influenced the occurrence of suicide attempts. Finally, despite matching of the groups, there were more women, posttraumatic stress disorder and number of Axis I diagnoses in DID compared to Non-DID subjects, which is characteristic for DID (Foote, et al., 2008; Ozdemir, Boysan, Guzel Ozdemir, & Yilmaz, 2015).

Main strengths of this study are the consecutive enrolment of subjects who sought psychiatric treatment, the prospective study design and the use of a set of interview-based instruments including SCID-I, SCID-II, SCID-D-R and LIFE, which are considered as gold-standards for diagnostic characterization and follow-up examination.

The results of this prospective study support previous evidence from retrospective studies for a high rate of suicidal behavior in patients with DID. The potential risk factors for suicidal behavior in DID observed in this study correspond largely to risk factors found in previous studies about suicidality in the general population and in mental disorders other than DID. Our results foster the need for careful assessment of suicidal intentions when treating DID patients.

References

American Psychiatric Association. (1994). *Diagnostic and Statistical Manual of Mental Disorders*. Washington, DC: American Psychiatric Press.

American Psychiatric Association. (2013). *The Diagnostic and Statistical Manual of Mental Disorders: DSM-5*. Arlington, VA: American Psychiatric Publishing.

Bernstein, D. P., Stein, J. A., Newcomb, M. D., Walker, E., Pogge, D., Ahluvalia, T., . . . Zule, W. (2003). Development and validation of a brief screening version of the Childhood Trauma Questionnaire. *Child Abuse & Neglect, 27*, 169-190.

Brand, B. L., Classen, C., Lanius, R., Loewenstein, R., McNary, S., Pain, C., & Putnam, F. (2009). A naturalistic study of dissociative identity disorder and dissociative disorder not otherwise specified patients treated by community clinicians. *Psychological Trauma: Theory, Research, Practice, and Policy, 1*, 153–171. doi:10.1037/a0016210

Brand, B. L., McNary, S. W., Myrick, A. C., Classen, C. C., Lanius, R., Loewenstein, R. J., . . . Putnam, F. W. (2013). A longitudinal naturalistic study of patients with dissociative disorders treated by community clinicians. *Psychological Trauma: Theory, Research, Practice, and Policy, 5*, 301-308. doi:10.1037/a0027654

Dell, P. F. (2009). The Long Struggle to Diagnose Multiple Personality Disorder (MPD): Partial MPD. In P. F. Dell & J. A. O'Neil (Eds.), *Dissociation and the Dissociative Disorders: DSM-IV and beyond* (pp. 403-428). New York, NY: Taylor & Francis.

First, M. B., Gibbon, M., Spitzer, R. L., Williams, J. M., & Benjamin, L. S. (1997). *User's Guide for the Structured Clinical Interview for DSM-IV Axis II Personality Disorders (SCID-II)*. Washington, DC: American Psychiatric Press.

First, M. B., Spitzer, R. L., Gibbon, M., & Williams, J. M. (1997). *User's Guide for the Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I)*. Washington, DC: American Psychiatric Press.

Foote, B., Smolin, Y., Kaplan, M., Legatt, M. E., & Lipschitz, D. (2006). Prevalence of dissociative disorders in psychiatric outpatients. *American Journal of Psychiatry, 163*, 623-629. doi:10.1176/appi.ajp.163.4.623

Foote, B., Smolin, Y., Neft, D. I., & Lipschitz, D. (2008). Dissociative disorders and suicidality in psychiatric outpatients. *Journal of Nervous and Mental Disease, 196*, 29-36. doi:10.1097/NMD.0b013e31815fa4e7

Gast, U., Oswald, T., & Zundorf, F. (2000). *Structured Clinical Interview for DSM-IV Dissociative Disorders (SCID-D). German Version*. Gottingen: Hogrefe.

Harris, E. C., & Barraclough, B. (1997). Suicide as an outcome for mental disorders. A meta-analysis. *British Journal of Psychiatry, 170*, 205-228.

Hilsenroth, M. J., Ackerman, S. J., Blagys, M. D., Baumann, B. D., Baity, M. R., Smith, S. R., . . . Holdwick, D. J., Jr. (2000). Reliability and Validity of DSM-IV Axis V. *American Journal of Psychiatry, 157*, 1858-1863. doi:10.1176/appi.ajp.157.11.1858

Karadag, F., Sar, V., Tamar-Gurol, D., Evren, C., Karagoz, M., & Erkiran, M. (2005). Dissociative disorders among inpatients with drug or alcohol dependency. *Journal of Clinical Psychiatry, 66*, 1247-1253.

Keller, M. B., Lavori, P. W., Friedman, B., Nielsen, E., Endicott, J., McDonald-Scott, P., & Andreasen, N. C. (1987). The Longitudinal Interval Follow-up Evaluation. A comprehensive method for assessing outcome in prospective longitudinal studies. *Archives of General Psychiatry, 44*, 540-548.

Kluft, R. P. (1995). Six completed suicides in dissociative identity disorder patients: Clinical observations. *Dissociation, 8*, 104-111.

Mueller-Pfeiffer, C., Rufibach, K., Perron, N., Wyss, D., Kuenzler, C., Prezewowsky, C., . . . Rufer, M. (2012). Global functioning and disability in dissociative disorders. *Psychiatry Research, 200*, 475-481. doi:10.1016/j.psychres.2012.04.028

Nock, M. K., Borges, G., Bromet, E. J., Alonso, J., Angermeyer, M., Beautrais, A., . . . Williams, D. (2008). Cross-national prevalence and risk factors for suicidal ideation, plans and attempts. *British Journal of Psychiatry, 192*, 98-105. doi:10.1192/bjp.bp.107.040113

Nordström, P., Samuelsson, M., & Åsberg, M. (1995). Survival analysis of suicide risk after attempted suicide. *Acta Psychiatrica Scandinavica, 91*, 336-340. doi:10.1111/j.1600-0447.1995.tb09791.x

Norman, R. E., Byambaa, M., De, R., Butchart, A., Scott, J., & Vos, T. (2012). The long-term health consequences of child physical abuse, emotional abuse, and neglect: A systematic review and meta-analysis. *PLoS Medicine, 9*. doi:10.1371/journal.pmed.1001349

Ozdemir, O., Boysan, M., Guzel Ozdemir, P., & Yilmaz, E. (2015). Relationships between posttraumatic stress disorder (PTSD), dissociation, quality of life, hopelessness, and suicidal ideation among earthquake survivors. *Psychiatry Research, 228*, 598-605. doi:10.1016/j.psychres.2015.05.045

Öztürk, E., & Sar, V. (2008). Somatization as a predictor of suicidal ideation in dissociative disorders. *Psychiatry and Clinical Neurosciences, 62*, 662-668.

Paolucci, E. O., Genuis, M. L., & Violato, C. (2001). A meta-analysis of the published research on the effects of child sexual abuse. *Journal of Psychology, 135*, 17-36.

Putnam, F., Guroff, J., Silberman, E., Barban, L., & Post, R. (1986). The clinical phenomenology of multiple personality disorder: review of 100 recent cases. *The Journal of Clinical Psychiatry, 47*, 285-293.

Steinberg, M. (1994). *Structured Clinical Interview for DSM-IV Dissociative Disorders-Revised (SCID-D-R)*. Washington, DC: American Psychiatric Press.

Tamar-Gurol, D., Sar, V., Karadag, F., Evren, C., & Karagoz, M. (2008). Childhood emotional abuse, dissociation, and suicidality among patients with drug dependency in Turkey. *Psychiatry and Clinical Neurosciences, 62*, 540-547.

Webermann, A. R., Myrick, A. C., Taylor, C. L., Chasson, G. S., & Brand, B. L. (2016). Dissociative, depressive, and PTSD symptom severity as correlates of nonsuicidal self-injury and suicidality in dissociative disorder patients. *Journal of Trauma and Dissociation, 17*, 67-80. doi:10.1080/15299732.2015.1067941

Yargiç, L. I., Şar, V., Tutkun, H., & Alyanak, B. (1998). Comparison of dissociative identity disorder with other diagnostic groups using a structured interview in Turkey. *Comprehensive Psychiatry, 39*, 345-351.

Zoroglu, S. S., Tuzun, U., Sar, V., Tutkun, H., Savaş, H. A., Ozturk, M., . . . Kora, M. E. (2003). Suicide attempt and self-mutilation among Turkish high school students in relation with abuse, neglect and dissociation. *Psychiatry and Clinical Neurosciences, 57*, 119-126. doi:10.1046/j.1440-1819.2003.01088.x

Table 1. Sociodemographic and clinical characteristics of subjects with and without dissociative identity disorder

	Dissociative Identity Disorder Present (N=17)		Dissociative Identity Disorder Absent (N=34)		Total (N=51)		Analysis[a]
	N	%	N	%	N	%	*P*
Sex							0.033
Female	15	88.2%	23	67.6%	38	74.5%	
Intersex	1	5.9%	0	0.0%	1	2.0%	
Nationality							0.204
Swiss	11	64.7%	27	79.4%	38	74.5%	
Swiss (naturalized)	3	17.6%	1	2.9%	4	7.8%	
Foreign national	3	17.6%	6	17.6%	9	17.6%	
Marital status							0.953
Single	12	70.6%	21	61.8%	33	64.7%	
Married	2	11.8%	4	11.8%	6	11.8%	
Married (separated)	0	0.0%	2	5.9%	2	3.9%	
Divorced	3	17.6%	7	20.6%	10	19.6%	
Education							0.184
No concluded school education	0	0.0%	1	2.9%	1	2.0%	
Compulsory elementary school	2	11.8%	9	26.5%	11	21.6%	
Apprenticeship or higher school certificate	10	58.8%	21	61.8%	31	60.8%	
University or college	5	29.4%	3	8.8%	8	15.7%	
Diagnoses							
Affective disorders	14	82.4%	20	58.8%	34	66.7%	0.122
Substance disorders	5	29.4%	5	14.7%	10	19.6%	0.270
Anxiety disorders	8	47.1%	13	38.2%	21	41.2%	0.563
Somatoform disorders	3	17.6%	1	2.9%	4	7.8%	0.102
Eating disorders	4	23.5%	5	14.7%	9	17.6%	0.459
Trauma and stress-related disorders[b]	13	76.5%	5	14.7%	18	35.3%	<.001
Personality disorders[c]	12	70.6%	18	52.9%	30	58.8%	0.366
	Mean	SD	Mean	SD	Mean	SD	P
Age (years)	34.7	11.8	33.7	9.2	34.0	10.0	0.756
Education (years)	13.5	4.5	12.2	2.0	12.6	3.1	0.294
Number of axis I diagnoses	3.2	0.9	1.6	1.0	2.1	1.2	<.001
Global Assessment of Functioning (GAF)	43.1	7.7	56.5	9.6	52.0	11.0	<.001

[a] For comparison of categorical variables, Fisher's exact test was used. For comparison of continuous variables, Student's t test was used.

[b] All cases in trauma and stress-related disorders suffered from posttraumatic stress disorder.

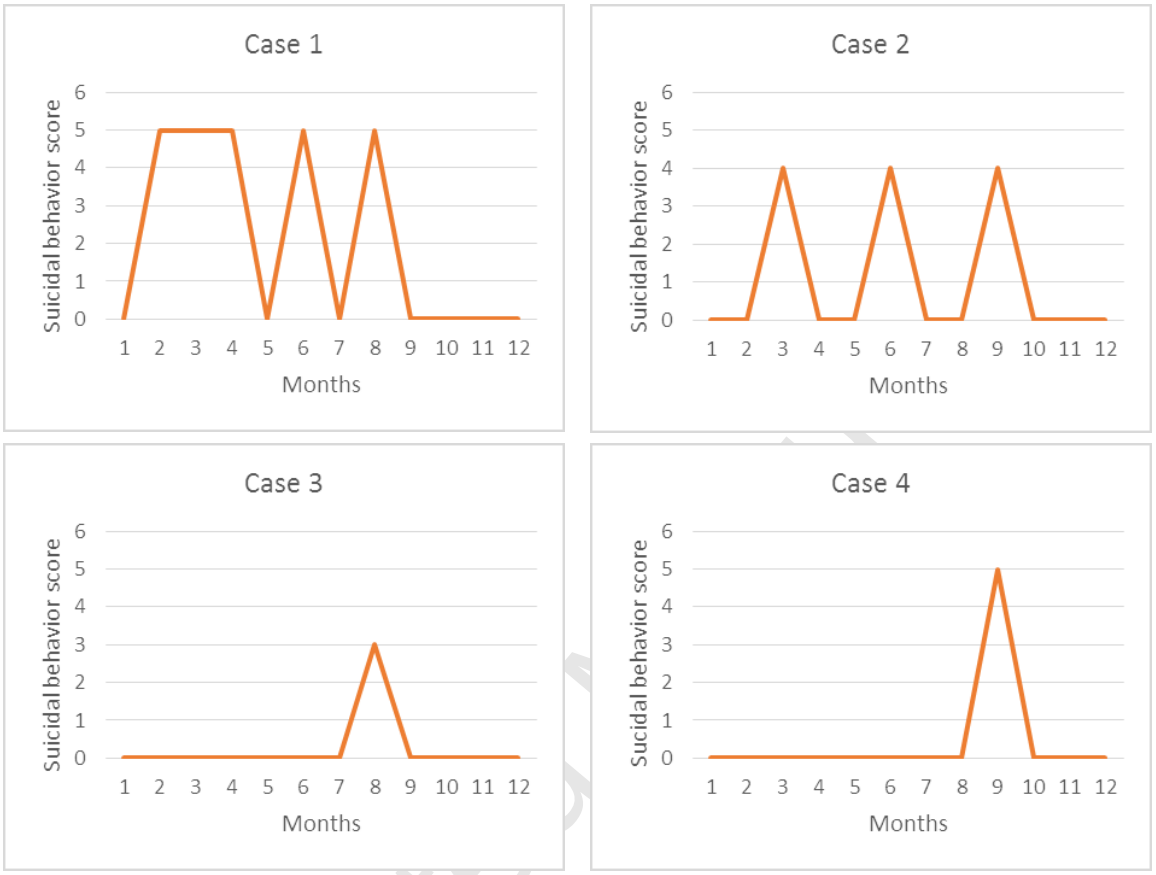
[c] A Borderline personality disorder was diagnosed in 12 (70.6%) subjects with a dissociative identity disorder and 9 subjects (26.5%) without a dissociative identity disorder.

Table 2. Sociodemographic and Clinical Characteristics of Subjects with Dissociative Identity Disorder Who Did and Did Not Attempt Suicide During a 12-Month Observation Period

	Dissociative Identity Disorder without Suicidal Behavior (N=13)		Dissociative Identity Disorder with Suicidal Behavior (N=4)	
	N	%	N	%
Sex				
Female	11	84.6%	4	100.0%
Intersex	1	7.7%	0	0.0%
Nationality				
Swiss	10	76.9%	1	25.0%
Swiss (naturalized)	2	15.4%	1	25.0%
Foreign national	1	7.7%	2	50.0%
Marital status				
Single	9	69.2%	3	75.0%
Married	1	7.7%	1	25.0%
Divorced	3	23.1%	0	0.0%
Education				
Compulsory elementary school	2	15.4%	0	0.0%
Apprenticeship or higher school certificate	8	61.5%	2	50.0%
University or college	3	23.1%	2	50.0%
Diagnostic categories				
Affective disorders	11	84.6%	3	75.0%
Substance disorders	2	15.4%	3	75.0%
Anxiety disorders	7	53.8%	1	25.0%
Somatoform disorders	3	23.1%	0	0.0%
Eating disorders	3	23.1%	1	25.0%
Trauma and stress-related disorders[a]	9	69.2%	4	100.0%
Personality disorders[b]	9	69.2%	3	75.0%
	Mean	SD	Mean	SD
Age (years)	34.5	11.6	35.3	14.4
Education (years)	12.8	4.6	15.8	3.9
Number of axis I diagnoses	2.9	0.5	4.0	1.4
Global Assessment of Functioning (GAF)	43.7	6.9	41.0	11.0
CTQ Emotional Abuse	14.3	6.5	18.3	4.5
CTQ Physical Abuse	9.2	5.8	17.3	7.6
CTQ Sexual Abuse	16.0	6.1	24.7	0.6
CTQ Emotional Neglect	9.5	4.5	8.3	2.9
CTQ Physical Neglect	9.2	2.5	10.7	3.5

[a] All cases in trauma and stress-related disorders suffered from posttraumatic stress disorder.
[b] A Borderline personality disorder was diagnosed in 9 (69.2%) subjects with a dissociative identity disorder without suicidal behavior and 3 subjects (75.0%) with a dissociative identity disorder with suicidal behavior.

Figure 1. Time and Medical Threat of Suicide Attempts in Subjects with Dissociative Identity Disorder During a 12-Month Observation Period



The Suicidal behavior score is a seven-point rating scale of the Longitudinal Interval Follow-Up Evaluation and characterizes the medical threat to life of a suicidal gesture or attempt:

0 No information or not sure.
1 No danger (e.g., no effect – held pills in hand).
2 Minimal (e.g., scratch on wrist).
3 Mild (e.g., took ten Aspirins – mild gastritis).
4 Moderate (e.g., took ten Seconals – briefly unconscious).
5 Severe (e.g., cut throat).
6 Extreme (e.g., respiratory arrest or prolonged coma).
7 Death.