Diurnal Variations in Intensity of Symptoms in Patients of Different Diagnostic Groups

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Summary. Consecutive patients, regardless of diagnostic group, upon admission to the Department of Psychiatry, University of Umea, were asked to fill in a special form about diurnal variation in their symptomatology and sleep disturbances. Three trained psychiatrists separately reviewed the records and completed a second form comprising information about diagnosis and certain background factors.

Among the background factors only age and ongoing antidepressive medication were found to be of importance. In the study no strong consistency in the symptom complex of early awakening, experience of symptomatology as worst in the morning, and a feeling of relief in the afternoon was found. However, the experience of symptomatology as a whole, anxiety and inhibition as being worst in the morning is significantly more common in patients with unipolar and bipolar affective disorders but is also common in all diagnostic subgroups and seems in no way to be specific for depressive disorders. Furthermore, the phenomenon of diurnal variation of symptomatology was not found to be of diagnostic help and should be employed very cautiously as a basis in pathogenic consideration.

Key words: Diurnal variations in symptomatology – Affective disorders – Bipolar/unipolar patients.

Introduction

Diurnal variations of endocrinological, biochemical, and physiological measures are a well known phenomenon in biological life (Papoušek, 1975). Diurnal variations in psychological life are also common and a rhythmicity in the experience of environment, also detectable through psychometric testing, can be noted in more than 50% of healthy people (Hampp, 1961). In psychiatric illness,

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also, it is well known that symptom intensity may undergo diurnal fluctuations. In psychiatric textbooks (Mayer-Gross et al., 1960; Batchelor, 1969) a diurnal variation in symptomatology is often associated with "endogenic" depressive disorders. In particular a symptom complex, characterized by early awakening, accentuation of symptomatology in the morning, and a feeling of release in the afternoon has been considered the most typical symptom in recognition of the "vital depressive syndrome" (van Praag et al., 1965). In many studies (Kraepelin, 1893; Fleck and Kraepelin, 1922; Hall et al., 1964; Middlehoff, 1967; Müller, 1967; Stallone et al., 1973; Waldmann, 1973) diurnal variations in symptomatology have been found to be a common symptom in unipolar and bipolar affective disorders but the specificity and diagnostic value of the phenomenon is still in doubt.

Nevertheless, in recent years a new interest in the rhythmic phenomena associated with depressive disorders has emerged, as the paradoxical therapeutic effect of sleep deprivation in depressive disorders has been recognized (Schulte, 1973; Pflug and Tölle, 1973). The effect has been claimed to be due to a resynchronizing of a disturbed ordinary diurnal rhythm. In the same way it has been suggested that the antidepressive effect and perhaps also the prophylactic effect of lithium may be due to effects on the diurnal rhythm of calcium, magnesium, and phosphate metabolism (Mellerup et al., 1976).

The phenomenon of diurnal variations in symptomatology has been claimed to be of both diagnostic value (van Praag et al., 1965) and of importance in the pathogenesis of depressive disorders (Papoušek, 1975) and has been regarded as a basis for explaining antidepressive pharmacological effects (Mellerup et al., 1976). Thus the purpose of the present study is to evaluate the specificity of the phenomenon to determine whether there is a common rhythmicity in symptomatology or if single symptoms show different diurnal fluctuations and also to evaluate the diagnostic value for patients in different diagnostic subgroups of affective disorders.

Methodology

1. Patient Series

Consecutive patients admitted to the Department of Psychiatry, University of Umeå, were included in the study. During the first week in hospital the nurses on the ward gave the patients a special form[1] to fill in which consisted of simple questions about diurnal variations in symptomatology and sleep disturbances. The forms were kept separately and were not evaluated until the diagnostic procedure was complete. The total material is presented in Table 1. All available information has been used for each patient, but as some of the patients did not complete the whole form, certain of them are excluded from the separate calculations.

2. Information about the Patients

After the patient had left the hospital, three trained psychiatrists reviewed the records and completed a second form[2] comprising information about age, sex, marital status, children at home, type of work, duration of illness, time in hospital before the form was completed, medica-

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[1,2]   The forms are available from the authors on request

Table 1. Presentation of the material

a) Non-affective disorders

Age (years)	Schizophr. syndromes		Other psychoses (affective disorders excluded)		Neurosis (affective disorders excluded)		Personality disorders		Organic cerebral syndrome		Alcoholics		Attempted suicide by intoxication		Attempted suicide by other means		Unclassified		Total
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
—24	4	3	3	1	3	0	6	4	3	1	10	3	0	5	2	3	0	1	52
25—34	8	3	2	1	4	13	5	8	3	1	16	5	4	6	1	0	0	0	80
35—44	7	0	1	2	5	6	3	4	2	0	11	4	2	2	0	0	0	0	49
45—54	1	0	1	0	1	9	6	2	5	5	13	3	2	0	0	0	1	0	49
55—64	2	2	0	0	1	6	1	1	2	2	10	0	1	0	0	0	0	0	28
65—	0	0	0	0	0	0	1	0	4	5	1	0	0	0	1	0	0	1	13
	22	8	7	4	14	34	22	19	19	14	61	15	9	13	4	3	1	2	271

b) Affective disorders

Age (years)	Unipolar affective disorder		Bipolar affective disorder		Depression NUD		Cycloid psychosis		Reactio neurotico depressive		Other affective disorders		Total
	M	F	M	F	M	F	M	F	M	F	M	F	
—24	2	2	3	2	2	0	0	0	3	8	0	0	22
25—34	3	6	1	5	2	3	0	1	8	18	0	1	48
35—44	1	4	2	4	2	2	2	3	6	12	0	1	39
45—54	8	10	0	1	1	1	1	4	13	9	0	1	49
55—64	11	9	1	2	1	5	1	0	6	9	0	0	45
65—	2	8	0	2	1	3	0	0	1	2	0	0	19
	27	39	7	16	9	14	4	8	37	58	0	3	222

tion, and diagnostic grouping. The diagnostic criteria were strict, and when the opinions of the psychiatrists differed, the record was discussed. If the psychiatrists did not agree, patients were diagnosed as unclassified ($n = 3$). Even here some information about some of the patients was missing but in every calculation all available information has been used.

As the main interest in the present study has been to determine whether diurnal variations in symptomatology are specific for patients with affective disorders and also to evaluate the diagnostic usefulness of the symptom in distinguishing the various diagnostic subgroups of affective disorders, the diagnostic criteria concerning patients with affective disorders were especially important and will be presented here.

3. Diagnostic Criteria

a) Reactio Neurotico-Depressiva. This group comprised patients with a clear-cut depressive symptomatology of a neurotic, nonpsychotic dimension, i.e., with an unimpaired evaluation of reality during the whole course of the depressive episode. Furthermore the condition should have arisen as a reaction to external events or represented an acute breakdown in persons with gross personality disorders of a neurotic nature (patients with unstable personalities and a tendency to react with depressive, anxious, or psychosomatic symptoms under the influence of stress in relatively normal everyday-life situations) (d'Elia et al., 1974).

b) Unipolar Depressive Psychosis. This group comprised patients who had had at least three episodes of a depressive syndrome of a psychotic dimension, i.e., with a disturbed evaluation of reality, and with free intervals of at least six months between the episodes (Perris, 1966).

c) Bipolar Affective Psychosis. This group comprised patients who, at the period of the investigation, had a depressive syndrome of a global type and psychotic dimension and whose histories involved manic episodes. A hypomanic episode has been considered as an expression of bipolarity when: (a) it occurred between episodes of depression and warranted medical care; (b) it occurred at the beginning of an episode which later became depressive; and (c) it occurred at the end of a depressive phase and lasted long enough to warrant a change of treatment from antidepressive to sedative (Perris, 1966).

d) Cycloid Psychosis. This group comprised patients with a syndrome characterized by affective symptoms (mood swings) and two or more of the following symptoms: (a) confusion of varying degree with agitation or retardation; (b) paranoia-like symptoms and/or hallucinations not synthonic with levels of mood; (c) mobility disturbances (hypo- or hyperkinesia); (d) occasional episodes or states of ecstasy; (e) pananxiety. The syndrome should furthermore be of a psychotic dimension and insensitive to changes in environment (e.g., hospital admission) (Perris, 1973).

e) Depression NUD. This group comprised all patients who could not be included in any other diagnostic group. Thus this group must be considered heterogeneous and no strict criteria for inclusion can be sought.

4. Statistical Evaluations

In calculating the significance of differences in frequency distributions, χ^2 with Yates correction has been used.

Results

1. Do All Symptoms Show the Same Diurnal Variations or Do Single Symptoms Show Separate Fluctuations?

The symptoms that were considered in the present study were (a) the symptoms as a whole according to the patients' evaluations (item 1, Appendix 1); (b) anxiety

Table 2a. Relation between rhythmicity in symptomatology as a whole and rhythmicity in anxiety ($n = 295$). (All the patients who have completed these questions are included)

		Symptomatology as a whole		
		No diurnal variation	Worse in the morning	Worse in the evening
Anxiety	No diurnal variation	8	5	21
	Worse in the morning	30	87	6
	Worse in the evening	92	21	25
		$\chi^2 = 136.90$, df 4,		$P < 0.001$

Table 2b. Relation between rhythmicity in symptomatology as a whole and rhythmicity in inhibition ($n = 324$). (All the patients who have completed these questions are included)

		Symptomatology as a whole		
		No diurnal variation	Worse in the morning	Worse in the evening
Inhibition	No diurnal variation	11	3	2
	Worse in the morning	138	97	42
	Worse in the evening	13	15	3
		$\chi^2 = 4.89$, df 4, NS		

Table 2c. Relation between rhythmicity in symptomatology as a whole and type of sleep-disturbance ($n = 344$). (All the patients who have completed these questions are included)

		Symptomatology as a whole		
		No diurnal variation	Worse in the morning	Worse in the evening
Sleep disturbance	Bad sleep all night	17	12	5
	Good sleep all night	23	12	12
	Early awakening	93	76	22
	Insomnia	33	18	21
		$\chi^2 = 16.1$, df 6, $P < 0.02$		

(item 3, Appendix 1); (c) inhibition (item 6, Appendix 1); (d) sleep-disturbances (item 7, Appendix 1). In Tables 2a, b, and c the patients' experience of diurnal variations in the symptoms as a whole were compared with the experience of fluctuations in anxiety, inhibition, and type of sleep disturbances.

Patients who thought the situation as a whole was worst in the morning (item 1, Appendix 1) also often (77%) had most anxiety in the morning (Table 2a). $\chi^2 = 136.90$, df 4, $P < 0.001$. Thus there is a close connection between the patient's feeling about his total symptomatology and the existence of anxiety—as regards being worst in the morning. However 19% of the patients who claim their symptomatology is worst in the morning have most anxiety in the evening. Furthermore it should be noted that 67% of the patients who thought that anxiety was worst in the evening claimed that the symptomatology as a whole showed no diurnal variation (Table 2a). Most of these patients seem to have had inhibition worst in the morning (Table 2b), and then it seems to be an inverse relationship between the diurnal variation of inhibition and anxiety.

When the experience of diurnal fluctuations in inhibition is studied, 85% of the patients who experience inhibition found that this symptom was worst in the morning, but there is no strong connection with the experience of their symptomatology as a whole ($\chi^2 = 4.89$, df 4, NS, Table 2b). Thus the patients' experience of their symptomatology as a whole is probably not dominated by the experience of inhibition.

In the symptom complex usually associated with depressive disorders, early awakening is often combined with a feeling that the symptomatology as a whole is worst in the morning. In the present study only 40% of the patients who woke early were found to experience their symptomatology as a whole as worst in the morning (Table 2c). In the significance test $\chi^2 = 16.1$, df 6, $P < 0.02$ but still the connection between early awakening and the feeling of being worse in the morning is not very strong and thus the consistency of the symptom complex, said to be typical for "the vital depressive syndrome," must be doubted.

2. Does the Experience of Diurnal Variation in Symptomatology Depend upon Factors Other than the Current Psychiatric Illness?

Our null hypothesis was that the investigated variables did not influence the diurnal variations of the symptomatology as a whole. The alternative hypothesis was that the investigated variable was of importance for the presence of diurnal variations in symptomatology. The frequency distributions of presence or absence of diurnal variation was tested for each variable separately, using χ^2 with Yates correction. The results are presented in Table 3.

The following were not found to be of importance for the presence of diurnal variation in symptomatology as a whole: sex, working times before illness, marital status, presence of children younger than 16 years of age at home, time of year when the patient was in hospital, duration of illness, time spent in hospital before the form was completed, or ongoing medication with minor or major tranquilizers, hypnotics, or lithium. On the other hand it was found that age was of importance and that patients older than 45 more often experience their symptomatology as worst in the morning. Younger people often experienced their symptomatology as equally bad all day. The presence of antidepressive medication was also found to be of importance and patients receiving antidepressive medication more often (50%) experienced the symptomatology as worst in the morning than patients without this medication (26%).

Table 3. Statistical evaluation of the importance of certain background factors for the development of diurnal variation in symptomatology. (Null hypothesis: The factor investigated is not of importance for the development of diurnal variation in symptomatology. Alternative hypothesis: The factor investigated is of importance in explanating diurnal variation in symptomatology)

	n	χ^2	df	P
a) Sex	364	5.56	2	NS
b) Age	364	19.9	10	<0.05
c) Working times before illness	344	6.58	6	NS
d) Marital status and the presence of children younger than 16 years at home	356	5.80	4	NS
e) Time of year when the patient was at hospital	363	10.6	8	NS
f) Duration of illness	355	4.56	8	NS
g) Time at hospital before the form was completed	358	4.30	8	NS
h) Ongoing antidepressive medication and duration of treatment	379	28.9	6	<0.005
i) Ongoing medication with minor tranquilizers and duration of treatment	379	11.6	6	NS
j) Ongoing medication with major tranquilizers and duration of treatment	379	4.36	6	NS
k) Ongoing medication with hypnotics with duration of less than 4 h and duration of treatment	364	0.57	2	NS
l) Ongoing medication with hypnotics with duration of more than 4 h and duration of treatment	379	5.34	6	NS
m) Ongoing medication with lithium and duration of treatment	364	2.66	2	NS

3. Is Diurnal Variation in Symptomatology More Common in Certain Diagnostic Groups than in Others?

To test the hypothesis that diurnal variation of symptomatology as a whole is more common in patients with unipolar and bipolar affective disorders than in other diagnostic groups, the frequency of patients with and without diurnal variations in symptomatology in each diagnostic subgroup was calculated. The results are presented in Tables 4 a, b, and c. As we were especially interested in the symptom complex comprising early awakening and accentuation of symptomatology in the morning the percentage of patients showing these characteristics is presented for each diagnostic subgroup.

Thirty-five % of the patients thought that their symptomatology as a whole was worst in the morning. This phenomenon was more common in the groups with affective disorders (Unipolars 56%, Bipolars 60%, and patients with Depression NUD 52%), and there was no other group in which more than 33% thought their symptomatology was worst in the morning, except for cycloid psychotics (60%). Thus the experiencing of symptomatology as worst in the

Table 4a. Diurnal variations of symptomatology as a whole in relation to diagnostic groups ($n = 440$). (All the patients who have completed this question are included)

		Symptomatology as a whole			Percentage of patients with symptomato-logy worse in the morning
		No diurnal variation	Worse in the morning	Worse in the evening	
Schizophrenic syndromes	M	10	6	4	30
	F	4	2	1	
Other psychosis (affective disorders excluded)	M	5	1	0	18
	F	3	1	1	
Neurosis (affective disorders excluded)	M	8	3	3	27
	F	16	9	6	
Personality disorders	M	10	7	3	32
	F	7	5	6	
Organic cerebral syndromes	M	10	4	2	28
	F	6	4	2	
Alcoholics	M	22	14	15	27
	F	3	2	3	
Attempted suicide by intoxication	M	3	2	3	15
	F	8	1	3	
Attempted suicide by other means	M	3	0	1	0
	F	2	0	1	
Unclassified	M	1	1	1	33
	F	2	1	0	
Unipolar affective disorder	M	10	13	3	56
	F	11	20	2	
Bipolar affective disorder	M	0	2	3	60
	F	5	10	0	
Depression NUD	M	4	4	1	52
	F	5	8	1	
Cycloid psychotics	M	1	1	1	60
	F	2	5	0	
Reactio neurotico depressive	M	20	10	6	29
	F	25	16	10	
Total		206	152	82	35

morning was significantly more common among patients with unipolar or bipolar affective disorders than among patients in other diagnostic groups (χ^2 with Yates correction $= 4.06$, df 1, $P < 0.05$).

Of patients who experienced anxiety 40% had the feeling that this symptom was worst in the morning (Table 4b). Even here patients with affective disorders

Table 4b. Diurnal variation of anxiety in relation to diagnostic group (n=385). (All the patients who have completed this question are included)

		Anxiety			
		No diurnal variation	Worse in the morning	Worse in the evening	Percentage of patients with anxiety worse in the morning
Schizophrenic syndromes	M	2	6	7	45
	F	0	3	2	
Other psychosis (affective disorders excluded)	M	0	1	3	33
	F	0	2	3	
Neurosis (affective disorders excluded)	M	2	0	8	32
	F	5	12	11	
Personality disorders	M	1	6	7	34
	F	3	5	10	
Organic cerebral syndromes	M	2	4	9	44
	F	0	7	3	
Alcoholics	M	7	17	19	36
	F	2	2	4	
Attempted suicide by intoxication	M	1	1	6	10
	F	0	1	11	
Attempted suicide by other means	M	1	1	2	14
	F	0	0	3	
Unclassified	M	0	0	3	40
	F	0	2	0	
Unipolar affective disorder	M	2	13	7	63
	F	3	21	8	
Bipolar affective disorder	M	1	2	1	60
	F	1	7	3	
Depression NUD	M	1	4	3	50
	F	1	7	6	
Cycloid psychotics	M	0	0	3	33
	F	1	3	2	
Reactio neurotico depressive	M	4	12	17	35
	F	5	15	25	
Total		45	154	186	40

more often experienced a diurnal variation with accentuation of symptomatology in the morning (Unipolars 63%, Bipolars 60%, Patients with Depression NUD 50%, and in the other diagnostic groups 10—45%). Thus the experience of anxiety as being worst in the morning is significantly more common among patients with unipolar and bipolar affective disorders than in other diagnostic groups (χ^2 with Yates correction = 17.45, df 1, $P < 0.001$).

Table 4c. Diurnal variation in inhibition in relation to diagnostic group ($n = 413$). (All the patients who have completed this question are included)

		Inhibition			
		No diurnal variation	Worse in the morning	Worse in the evening	Percentage of patients with inhibition worse in the morning
Schizophrenic syndromes	M	1	17	0	96
	F	0	7	0	
Other psychosis (affective disorders excluded)	M	1	5	0	91
	F	0	5	0	
Neurosis (affective disorders excluded)	M	0	9	4	68
	F	3	18	6	
Personality disorders	M	1	17	2	86
	F	0	13	2	
Organic cerebral syndromes	M	0	16	0	96
	F	0	11	1	
Alcoholics	M	6	39	3	81
	F	0	4	1	
Attempted suicide by intoxication	M	0	7	0	94
	F	1	11	0	
Attempted suicide by other means	M	0	4	0	100
	F	0	3	0	
Unclassified	M	0	2	1	83
	F	0	3	0	
Unipolar affective disorder	M	2	19	2	91
	F	0	31	1	
Bipolar affective disorder	M	0	4	0	89
	F	0	13	2	
Depression NUD	M	1	7	0	86
	F	1	12	1	
Cycloid psychotics	M	0	3	0	80
	F	1	5	1	
Reactio neurotico depressive	M	1	32	1	89
	F	1	41	7	
Total		20	358	35	89

In patients who experience inhibition this symptom is usually felt to be worst in the morning (89%). It is also a common symptom among patients with affective disorders (Unipolars 91%, Bipolars 89%, and Patients with Depression NUD 86%). In the statistical evaluation it was found that the experience of inhibition as being worst in the morning was significantly more common among patients with unipolar or bipolar affective disorders (χ^2 with Yates correction =

Table 4d. Sleep disturbances in relation to diagnostic group ($n = 440$). (All the patients who have completed this question are included)

		Sleep-disturbance				
		Bad sleep all night	Good sleep all night	Early awakening	Insomnia	Percentage of patients with early awakening
Schizophrenic syndromes	M	1	1	14	4	70
	F	0	1	5	1	
Other psychosis (affective disorders excluded)	M	0	1	4	1	64
	F	0	1	3 .	1	
Neurosis (affective disorders excluded)	M	2	1	4	7	42
	F	5	6	15	5	
Personality disorders	M	1	1	13	5	55
	F	2	3	8	5	
Organic cerebral syndromes	M	0	2	10	4	68
	F	0	1	9	2	
Alcoholics	M	6	10	26	9	48
	F	1	2	2	3	
Attempted suicide by intoxication	M	0	2	3	3	45
	F	0	3	7	2	
Attempted suicide by other means	M	0	1	2	1	43
	F	0	0	1	2	
Unclassified	M	1	0	2	0	67
	F	0	0	2	1	
Unipolar affective disorder	M	5	2	16	3	60
	F	5	4	19	5	
Bipolar affective disorder	M	1	1	2	1	75
	F	1	0	13	1	
Depression NUD	M	2	1	4	2	57
	F	1	2	9	2	
Cycloid psychotics	M	0	0	3	0	70
	F	1	0	4	2	
Reactio neurotico depressive	M	1	8	20	7	52
	F	4	8	25	14	
Total		40	62	245	93	56

4.94, df 1, $P < 0.05$). Among patients with psychiatric illnesses sleep disturbances in general are common and early awakening seems to be the most common symptom (56%). Among patients with affective disorders early awakening is also a common symptom (Unipolars 60%, Bipolars 75%, and Patients with Depression NUD 57%). However, early awakening is not significantly more common among patients with unipolar or bipolar affective disorders than among patients in other diagnostic groups (χ^2 with Yates correction = 2.26, df 1, NS).

Table 5. Diagnostic value of the phenomenon of diurnal variation of symptomatology

	Probability that the patient has a unipolar affective disorder	Probability by chance that the patient has a unipolar affective disorder	Probability that the patient has a bipolar affective disorder	Probability by chance that the patient has a bipolar affective disorder	Probability by chance that the patient has a uni-polar or a bipolar affective disorder
1. If symptomatology as a whole is worse in the morning	0.22	0.13	0.08	0.05	0.18
2. If anxiety is worse in the morning	0.22	0.14	0.06	0.04	0.18
3. If inhibition is worse in the morning	0.14	0.13	0.05	0.05	0.18
4. If the patient has early awakening	0.14	0.13	0.06	0.05	0.18

4. Is There Any Diagnostic Specificity in Diurnal Variation as a Symptom?

To evaluate the diagnostic usefulness of the phenomenon of the diurnal variation of symptomatology we calculated the probabilities of the patient having a bipolar or unipolar affective disorder on the basis of diurnal variation as the single known symptom. The results are presented in Table 5. The probability by chance that a patient in this material would have a unipolar affective disorder is 0.13, a bipolar affective disorder is 0.05, and either a unipolar or a bipolar affective disorder is 0.18 (the number of patients with the investigated diagnosis compared with the number of the whole material). If we know that the patient feels that his symptomatology as a whole is worst in the morning, the probability that such a patient has a unipolar affective disorder is not higher than 0.22 and that such a patient has a bipolar affective disorder is not higher than 0.08. Thus 70% of the patients with this symptomatology belong to other diagnostic categories. If the anxiety is worst in the morning, the probability is 0.22, and if inhibition is felt to be worst in the morning, the probability is 0.14 that the patient has a unipolar affective disorder and 0.06 and 0.05 respectively that the patient has a bipolar affective disorder. Concerning sleep disturbances if we only know that the patient wakes early in the morning, there is a probability of 0.80 that the patient belongs to other diagnostic categories than unipolar affective or bipolar affective disorders.

Sources of Error

In the present study we only dealt with the patients' own experiences of the diurnal variation of their symptomatology. Thus different results may have been

obtained had the patients been subjected to objective measurements concerning diurnal variations. For example, it is possible that the staff might recognize a different rhythm in the patients' retardation than the patient himself experiences. However, the aim of the present study was to evaluate the usefulness, as a diagnostic tool, of information about diurnal variation in symptomatology given us by the patient.

Both in the form given to the patients and in the form completed by the doctors from information from the records, some information was missing, and in all the tables some patients are excluded due to this lack of information. This may have influenced the results, but in all the tables it is only a relatively small percentage of the patients that are missing. We have no reason to believe that any systematic loss of patients has occurred in special diagnostic groups or with special types of symptomatology. Thus the impression given in the present study should be representative of the material. During the diagnostic process we knew nothing about the patients' view of his symptomatology as it was presented in this form. However, we did know about diurnal variation of the symptomatology mentioned in the records, and even if this symptom was not a diagnostic criterion it might have influenced our judgments. Yet, if we were influenced by this information, the results should have tended towards a higher specificity of the symptom in patients with unipolar or bipolar affective disorders, and the rather low values we found cannot be explained by this source of error.

Discussion

In the present study we found that there was no very strong consistency in the symptom complex early awakening, experience of symptomatology as worst in the morning and a feeling of release in the afternoon. There is not even a significant connection between the feeling that inhibition is worst in the morning and the experience of symptomatology as a whole as worst in the morning. However, the experience of symptomatology as a whole, the experience of anxiety, and the experience of inhibition as being worst in the morning is significantly more common in patients with unipolar or bipolar affective disorders than in patients in other diagnostic groups; but these diurnal variations in symptomatology are also common in all diagnostic subgroups and seem in no way to be specific for depressive disorders. The background factors investigated did not seem to be of importance except for age and antidepressive medication. Both their results can be explained by the fact that patients with unipolar and bipolar affective disorders were somewhat older than the patients in the other diagnostic groups (Table 1), and they were also the patients receiving antidepressive medication. Thus the results seem to be due to the over-representation of diurnal variations of symptomatology among patients with affective disorders. Furthermore, the phenomenon of diurnal variation of symptomatology was not found to be of important diagnostic help either in separating patients with affective disorders from other diagnostic groups, or in distinguishing subgroups of patients with affective disorders. Thus even if diurnal variation is common in unipolar and

bipolar affective disorders, the phenomenon does not seem to have any specificity and this phenomenon should be employed very cautiously as a basis in pathogenic considerations.

Appendix 1

For Recently Admitted Patients

We would like to know if there are any variations in your symptoms at different times of the day and night. Please put a cross by the answer which you think describes your experience best. The answers should refer to the last 3 or 4 days.

Surname: _____   Christian name: _____

Date of birth: _____   Year: _____   Today's date: _____   Year: _____

This time I began to feel ill _____ (give the approximate time)

1. I feel that my symptoms as a whole are:

       The same the whole day_____

       Worse early and later in the morning _____

       Worse in the afternoon and evening _____

2. I feel   Not depressed at all _____

       Most depressed early and later in the morning _____

       Most depressed in the afternoon and evening _____

       About the same all day _____

3. I feel   Anxious in the afternoon and evening _____

       Anxious early and later in the morning_____

       Anxious the whole day_____

       Not anxious at all _____

4. I   Don't worry at all_____

       Worry to the same extent all day_____

       Worry most early and later in the morning _____

       Worry most in the afternoon and evening _____

5. I feel   Tired to the same extent all day _____

       Most tired in the afternoon and evening_____

       Most tired early and later in the morning_____

       Not tired at all_____

6. I find   It difficult to get started on things at any time of the day_____

       It more difficult to get started on things in the afternoon or evening _____

It more difficult to get started on things early or later in the morning _____

It not difficult at all to get started on things _____

7. I think   I wake up early in the morning _____

I don't sleep well at all _____

I can't fall asleep in the evening _____

I sleep well all night _____

8. I have taken something to make me sleep for the last 3 or 4 nights:

Yes _____   No _____

9. When I am bright and well I am:

Lively both in the morning and the evening _____

Tired in the evening but fine in the morning _____

Tired both in the morning and evening _____

Fine in the evening but tired in the morning _____

Thank you for your help!

Appendix 2

Form Comprising Information from the Records

Number on examination list

A	Sex	1	Male	
		2	Female	
B	Age at time of completion of form (in years)	1	15—24	
		2	25—34	
		3	35—44	
		4	45—54	
		5	55—64	
		6	65—	
C	Working times	1	begins before 8.00	
		2	begins after 8.00	
		3	shift work	
		4	no answer given	

D   Marital status: 1   single

                                  2   single with children
                                       < 16 years

                                  3   cohabiting adult

                                  4   no answer given

                                  5   cohabiting adult with
                                       children < 16 years

E   Month when the answer form   1   Nov — Feb
     was completed
                                  2   Mar — May

                                  3   June— July

                                  4   Aug — Oct

                                  5   Information missing

F   Length of period of illness 1   0—1
     (months)
                                  2   1—3

                                  3   3—6

                                  4   6—

                                  5   Information missing

G   Time lapse between admission 1   1st day
     and completion of questionnaire:
                                  2   2nd—3rd day

                                  3   4th —7th day

                                  4   > 7th day

                                  5   Information missing

H   Diagnostic group (digits in ICD-8)   One   Several
                                                           diagnosis   diagnoses

     1   Schizophrenic syndrome (295)

     2   Psychosis reactive (298)

     3   Other psychoses (affective disorders excluded) (297)

     4   Neurosis (affective disorders excluded) (300)

     5   Personality disorders (301)

One diagnosis   Several diagnoses

6 Organic cerebral syndromes (290, 292, 293, 294, 310—315)

7 Addiction (291, 294, 303, 304)

8 Attempted suicide by intoxication (E 950)

9 Attempted suicide by other means (E 953—958)

10 Unclassified

I Affective syndromes

Depressive-psychotic dimension (296)

Depressive-non-psychotic dimension (300)

Manic (296)

Mixed (299)

J Diagnostic group of affective disorder
   1 Unipolar affective disorder (296.2)

   2 Bipolar affective disorder (296.3)

   3 Depression NUD (296.9)

   4 Reactio neurotico-depressive (300.4)

   5 Cycloid psychotics (295.7)

   6 Other affective disorders

K Current medication irrespective of dose

< 2 weeks   > 2 weeks

Antidepressants

Minor tranquilizers

Major tranquilizers

Hypnotics < 4 h duration

        > 4 h duration

Lithium

ECT

Other psychopharmacological treatments

Pharmacological treatment for somatic disease

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