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## **Suicide in a clinical and a general population, with focus on comorbidity. Studies from the Lund Suicide Research Center and the Lundby Study.**

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2016

*Document Version:*

Publisher's PDF, also known as Version of record

[Link to publication](#)

*Citation for published version (APA):*

Holmstrand, C. (2016). *Suicide in a clinical and a general population, with focus on comorbidity. Studies from the Lund Suicide Research Center and the Lundby Study*. [Doctoral Thesis (compilation), Psychiatry (Lund)]. Lund University: Faculty of Medicine.

*Total number of authors:*

1

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# Disentangling dysthymia from major depressive disorder in suicide attempters' suicidality, comorbidity and symptomatology

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Holmstrand C, Engström G, Träskman-Bendz L. Disentangling dysthymia from major depressive disorder in suicide attempters' suicidality, comorbidity and symptomatology. *Nord J Psychiatry* 2008;62:25–31. Oslo. ISSN 0803-9488.

Dysthymia and major depressive disorder (MDD) are both risk diagnoses for suicidal behaviour. The aim of the present study was to identify clinical differences between these disorders, with a special reference to dysthymia. We studied suicidal behaviour, comorbidity and psychiatric symptoms of inpatient suicide attempters with dysthymia and MDD. We used DSM III-R diagnostics, the Suicide Assessment Scale (SUAS) and the Comprehensive Psychopathological Rating Scale (CPRS), part of which is the Montgomery and Åsberg Depression Rating Scale (MADRS). Suicide mortality, number of repeated suicide attempts, method of suicide attempt and comorbidity of Axis I did not differ between the groups. Dysthymia patients, however, suffered more than MDD patients from DSM-III-R Axis II diagnoses (above all cluster B). There was no significant difference in Axis III comorbidity. Total SUAS, CPRS and MADRS scores did not differ significantly between the groups. When studying separate SUAS and CPRS items in a multivariate analysis, the CPRS items "aches and pains", "increased speech flow", increased "agitation" and "less tendency to worrying over trifles" as well as young age remained independently associated with dysthymia. Dysthymia patients, who later committed suicide, more often reported increased "aches and pains" than those who did not commit suicide. In this small sample of suicide attempters, we conclude that dysthymia suicide attempters, more often than MDD patients, have a comorbidity with personality disorders, which combined with a picture of aches and pains, could be factors explaining their suicidality.

• *Comorbidity, Dysthymia, Major depressive disorder, Suicidal behaviour, Symptomatology.*

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The similar symptomatology of major depressive disorder (MDD) and dysthymia has raised the question whether they really should be seen as separate conditions. In elderly people, the symptom profile tends to be more alike than in younger individuals (1). Several scientists see dysthymia as part of a spectrum of affective disorders (2–5).

Besides the aspects of duration and severity, there are few symptom criteria differences between the diagnoses of dysthymia and MDD, evaluated according to the DSM-III-R (6) and the DSM-IV (7), respectively. Several studies have shown that emotional and cognitive symptoms, rather than the neurovegetative ones, are typical for dysthymia (4, 8–10). The DSM-IV appendix provides alternative symptoms for criterion B for dysthymia, but

this alternative is not yet incorporated in the official DSM definition of dysthymia (11).

Patients with dysthymia are known to have high rates of comorbidity with other psychiatric conditions (12–15). MDD, anxiety disorders, substance-use disorders, phobias and eating disorders are particularly common dysthymia comorbidities (12, 16–18). Studies have reported that patients with dysthymia significantly more often exhibit personality psychopathology than do patients with MDD, and this is especially the case among the ones with early onset of their illness (13, 15, 19). In a population of outpatients with primary dysthymia, Garyfallos and coworkers (13) showed that the most frequent personality diagnoses (DSM, Axis II) were borderline, histrionic, avoidant, dependent

and self-defeating personality disorders (13). According to another study, narcissistic and passive-aggressive personality disorders were also common among dysthymia patients (15).

A strong association between a diagnosis of dysthymia and a suicide attempt during lifetime has been confirmed in several studies (5, 15, 17, 20). Hawton and coworkers presented a study in which patients with comorbidity of psychiatric and personality disorders more often made repeated suicide attempts. They also reported other risk factors for future suicide, including persistent depression, suicide ideation, hopelessness, aggression, impulsivity and low self-esteem, some of which are typical signs of dysthymia (21).

The aims of the present study were to disentangle dysthymia patients from those with MDD concerning psychiatric symptoms, comorbidity and suicidal behaviour in a population of suicide attempters.

## Materials and Methods

### Subjects

During 1987–2000, about 50% of suicide attempters who were evaluated daytime in a psychiatric consultation liaison setting, were referred to a specialized psychiatric inpatient facility at the university hospital in Lund, while roughly 10% moved to psychiatric wards elsewhere, and about 40% were referred to outpatient facilities. Age and gender did not differ between consultation liaison dysthymia and MDD patients, not referred to the specialized ward (mean age: 47.3 years,  $s = 18.7$ ; 38% men), and those who were referred (mean age: 43.4 years,  $s = 15.7$ ; 36% men).

Shortly after the index admission, the patients were asked to participate in a multidimensional investigation on suicidal behaviour. Physical examinations were made, and laboratory status was taken for e.g. thyroid and parathyroid function, lipids, cobalamine, folate and cortisol.

### Methods

#### DIAGNOSTICS

The principal diagnoses were carefully settled according to the DSM-III-R. No structured diagnostic instrument was available when the study was initiated in 1987. Two psychiatrists and one resident in psychiatry were involved in the diagnostic procedure, and diagnoses were settled after a consensus discussion. The first 52 patients were diagnosed independently by two psychiatrists before their consensus discussion, and a total agreement concerning all diagnoses was found in 77% of the cases.

The diagnoses specifically investigated in the present study were dysthymia ( $n = 35$ ) and MDD ( $n = 81$ ). Two subjects had been excluded because of a current double depression.

DSM III-R, Axis II diagnoses (i.e. personality disorders) were settled after comprehensive clinical evaluations by psychiatrists and clinical psychologists, and a final consensus was reached during grand rounds.

### SUICIDAL BEHAVIOUR

The definition of a suicide attempt was: "Those situations in which a person has performed an actually or seemingly life-threatening behaviour with the intent of jeopardizing his life, or to give an appearance of such an intent, but which has not resulted in death" (22). The suicide attempt methods were categorized as violent or non-violent (23). Overdoses and single wrist cuts were considered to be non-violent, and other methods or combinations of methods were categorized as violent. Patients who had made previous suicide attempts were denoted "repeaters".

Information on completed suicides was retrieved from the Department of Forensic Medicine in Lund as well as the National Bureau of Statistics.

### Ethics approval

The present study is a part of a large multidimensional investigation on suicidal behaviour, which was approved by the Lund University Medical Faculty Ethics committee.

### Rating scales

There was an average drug-free wash-out period of 13 days before ratings were made. During this period, the patients were medication free except for contraceptives and occasional benzodiazepines.

#### THE SUICIDE ASSESSMENT SCALE (SUAS)

The SUAS includes 20 items dealing with suicidality, but not linked to any specific diagnosis. The SUAS covers somatic symptoms, thoughts, emotions and attitudes to suicide (24).

#### THE COMPREHENSIVE PSYCHOPATHOLOGICAL RATING SCALE (CPRS)

The CPRS was constructed by Åsberg et al. (25). It consists of 65 items dealing with psychiatric symptoms. In 40 of them, the answers are reported by the patient, and the rest are rated from observations. The CPRS items have seven scale steps from 0 to 3. The scale step "1" is a description that could apply to a pathological deviation from the individual's own norm, but might equally be considered a normal variant in a group of people, e.g. occasional feelings of edginess and ill-defined discomfort.

#### THE MONTGOMERY AND ÅSBERG DEPRESSION RATING SCALE (MADRS)

The 10 MADRS-items were drawn from the CPRS. They describe core symptoms of depression (26).

## Statistics

In the present study, the variables were not normally distributed, and for that reason non-parametric statistics were used. Age comparisons were, however, made by use of the Student's *t*-test. In comparisons concerning categorical variables, the chi-square test or Fisher's exact test were used for cross tabulation. Group differences in rating scale scores and separate items were evaluated by using the Mann-Whitney *U*-test.

The CPRS items that showed significant differences between the dysthymia group and the MDD group were dichotomized into two categories ( $<1.0$  and  $\geq 1$ ) and entered into the subsequent stepwise backward logistic regression analysis together with sex and age. The *P*-value for removal from the model was 0.1. Tolerance for each independent variable was calculated as a test for collinearity. Tolerance below 0.2 was considered to indicate collinearity. The results were considered significant when  $P < 0.05$ . All tests were two-tailed. The SPSS (Statistical Program for Social Sciences) computer program was used for the statistical calculations (27).

## Results

### Clinical comparisons between dysthymia and MDD patients

We found no significant differences in age ( $40 \pm 17.6$  years vs.  $44.9 \pm 14.7$ ) or sex distribution between the dysthymia and MDD groups (Table 1).

Suicidality and comorbidities are described in Table 1.

Suicide attempt method and incidence of suicide within 1 year after admission, or later on (data as of June 2003) did not differ between the groups.

More than half of the violent suicide attempts in the MDD group were made by men (13/20), but only 20% (1/5) of violent suicide attempts in the dysthymia group.

There were no significant differences between dysthymia and MDD patients concerning Axis I comorbidity. In the dysthymia group, two had a substance use

disorder, two had an anxiety disorder and two had other psychiatric diagnoses. In the MDD group, nine had a substance use disorder, four had an anxiety disorder, one an adjustment disorder and three had other psychiatric diagnoses.

Personality disorders according to the DSM III, Axis II, were common in both groups, but significantly more common among dysthymia persons ( $P = 0.003$ , chi-square).

When comparing clusters of Axis II disorders, cluster B personality disorders were undoubtedly the most common ones in the dysthymia group, and appeared in 51% of the cases, and significantly more often than in MDD ( $P < 0.001$ ) (Table 2).

Axis II diagnoses among repeaters were significantly more common in the dysthymia than in the MDD group ( $P = 0.014$ ). Dysthymia repeaters ( $n = 19$ ) often had a cluster B ( $n = 13$ ), while only four of MDD repeaters had a cluster B disturbance.

Concerning Axis III comorbidity, a physical illness existed in 20–25% of the patients in both the dysthymia and MDD groups (Table 1).

### Findings from rating scales

From Table 3, it is apparent that not all patients were rated. There were no significant differences in age, sex, Axis I or Axis II disorders between those who were rated and those who were not.

Rating scale comparisons between dysthymia and MDD patients are shown in Table 3.

No significant SUAS, CPRS or MADRS global score differences could be seen between dysthymia and MDD patients.

When studying separate SUAS items, there were significantly higher scores of "somatic concern" (#10) among dysthymia patients than among MDD patients (Table 4).

Table 1. Characteristics of the samples, suicidality and comorbidity. Comparisons between the dysthymia group and the major depressive disorder (MDD) group.

	Dysthymia, $n = 35$		MDD, $n = 81$		<i>P</i> -value
			<i>n</i>	(%)	
Sex	12	(34.3)	30	(37.0)	NS
Men			51	(63.0)	
Women	23	(65.7)			
Suicide before June, 2000	5	(14.3)	8	(9.9)	NS
Suicide the first year after index	3	(8.6)	3	(3.7)	NS
Previous suicide attempts	19	(54.3)	35	(43.2)	NS
Violent suicide attempt method	5	(14.3)	20	(24.7)	NS
Comorbidity Axis I	6	(17.1)	17	(21.0)	NS
Comorbidity Axis II	29	(82.9)	42	(51.9)	0.003
Axis II + repeated suicide attempts	17	(48.6)	19	(23.5)	0.014
Comorbidity Axis III	8	(22.9)	20	(24.7)	NS

Table 2. Personality disorder cluster comparisons between patients with dysthymia and major depressive disorder (MDD) (chi-square test or Fisher's exact test).

	Cluster A		Cluster B*		Cluster C		UNS		No II Axis	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Dysthymia	2	5.7	18	51.4	5	14.3	4	11.4	6	17.1
MDD	7	8.6	10	12.3	12	14.8	13	16.0	39	48.1

\**P* <0.001 (dysthymia vs. MDD).

When individual CPRS items were compared (Table 4), we found that *reported* “aches and pains” (#24), as well as *observed* “increased speech flow” (#53), *observed* “agitation” (#61) and *observed* “vegetative symptoms” (#46), were significantly more common among dysthymia patients than among those with an MDD. The MDD group had significantly higher scores concerning the *reported* CPRS items of “worrying over trifles” (#9), “indecision” (#13), “lassitude” (#14) and “concentration difficulties” (#16).

In order to further disentangle dysthymia from MDD, 10 variables (eight CPRS items, age and sex) were entered in a multivariate analysis comparing dysthymia with MDD patients. Young age, “aches and pains”, “increased speech flow”, increased “agitation”, less tendency to “worrying over trifles” and increased “agitation” remained independently associated with dysthymia (Table 5).

Tolerance for the variables in the final step was calculated, and the result showed 0.80–0.97, which thus meant no collinearity problem.

As Axis II disorders were significantly more common among the dysthymia than MDD patients, we wanted to rule out the possibility that the four variables which remained independently associated with dysthymia (Table 5) were due to Axis II comorbidity. We therefore compared the scores of these variables between patients with an Axis II disorder and patients without Axis II in the MDD and dysthymia groups, respectively (Mann–Whitney *U*-test). No significant differences were found.

We were interested to see whether CPRS aches and pains and SUAS somatic concerns in dysthymia patients

might be associated with mortality in suicide, so therefore we made comparisons between those who committed suicide (*n* = 5) and those who did not (*n* = 26) in the dysthymia group (Mann–Whitney *U*-test). Those who later committed suicide, significantly more often reported aches and pains (CPRS #24), as compared to non-suicides (*P* = 0.025). The dysthymia suicides also had somatic concerns (SUAS #10) to a larger extent than those still alive, but the difference was non-significant (*P* = 0.08).

Discussion

Our main results were that among inpatient suicide attempters, dysthymia patients had significantly more Axis II comorbidity than MDD patients.

According to rating scales used in this study, dysthymia patients were not in a less severe psychiatric condition than the patients with MDD as illustrated by similar ratings of global psychopathology, depression and suicidality. They, however, significantly more often showed an increased speech flow and agitation, and also more often reported symptoms of aches and pains. Patients with MDD on the other hand more often reported worrying over trifles.

Dysthymia patients had an Axis II diagnosis in as many as 82.9% of the cases. Axis II diagnoses are known to be a risk factor for future suicide (28, 29).

One important reason why so many of the dysthymia patients had repeated suicide attempts was their Axis II comorbidity, and especially cluster B comorbidity. Apart from impulsivity, interpersonal problems and short term (hours or days) affective instability, self-destructive or

Table 3. Comparisons of Comprehensive Psychopathological Rating Scale (CPRS), Montgomery and Åsberg Depression Rating Scale (MADRS) and Suicide Assessment Scale (SUAS) scores between dysthymia and major depressive disorder (MDD) patients (Mann–Whitney *U*-test).

	Dysthymia			MDD			<i>P</i> -value
	<i>n</i>	Mean ( <i>s</i> )	Median	<i>n</i>	Mean ( <i>s</i> )	Median	
CPRS total score	31	21.1 (9.7)	19.5	62	22.6 (9.5)	21.7	NS
All reported items	31	16.9 (7.4)	15.0	62	19.2 (8.3)	19.0	NS
All observed items	31	4.3 (3.4)	4.0	62	3.3 (2.2)	3.0	NS
Items not included in MADRS	31	12.4 (7.1)	11.0	62	11.3 (5.0)	11.0	NS
MADRS	31	9.2 (5.0)	8.0	62	11.2 (5.7)	11.2	NS
SUAS	25	30.8 (13.8)	27.0	57	28.6 (13.7)	29.0	NS



Table 4. Mean, median and standard deviations (*s*) of Comprehensive Psychopathological Rating Scale (CPRS) and Suicide Assessment Scale (SUAS) items that showed significant differences between dysthymia and major depressive disorder (MDD) patients (Mann–Whitney *U*-test).

Rating scale item	Dysthymia				MDD				<i>P</i> -value
	<i>n</i>	Mean	Median	<i>s</i>	<i>n</i>	Mean	Median	<i>s</i>	
CPRS #9; worrying over trifles	31	0.53	0.00	0.81	62	1.01	1.00	0.88	0.01
CPRS #13; indecision	31	0.66	0.50	0.81	62	1.06	1.00	0.81	0.02
CPRS #14; lassitude	31	0.84	1.00	0.73	62	1.21	1.50	0.87	0.03
CPRS #16; concentration difficulties	31	0.84	1.00	0.71	62	1.19	1.50	0.73	0.02
CPRS #24; aches and pains	31	0.95	1.00	0.96	61	0.47	0.00	0.61	0.02
CPRS #46; vegetative symptoms	31	0.48	0.00	0.54	62	0.28	0.00	0.54	0.04
CPRS #53; increased speech flow	31	0.34	0.00	0.55	62	0.08	0.00	0.26	0.01
CPRS #61; agitation	31	0.31	0.00	0.65	62	0.08	0.00	0.32	0.02
SUAS #10; Somatic concern	25	1.56	2.00	1.39	57	0.79	0.00	1.13	0.01

suicidal behaviour is often a part of the Axis II, cluster B diagnosis according to the DSM-system (6, 7). This is discrepant from e.g. long-term depressed mood, loss of energy, low self-esteem, poor concentration and feelings of hopelessness, which are typical symptoms of dysthymia. Our understanding is that a combination of these disorders clearly deteriorates the state of illness and hence the risk of suicidal behaviour (30, 31).

Our results concerning individual SUAS and CPRS items contradict results from other studies (4, 8–10), which show that emotional and cognitive symptoms usually are more abundant than vegetative ones in dysthymia patients. Spalletta et al. (15) have studied differences in symptoms between three psychiatric diagnoses and found fewer somatic and vegetative symptoms in dysthymia patients, than in MDD and adjustment disorder groups (15). In their study, 17% of the dysthymia patients had a life history of suicide attempt.

Rather than feelings of sadness, somatic complaints are sometimes emphasized by persons with depressive illness (32, 33). In the 1980s, it was stated by Blumer & Heilbronn that the idiopathic pain syndrome could be a special type of depressive disease, and even a variant of dysthymia (33, 34). In a large primary care sample, Lobo et al. (1996) found that approximately one-third of psychiatric cases presented themselves in a somatized way, and “back pain” was the most frequent somatic presentation (35). In the same study, dysthymia patients

were more often somatizers than those with other psychiatric diagnoses such as MDD, depressive disorder NOS, adjustment disorder and anxiety disorders (36). Headache complaints associated with psychiatric comorbidity were studied by Bensenor et al. (37) in a population-based sample. They found that headache problems were associated with depressive disorder, and above all with dysthymia.

Pain patients are known to have an elevated suicide risk (38–42). One possibility is that pain and somatic concerns might be especially common among dysthymia patients with suicidal behaviour. In our study suicides in the dysthymia group had reported “aches and pains” to a greater extent than non-suicides, which speaks in this direction.

It is remarkable that DSM III-R, Axis III disorders were not more common among dysthymia than MDD patients, as they more often reported feelings of pain. However, our study highlights the fact that the dimension of pain is discrepant from somatic syndromes, parts of which are pain symptoms. Diagnoses such as chronic fatigue syndrome and fibromyalgia were seldom diagnosed in Sweden at the time of the study.

The concept of dysthymia is often debated. However, for many years, certain criteria for this diagnosis are needed, according to the DSM-system as well as the criteria for research of the ICD-10 Classification of Mental and Behavioural Disorders (43).

Table 5. The Comprehensive Psychopathological Rating Scale (CPRS) items remaining in the equation at the final step of a backward stepwise logistic regression analysis.

Variable in the equation at the final step	<i>P</i> -value	Odds ratio	95%CI
CPRS #9; worrying over trifles	0.031	0.30	0.103–0.896
CPRS #24; aches and pains	0.006	4.53	1.537–13.342
CPRS #53; increased speech flow	0.006	8.34	1.855–37.520
CPRS #61; agitation	0.031	6.18	1.186–32.196
Age	0.034	0.96	0.928–0.997

In the first step all CPRS items showing a significant difference between the dysthymia and MDD groups, and age and sex were entered.

An often discussed problem, not mentioned above, concerns difficulties in separating “trait” from “state” (5). Patients who are studied after a suicide attempt are usually in a critical psychosocial situation, which probably affects the symptomatology ratings. Our study is only describing symptomatology shortly after a suicide attempt and is not dealing with morbidity at the time before and after index, except concerning suicidal behaviour. We have not taken factors such as age of onset, recurrence or the possibility of a history of “double depression” at any time before index into consideration. Neither were we aware of the psychiatric condition at the time of committing suicide. The dysthymia population in our material could not be seen as representative for the diagnostic group as a whole, as they all had made suicide attempts and were admitted to a ward specialized in suicidality.

## Concluding remarks

In this study of suicide attempters, we show that the symptom levels are similar in dysthymia and MDD patients. Most of the patients with dysthymia had a personality disorder, which probably complicates current and future morbidity.

As aches and pains existed to a large extent in dysthymia patients, who later killed themselves, these symptoms are important to bear in mind when evaluating the suicide risk of dysthymia suicide attempters.

*Acknowledgements*—This study was supported by grants from the Swedish Research Council 145 48, the Söderström-König, Sjöbring and OM Persson foundations. The nursing staff on the research ward is gratefully acknowledged. Thanks are also due to Göran Regnéll, M.D., Anders Niméus, M.D., Charlotta Sunnquist, R.N. and research assistant Ulla Persson.

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