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The Zurich Study

XI. Is Dysthymia a Separate Form of Depression? Results of the Zurich Cohort Study*

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Summary. Dysthymia was assessed in the prospective Zurich Cohort Study of young adults. The 1-year prevalence rate was around 3% if no exclusion criteria were applied. Pure dysthymics without major or recurrent brief depression accounted for about 1%. Most cases of dysthymia met the symptom criteria for major depressive disorder (MDD) and were characterized by a more continuous course. However, evidence presented in this paper suggests that a diagnosis separate from MDD is not warranted. The family history of dysthymic subjects did not differ from major depressives. The smaller group of primary dysthymics, on the other hand, did not differ from controls as regards family history for treated depression. The low prevalence rates, taken together with methodological problems involved in assessing dysthymia and the lack of a distinct course, suggest that dysthymia does not constitute a valid subtype of depression in an age group of 20–30 years of the community. Dysthymia belongs to the wide spectrum of major depressive syndromes and represents only a subgroup characterized by specific course characteristics.

Key words: Dysthymia – Major depressive disorder – Epidemiological study – Prevalence – Family history

Introduction

"The term dysthymic disorder was introduced into the psychiatric nomenclature in DSM-III in 1980 to categorize chronic depressions which were of a long duration but less severe than major depressive episodes. It was used to replace the DSM-II concept of neurotic depression." (M.B. Keller, unpublished manuscript)

The concept of dysthymic disorder has evoked considerable controversy. A recent review by Bronisch (1990) concluded that the introduction of dysthymia created more confusion than clarification in psychiatric classification and that its delineation from other psychiatric syndromes is not clear at all. A lack of distinction between dysthymia and major depression is stressed by Kocsis and Frances (1987). They state: "It remains too easy to go from a diagnosis of dysthymia to one of major depression."

This paper examines the question as to whether dysthymia is a separate form of depression, especially distinct from major depressive disorder (MDD).

The validity of the concept of dysthymia is analysed in a normal population sample based on the epidemiological Zurich Cohort Study (Angst et al. 1984).

The Zurich Cohort Study

Subjects and Methods

The subjects for the study are those of the Zurich Study, a longitudinal epidemiological cohort study of young adults in Zurich, Switzerland (Angst et al. 1984). A cohort of 292 males and 299 females aged 19–20 years from the canton of Zurich in Switzerland was selected according to scores on the 90-item Hopkins Symptom Checklist (SCL-90-R) (Derogatis 1977) in 1978. Subjects with high scores (i.e. above the 85th percentile) comprised two-thirds of the sample. The remaining subjects were randomly selected from those who scored below the 85th percentile on the SCL-90. There were four waves of interviews: 1979, 1981, 1986 and 1988. All 591 subjects were interviewed in 1979, of whom 456 were re-interviewed in 1981; 457 subjects, some of whom did not participate in 1981, were re-interviewed in 1986. Ninety percent of the subjects who participated in 1986 were interviewed again in 1988. Additionally, the subjects were contacted by mail in 1980. The dropout rate after the third interview wave, 7 years after the first interview, was 23% and after 9 years 30%.

Diagnostic Criteria for Dysthymia

Dysthymia was operationally diagnosed at the third and fourth structured interview administered by trained clin-

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ical psychologists in 1986 at age 28 and in 1988 at age 30. The diagnostic criteria for dysthymia were identical to those given by DSM-III-R, with the exception that a symptom-free interval of 3 months rather than 2 months was required for the diagnosis as suggested originally by the draft of DSM-III-R (1985). For the diagnosis of major depression (MDD) we used DSM-III criteria. Our definition of recurrent brief depression (RBD) has been given in another paper (Angst et al. 1990). Exclusion criteria were not applied in order to investigate the overlap with other depressive and psychiatric syndromes.

Prevalence of Dysthymia

In 1986, 19 subjects (4.2%) and in 1988 10 subjects (2.4%) were given a diagnosis of dysthymia without the application of any exclusion criteria. The weighted rates for 1986 and 1988 were 2.6 and 0.6% respectively; pure dysthymia without any overlap with major depression or RBD was only found in 1.3% (1986) and 0.1% (1988) of the sample. No clear sex differences emerged for dysthymia.

Symptoms or Dysthymia

Table 1 gives the distribution of the total of eight criterial symptoms for major depression according to DSM-III. In both interviews at ages 26 and 28, all cases of dysthymia met the threshold criterion of the presence of four or more of eight criterial symptoms (Angst et al., in press). *These findings would suggest that dysthymia can, from a symptom point of view, be defined in the same way as major depression and as RBD.* The majority of cases are explained as a variety of major depression and RBD.

This conclusion is also supported by the *quality of symptoms* observed in the 19 dysthymics diagnosed in 1986 compared with subjects with MDD (Table 2). Dysthymics show higher frequencies in the following symptoms: inhibition, anxiety about the future and everyday tasks, guilt feelings and being tired of living; finally, dysthymics are more fearful of being alone. Interpreting the results one has to be aware of the fact that 14 of 19 cases of dysthymia overlap with MDD or RBD. A group with co-morbidity has usually more symptoms. This trend is clearly shown in the mean frequencies of all symptoms and the eight DSM-III criterial symptoms. Taking syndromal co-morbidity into account, the symptom picture is fairly homogeneous.

Table 1. DSM-III-R dysthymia: Number of DSM-III criterial symptoms of depression

Symptoms	1986 Cases	1988 Cases
0	0	0
1	0	0
2	0	0
3	0	0
4	3	1
5	0	1
6	4	1
7	4	3
8	8	4
Cases	19	10

Table 2. Symptoms of depression

	1986				
	RBD ($n=43$)	MDD ($n=27$)	RBD + MDD ($n=20$)	Dysthymia ($n=25$)	*P*
Symptoms					
Sad, depressed	98	100	100	88	NS
Loss of energy	91	82	85	88	NS
Worthlessness	72	67	80	84	NS
Avoiding contacts	67	70	75	84	NS
Inhibited, blocked	70	59	90	88	0.03
Loss of interest	58	70	45	76	NS
Difficulty thinking	70	85	75	68	NS
Guilt feelings	65	48	85	80	0.03
Decreased sexual interest	60	56	60	48	NS
Anxious about future	47	48	70	72	NS
Lack of appetite	40	48	35	36	NS
Weight loss	16	41	20	24	NS
Increased appetite	35	30	25	24	NS
Weight gain	19	22	25	24	NS
Insomnia	33	41	50	48	NS
Sleeping more, tired	51	44	40	60	NS
Worse in the morning	28	41	35	32	NS
Cannot be cheered up	23	26	35	40	NS
Slowed down in moving	47	41	55	40	NS
Restless	35	30	45	44	NS
Tired of living	33	30	60	68	0.006
Anxious about everyday tasks	42	19	50	48	NS
Afraid of being alone	35	30	35	68	0.02
Symptomatic criteria (8 DSM-III)					
$\bar{x}$	5.7	5.7	6.3	6.4	NS
SD	1.40	1.20	1.55	1.71	
Number of above symptoms					
$\bar{x}$	11.3	11.3	12.8	13.3	NS
SD	3.42	2.97	3.88	4.07	

RBD, recurrent brief depression; MDD, major depressive disorder

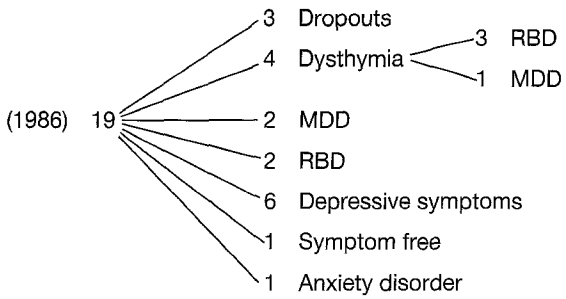


Fig. 1. DSM-III-R Dysthymia: Follow-up from 1986 to 1988

Diagnostic Stability in a Follow-up Over 2 Years

Of 19 subjects diagnosed at age 28 (1986) to be suffering from DSM-III-R dysthymia, 16 were re-interviewed 2 years later at age 30. Figure 1 shows the results. Only 4 subjects were given a diagnosis of dysthymia again; 1 of them also suffered from MDD, and the three others received the second diagnosis of RBD. Two dysthymics developed MDD only; two others developed RBD; and 1 developed an anxiety disorder. Of the remaining 7 subjects, only 1 was symptom-free and 6 suffered from some depressive symptoms under the diagnostic threshold.

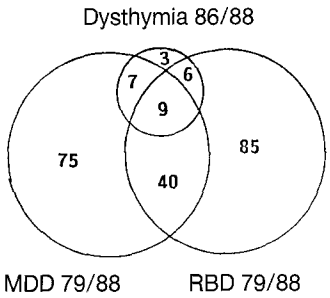
Cross-sectional and Longitudinal Co-morbidity at Age 28

The independence of dysthymia from other depressive subtypes can also be checked by the cross-sectional association of several diagnoses. Data are available for 19 cases diagnosed in 1986 as DSM-III-R dysthymia. In Table 3 the 1-year co-morbidity with MDD, RBD, hypomania and Generalized Anxiety Disorder (GAD) is given. Five cases (26%) did not exhibit an elevation of any co-morbid disorder. Nine (47%) show co-morbidity with MDD, and 5 (26%) with RBD.

The assessments in 1986 or 1988 show considerable longitudinal overlap of dysthymics with MDD, some with RBD (Fig. 2). Only 3 of 25 cases remain as pure dysthymics. The 3-year prevalence rates were 1.2% (excluding RBD and MDD) and 1.5% (excluding MDD only). There was 64% overlap with MDD, 56% with RBD and 32% with both MDD and RBD. The odds ratio for the longitudinal association of dysthymia with MDD is 5.01 and with RBD 3.77, whereas MDD and RBD are non-significantly associated, with an odds ratio of 1.59.

Table 3. Co-morbidity of dysthymia at age 28

Dysth	MDD	RBD	Hypo-mania	GAD	*n*
+					5
+	+				6
+	+		+		1
+	+			+	2
+		+			4
+		+	+		1
Total					19



	Odds ratio
Dysthymia and MDD	5.01 (2.3–10.8)
Dysthymia and RBD	3.77 (1.6– 8.6)
MDD and RBD	1.59 (1.0– 2.4)

Fig. 2. Longitudinal association of subtypes of depression $n = 464$. Odds ratio: dysthymia and MDD 5.01 (2.3–10.8); dysthymia and RBD 3.77 (1.6–8.6); MDD and RBD 1.59 (1.0–2.4)

Table 4. Family history (FH) of treated depression 1986/1988

	Controls 282 (%)	MDD 70 (%)	Dysth. 10 (%)
FH of parents	9	17	20
FH of parents and sibs	14	26	20

Depression vs controls: $P < 0.05$

Family History of Treated Depression

The family history is frequently used as a validator for a diagnosis. A history of treated depression was assessed for each parent and each sib. The results are summarized in Table 4. It shows that the small group of 10 pure dysthymics and major depressives had a more positive family history for depression than controls. The finding once again suggests homogeneity of dysthymia and MDD.

SCL-90-R Measures

SCL-90-R measures were taken five times (1978, 1979, 1981, 1986, 1988). The depression score was mildly (non-significantly) elevated in 1978 and thereafter remained more or less stable with significant differences as compared to the controls (Table 5). The findings would be compatible either with chronicity of the depressive syndrome or with the presence of a prediagnostic depressive vulnerability reflected by high scores. We found a similar elevation in measures taken 5–7 years prior to the diagnosis of a first major depressive episode (Ernst and Angst, in preparation).

Personality Measures

Measures of the Freiburg Personality Inventory (FPI) (Fahrenberg and Selg 1970) (Table 6) were taken at age

Table 5. SCL-90 scores 1978–1988

	1978	*P*	1979	*P*	1981	*P*	1986	*P*	1988	*P*
Depression										
Dysthymia	2.44	NS	2.65	0.0001	2.54	0.0000	2.46	0.0000	2.55	0.0000
Control group	2.10		1.92		1.75		1.67		1.68	
Anxiety										
Dysthymia	2.23	0.02	2.06	0.006	2.11	0.005	2.05	0.0000	1.88	0.001
Control group	1.89		1.73		1.59		1.49		1.46	
Phobia										
Dysthymia	1.64	0.008	1.87	0.0001	1.70	0.0003	1.79	0.0000	1.71	0.0000
Control group	1.45		1.38		1.31		1.25		1.24	
Hostility										
Dysthymia	1.91	NS	2.11	0.006	2.12	0.004	1.81	0.004	1.78	0.03
Control group	1.84		1.71		1.59		1.53		1.49	
Interpersonal sensitivity										
Dysthymia	2.35	0.02	2.47	0.004	2.50	0.0000	2.49	0.0000	2.52	0.0000
Control group	2.00		1.92		1.76		1.61		1.64	
Obsessive-compulsive										
Dysthymia	2.33	0.02	2.47	0.001	2.38	0.0001	2.29	0.0000	2.32	0.0001
Control group	1.93		1.82		1.63		1.57		1.57	
Paranoid ideation										
Dysthymia	2.32	0.02	2.52	0.0002	2.37	0.0003	2.20	0.0001	2.11	0.01
Control group	2.00		1.93		1.74		1.62		1.62	
Psychoticism										
Dysthymia	1.87	NS	1.97	0.0003	1.85	0.0006	1.86	0.0000	1.69	0.0003
Control group	1.70		1.58		1.40		1.33		1.32	
Somatization										
Dysthymia	1.81	0.01	1.92	0.01	1.92	0.0001	1.73	0.0004	1.68	0.007
Control group	1.62		1.58		1.43		1.41		1.41	
SCL total score										
Dysthymia	2.12	0.03	2.24	0.0001	2.17	0.0001	2.08	0.0000	2.04	0.0000
Control group	1.84		1.73		1.58		1.51		1.50	

Table 6. Personality measures of the Freiburg Personality Inventory at age 30: diagnosis at age 28 or 30

	1 Controls	2 MDD	3 MDD + Dysth.	4 Dysth.	2–4*	1–4*
	278	65	11	9		
1 Nervousness	3.6	4.6	6.2	5.9	NS	0.0004
2 Aggressiveness	2.4	3.2	3.9	3.8	NS	0.0002
3 Depressiveness	3.1	4.7	8.8	7.2	0.002	0.0001
4 Excitability	4.0	4.8	5.6	4.3	NS	0.04
5 Sociability	8.4	8.3	7.8	6.7	NS	NS
6 Stability	4.7	4.6	4.0	2.6	0.004	0.02
7 Striving for dominance	2.7	3.2	3.0	3.6	NS	NS
8 Inhibition	3.8	4.6	5.6	6.0	NS	0.004
9 Frankness	4.5	4.9	5.6	5.4	NS	0.01
E Extraversion	5.4	5.6	5.9	4.6	NS	NS
N Neuroticism	4.1	5.3	8.6	7.0	0.001	0.0001
M Masculinity	6.4	5.7	5.0	4.5	NS	0.01
Aggressiveness (Zurich)	4.9	5.7	7.2	6.2	NS	0.04

* Kruskal Wallis

30. The subjects were diagnosed in 1986 or 1988, when they were aged 28–30. The three diagnostic groups MDD, dysthymics and subjects with both diagnoses show a clear deviation. They differ from controls with regard to neuroticism, nervousness, aggression, depression, irritability, inhibition and stability (frustration tolerance). The three groups also differ significantly from each other as regards neuroticism, depression and frustration tolerance. In neuroticism, dysthymics deviate more than MDD and less than the combined group.

Discussion

The concept of dysthymia derived from the earlier so-called neurotic depression remains highly questionable. Our data do not suggest that dysthymia does constitute an independent valid subtype of depression which can be assessed reliably. Kocsis and Frances (1987) expressed their doubt about *reliability and validity of self-report histories* of patients with chronic depression. A 2-year previous history required for the diagnosis of dysthymia is difficult to assess reliably. This doubt is confirmed by the results of the last interview in our study carried out in 1988 when the subjects were aged 30. When adding the question, "How many days did depressive symptoms occur during the past 12 months?", a substantial proportion of subjects meeting criteria for DSM-III-R dysthymia showed insuffient morbidity over the past 12 months (Angst and Wicki 1990): i.e., with more precise measurement we find a lower prevalence of dysthymia. Montgomery et al. (1990, personal communication) reported impressive results from a prospective study carried out over 12 months on subjects at high risk for suicide attempts. The assessments were done bi-weekly over 1 year. The recall of symptoms and duration of depression was accurate for retrospective recall of 3–6 months. However, recall beyond 6 months was found to be systematically biased, with over-estimation of duration and under-estimation of symptom-free intervals.

Pure cases of dysthymia without any overlap with major depression or with RBD are very rare. In our study, only 3 of 25 subjects seem to be pure cases, which gives a *prevalence rate* of about 1%. The prevalence rate of dysthymia without MDD (but partly with RBD) is 1.5%. This enourmous overlap with other depressive syndromes certainly raises the question of the separation of dysthymia.

Our attempt to *validate* the diagnosis of dysthymia was not successful. Comparing dysthymics with MDD and RBD subjects there was no difference in quality or quantity of symptoms, no difference in family history, and a lack of stability of the diagnosis over time. Finally, we were not successful in identifying a subgroup of depressives characterized by high morbidity over a time span of 2 years with a relatively low number of depressive symptoms. All subjects showed on one or other occasion a major depressive syndrome defined by the presence of at least four of eight criterial symptoms of DSM-III major depression.

There is some evidence that dysthymia may be *heterogeneous*. For this reason, DSM-III-R suggests the distinction of primary versus secondary dysthymia, early onset versus late onset cases, and dysthymia with and without an accompanying personality disorder. Our paper cannot contribute to the two latter questions, which were dealt with for instance, by Klein et al. (1988a) and McCullough et al. (1988). Because an interview assessing personality disorders was not carried out in our study, we could not attempt to confirm the results of Kocsis (unpublished work), which suggests that major depressive disorder does not differ from dysthymia in the occurrence of accompanying personality disorders.

The distinction between primary and secondary dysthymia seems to be of clinical relevance. There is evidence to support the assumption that many cases of dysthymia may represent chronic or residual forms of major depression. Klein et al. (1988b), studying 37 early onset dysthymics, found a previous history of MDD in 97%. Keller and Shapiro (1982) described super-imposed major depressive episodes during the course of dysthymia and called it "double depression". Bouts of major depressive episodes during dysthymia were observed by Frances and Voss (1987) as well. A close relationship between dysthymia and major depression is also suggested by the symptomatology. Studying children and adolescents, Fine et al. (1985) found very similar symptoms in both groups. Our study also confirms the finding of Kocsis and Frances (1987), who reported that 95% of dysthymics also met criteria for major depression. This suggests homogeneity at the symptom level. Therefore, the present definition and assessment of early onset dysthymia in our study does not identify a substantial dysthymic group of lower severity than major depression.

Some data support the assumption of *homogeneity* of major depressive syndromes including dysthymia. When examining the association between dysthymia and other diagnoses of depression, we found a considerable overlap with MDD and with RBD. We were left with only a small subgroup of more or less pure dysthymics. Finally, in our study dysthymics did not differ from major depressives as regards family history for treated depression. Klein et al. (1988c) found dysthymia to be equally frequent among the groups of offspring of unipolar depressives compared to dysthymics.

In general, our findings support the assumption that most younger subjects with dysthymia belong to the spectrum of MDD. Some of them may be chronic major depressives, defined as uninterrupted morbidity or residual states of MDD over at least 2 years without any remission in-between. Others are characterized by a more recurrent course of major depression with free intervals up to 2 months; hence they should not be called chronic.

A third group consists of subjects with RBD misdiagnosed by wrong recall as dysthymics with a morbidity under the diagnostic threshold of 50% of time spent in depression over 2 years. Finally, we are left with a very small group of so-called pure dysthymics with a prevalence rate of about 1%.

The issue of dysthymia certainly needs some critical longitudinal and prospective research, in order to clarify whether it truly represents a distinct diagnostic entity.

Our current knowledge suggests that it belongs to the wide spectrum of major depressive syndromes and that it represents only a subgroup characterized by specific course characteristics (Angst 1990).

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