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Measuring States of Anxiety with Clinician-Rated and Patient-Rated Scales

Per Bech
Psychiatric Research Unit, Frederiksborg General Hospital,
University of Copenhagen
Denmark

1. Introduction

Most of the scales we use in clinical psychiatry when measuring mood and anxiety were developed more that three decades ago. Thus the Hamilton Anxiety Scale (HAM-A) (Hamilton 1969) is still the internationally most used clinician-rated scale within states of clinical anxiety, whereas Spielberger's State Anxiety Scale (Spielberger, Gorsuch & Lushene 1970) or the Symptom Checklist (SCL-90) (Derogatis et al. 1974) are among the most frequently used patient-rated questionnaires.

In her comprehensive content analysis of the items included in 27 different rating scales or questionnaires for clinical anxiety, de Bonis (1974) concluded that the HAM-A seems to cover the clinically most representative items for states of generalized anxiety. This can be considered in itself as one way of demonstrating the clinical validity of the HAM-A.

As concerns questionnaires, the Spielberger State Anxiety Scale covers the psychic anxiety symptoms whereas the anxiety subscale of the SCL-90 contains more somatic anxiety symptoms than psychic anxiety symptoms (Derogatis et al. 1974).

Although the SCL-90 includes some specific anxiety subscales, e.g., a phobia and an obsessive-compulsive (OCD) subscale, these anxiety subscales are also not sufficiently valid. The measurement of panic attacks is probably most validly measured in terms of minor versus major attacks, i.e. global assessments. The measurement of states of OCD is probably most validly measured by the duration of this state of anxiety, e.g. less or more than two hours daily. The Anxiety-Symptom-Scale (ASS) is shown in the Appendix as an example of a very short screening questionnaire covering the many subtypes of states of anxiety. In the following, it is the general state of anxiety as measured archetypically by the HAM-A, and by the corresponding self-rating scales that will be treated.

The psychometric validation of these general anxiety scales became important with reference to the classes of drugs most frequently investigated in trials of anti-anxiety medication, namely tricyclic antidepressants (e.g., imipramine) versus benzodiazepines (e.g., diazepam). Early on, Derogatis et al (1974) demonstrated that whereas imipramine was superior to diazepam when using the SCL-90 subscale of depression, no differences were obtained when using the SCL-90 anxiety subscale. The landmark study in this respect was the study by Rickels et al (1993) which demonstrated that when treating patients with generalized anxiety disorder with imipramine versus diazepam in a placebo-controlled, randomised trial, imipramine was superior to benzodiazepine on the psychic factor in the HAM-A but not on the somatic factor in the HAM-A.

These results led to a change in the algorithm of generalized anxiety from DSM-III to DSM-IV so that the number of somatic anxiety symptoms was reduced. However in the ICD-10 diagnostic manual (World Health Organization 1993) the number of somatic anxiety symptoms outranged the number of psychic anxiety symptoms in the algorithm of generalized anxiety disorder.

The following will treat the specific psychometrically valid methods (principal components analysis, factor analysis and item response theory analysis) in order to indicate how to use HAM-A and SCL-90 in trials of anti-anxiety drugs.

2. Methods

In clinical psychometrics we often describe principal components analysis (PCA) or factor analysis (FA) as the classical methods of validation while item response theory analysis (IRT) is seen as the modern method (Bech et al. 2011).

Historically, PCA was published at a later date than Spearman's two factor models of intelligence (Spearman 1904, Spearman 1927), namely by Hotelling (1933). When modifying a factor analysis with our sophisticated electronic programs, e.g. SPSS or SAS, we start today with PCA and then, if necessary, go for various forms of rotations in the so-called exploratory FA (Child 2006).

IRT analysis is used to evaluate to what extent the total score of a scale is sufficient when measuring the clinical effect of anti-anxiety drugs. We have both a parametric IRT model (Rasch 1960) and a non-parametric model (Mokken 1971). In the following, only Mokken analysis will be referred to.

3. Results

3.1 The Hamilton anxiety scale (HAM-A)

The first version of the HAM-A (Hamilton 1959) consisted of 13 items, whereas the revised version (Hamilton 1969) included 14 items (see Appendix). Hamilton released his HAM-A$_{14}$ with reference to principal components analysis (PCA) on 115 patients (including patients with both primary anxiety states (N = 42) and patients with anxiety secondary to somatic disorders (N = 53)). Table 1 shows the results. The first principal component is clearly a general factor in which all the 14 items have positive loadings. The second principal component is a bi-directional, or dual factor with positive loadings on the psychic symptoms of anxiety and negative loadings on the somatic anxiety symptoms. Table 1 also shows the results from the study by Pichot et al (1981) on 411 patients from the family doctor setting with a mixture of primary and secondary states of anxiety. Pichot et al (1981) employed both a PCA approach and an exploratory factor analysis (FA) with varimax rotation. Essentially, Pichot et al (1981) found no extra information in the FA with rotation. As shown in Table 1, the PCA results of Pichot et al (1981) are very similar to those obtained by Hamilton (1969). The first principal component is obviously a general factor while the second principal component is a bi-directional factor. In the original publication by Pichot et al (1981) the sign of the second principal component loadings is actually the opposite of the signs published by Hamilton (1969), but this type of loading (negative and positive) is just a technical or topographical issue (Child 2006). The second principal component identified by Pichot et al (1981) contrasts psychic versus somatic symptoms of anxiety corresponding to Hamilton (1969).

Items	General factor		Dual factor	
	Hamilton (1969)	Pichot et al (1981)	Hamilton (1969)	Pichot et al (1981)
Anxious mood	0.66	0.50	0.50	0.39
Tension	0.83	0.62	0.32	0.35
Fears	0.49	0.45	0.29	0.35
Insomnia	0.52	0.65	0.05	0.26
Concentration	0.69	0.62	0.37	0.27
Depressed mood	0.69	0.66	0.33	0.38
Somatic (muscular)	0.52	0.54	-0.53	-0.25
Somatic (sensory)	0.73	0.58	-0.30	- 0.40
Cardiovascular	0.68	0.53	-0.41	- 0.48
Respiratory	0.56	0.52	-0.40	-0.43
Gastro-intestinal	0.66	0.29	-0.16	-0.39
Genito-urinary	0.45	0.33	-0.25	-0.31
Other autonomic	0.67	0.52	-0.14	-0.30
Behaviour at interview	0.60	0.70	0.10	- 0.09

Table 1. Principal Component Analysis of the Hamilton Anxiety Scale by Hamilton (1969) [N = 115] and Pichot et al (1981) [N = 411]

The usefulness of this two factor model of the HAM-A$_{14}$ was demonstrated by Rickels et al (1993) in a double-blind, placebo-controlled trial comparing diazepam with imipramine in patients with a DSM-III diagnosis of generalized anxiety disorder. Imipramine was found superior to diazepam on the psychic anxiety symptoms (Table 1) on HAM-A, while both imipramine and diazepam were superior to placebo on the somatic anxiety symptoms (Table 1). However, among the psychic anxiety symptoms in HAM-A (Table 1) are such items as depressed mood and sleep.

Clinical validity was examined in a trial focussing on a 6-item HAM-A subscale (HAM-A$_6$) comprising five psychic anxiety symptoms (anxious mood, psychic tension, fears, intellectual difficulties, and anxious behaviour) and one somatic anxiety symptom (muscular tension) (Bech 2007). This group of HAM-A symptoms covering the core symptoms of generalized anxiety disorder is in accordance with the study by Snaith et al (1982).

The analyses performed by Meoni et al (2001) revealed that the HAM-A$_6$ items were among the symptoms in patients with DSM-IV generalized anxiety disorder with the most significant discrimination between venlafaxine and placebo.

The HAM-A$_6$ was compared to the HAM-A$_{14}$ in order to evaluate the two scales' psychometric validity, using Mokken's non-parametric IRT model (Bech 2007). In this study the four placebo-controlled trials with fixed doses of pregabalin in patients with generalized anxiety disorder were combined, and Mokken analysis identified a coefficient of homogeneity of 0.35 for HAM-$_{A14}$ while HAM-A$_6$ reached 0.46 (Bech 2007). A coefficient of homogeneity of 0.40 or higher is, in accordance with Mokken (1971), required to able to state that the total score of a scale is a sufficient statistic.

The pregabalin dose-response relationship study was performed on six of the available placebo-controlled trials (Bech 2007). One US trial was excluded from the analysis because more than 30% of the patients dropped out during the planned trial period of 4 weeks. The quality of a trial is, among other things, evaluated by the percentage of patients completing the planned short-term study, and 70% is used in this context (Angst et al. 1989). Another trial (Montgomery et al. 2006) was excluded because the HAM-A$_{14}$ baseline mean score was higher than the mean score of the other trials (27.4 versus 24.5 (P $\leq$ 0.01)) and because the age of the patients was high (44.0 (12) versus 37.2 (10) (P $\leq$ 0.01)) (Bech 2007).

Effect size was used as response criterion in this pooled analysis of the four trials with sufficient homogeneity. An effect size of 0.40 or higher was considered to be evidence of a clinically significant effect of pregabalin compared to placebo (Bech 2007). A dose of 150 mg pregabalin over four weeks proved to obtain an effect size between 0.17 and 0.22 on HAM-A$_6$; and between 0.24 and 0.38 on HAM-A$_{14}$, i.e. not clinically significant. In a dose range between 200 mg and 450 mg daily, the pregabalin effect size was between 0.44 and 0.55 on the HAM-A$_6$ and 0.37 and 0.68 on the HAM-$_{A14}$. A dose of 600 mg pregabalin daily did not increase the effect size, as the range on the HAM-A$_6$ was between 0.36 and 0.50 (Bech 2007).

The trial excluded from this pooled analysis due to a significantly higher baseline HAM-A$_{14}$ and patient age is the study by Montgomery et al (Montgomery et al. 2006). Table 2 shows the results after 4 weeks of therapy in the Montgomery et al study (2006), using effect size as response criterion. The HAM-A$_6$ effect size of both 400 and 600 mg pregabalin was between 0.28 and 0.30, while the effect size of 75 mg venlafaxine daily over four weeks reached a level of 0.40 (Bech 2007). In Table 2 the effect size for the HAM-A item of sleep is included, here the results show that the effect size was clearly above 0.40 for both doses of pregabalin whereas the venlafaxine effect size was below 0.40; indicating that venlafaxine is a non-sedating drug.

Treatment	Effect size		
	HAM-A$_6$	HAM-A$_{14}$	Sleep
Pregabalin 400 mg daily (N = 97)	0.30	0.38	0.65
Pregabalin 600 mg daily (N = 110)	0.28	0.31	0.54
Venlafaxine 75 mg daily (N = 113)	0.40	0.31	0.33

Table 2. The placebo-controlled trial by Montgomery et al (2006) with two fixed pregabalin doses and the active comparator venlafaxine. In the placebo arm N = 101. The results with effect size according to Bech (2007)

Lydiard et al (2010) have made an analysis of all six placebo-controlled pregabalin trials in generalized anxiety disorder, showing the change from baseline to endpoint on the individual HAM-A items. This analysis confirmed that no difference was seen between 450 mg and 600 mg pregabalin daily compared to placebo for the HAM-A_6 items. For the HAM-A_{14} item of depressed mood, however, 600 mg pregabalin was statistically more effective than 450 mg when compared to placebo ($P \leq 0.01$ versus $P \leq 0.05$), (Lydiard et al. 2010).

There are still very few instances in which HAM-A_6 and HAM-A_{14} have been used in trials with new generation antidepressants in patients with generalized anxiety disorder. An effect size of 0.38 was obtained on HAM-A_{14} in a placebo-controlled trial with sertraline (Allgulander et al. 2004). For venlafaxine Mitte et al (2005) obtained an effect size of 0.30 on HAM-A_{14} when pooling five placebo-controlled trials in patients with generalized anxiety disorder.

For duloxetine we only have one fixed dose trial in a placebo-controlled design in the treatment of generalized anxiety disorder over a 9 week period (Koponen et al. 2007). Based on the published results it was not possible to calculate effect size correctly (Koponen et al. 2007). However, the estimation of sample size in the Koponen et al study (2007) was based on the assumption that the pooled standard deviation of the change score on HAM-A_{14} from baseline to endpoint was 6.0, and that the difference in mean change score was 2.0 for duloxetine minus placebo. In this case, the effect size of 2/6, or 0.33, was accepted, i.e. at the level of venlafaxine (Table 2) for the HAM-A.

3.2 Symptom checklist (SCL-90)

The most comprehensive anxiety self-rating scale is the Symptom Checklist (SCL-90). Hamilton never developed a self-rating scale corresponding to his HAM-A_{14}. The original form of the SCL was developed by Parloff et al (1954). Historically, the final version was developed by Derogatis et al (1974), while the different subscales were most precisely defined by Bech (1993) . In a review Cyr et al (1985) discussed the factor structure of the SCL-90, concluding that principal component analysis (PCA) seems to identify the first principal component as a general factor, because all the 90 items are more or less positively correlated. However, exploratory factor analysis with varimax rotation as performed by Lipman et al (1977), obtaining a nine-factor solution, has been used in several studies with the SCL-90. The anxiety subscale from this solution has never been accepted as a sufficient scale in trials of anti-anxiety drugs.

When using an unselected sample of patients treated in our Day Hospital at the Psychiatric Centre of North Zealand in Denmark (N = 555) we demonstrated with the SCL-90 that PCA identified as the first principal component a general factor reflecting that all the 90 items are more or less positively correlated (Bech et al. 2010). The second principal component was a bi-directional factor with depression items at one pole and anxiety items at the opposite.

We had previously identified a SCL depression subscale (SCL-D_6) with six items corresponding to the HAM-D_6. Now we selected from the second principal component the anxiety items with the highest loadings. When these items had been subjected to another PCA, we could demonstrate the contrast between psychic anxiety items and somatic anxiety items. This SCL-A_{20} anxiety subscale is very similar to the HAM-A_{14}. The SCL-D_6 and the SCL-A_{20} are shown in the Appendix.

Table 3 shows the results from a data set obtained by Danish psychiatrists in private practice (chaired by Drs. Bodil Andersen, Bettina N. Holm and Niels-Anton Rasmussen) who now use the SCL-90 in their daily routine. In Table 3 the four most frequent ICD-10 depression

diagnoses are shown at the top. The mean score on the depression scale (SCL-D$_6$) for dysthymia is approximately 10; this is the cut-off score for clinical depression. The mean scores on SCL-D$_6$ do increase from the category of mild depression to that of severe depression (Table 3). With regard to the anxiety subscale (SCL-A$_{20}$), the cut-off score for clinical anxiety is 30. The category of dysthymia obtained a mean score on the SCL-A$_{20}$ just below 30 whereas the mean score for the depression categories increased with increasing degree of depression.

Diagnosis Code	Category	Number of observations	SCL-D$_6$	SCL-A$_{20}$
F 34.1	Dysthymia	(N = 43)	10.38	29.40
F 32.0	Depression, mild	(N = 192)	11.70	33.00
F 32.1	Depression, moderate	(N = 171)	12.12	34.00
F 32.2	Depression, severe	(N = 52)	13.20	37.00
F 34.1	Dysthymia	(N = 43)	10.38	29.40
F 43.0	Acute stress reaction	(N = 58)	9.36	27.00
F 41.2	Mixed anxiety/depression	(N = 28)	9.90	29.00
F 41.1	Generalized anxiety disorder	(N = 68)	11.28	36.40
F 43.1	Posttraumatic stress disorder	(N = 40)	13.50	43.20

Table 3. Standardization: SCL-D$_6$: A total score of 10 or more equals clinical depression
SCL-A20: A total score of 10 or more equals clinical anxiety

Table 3 also shows the four most frequent ICD-10 categories for anxiety, namely acute stress reaction, mixed anxiety-depression, generalized anxiety disorder, and PTSD (post-traumatic stress disorder). On the SCL-D$_6$, the cut-off score of 10 is obtained for GAD and PTSD, but not for mixed anxiety-depression which is in accordance with the ICD-10 criteria for this category. On the SCL-A$_{20}$ the cut-off score for clinical depression is obtained for GAD and PTSD but not for mixed anxiety-depression, which is in concordance with the ICD-10 criteria for this category.

4. Discussion

Compared to the Hamilton Depression Scale (HAM-D) the Hamilton Anxiety Scale (HAM-A) has obtained a status as the international standard for anxiety measurement with a major impact on the item profiles of generalized anxiety disorder from DSM-IV to DSM-IV. We do not yet have the final version of DSM-V. As regards the ICD-10, research with HAM-A$_{14}$ has shown that the category of generalized anxiety disorder according to ICD-10 is too biased in favour of the somatic anxiety symptoms. A revision of ICD-10, ICD-11, will be released around 2015. In the mean time the HAM-A$_{14}$ is the most appropriate measure for generalized anxiety research. The HAM-A$_{14}$ version shown in the Appendix was developed with the acceptance of Max Hamilton himself (Bech, Kastrup & Rafaelsen 1986). The correct

use of the HAM-A is to focus on the HAM-A$_6$ in which the total score should be considered as a sufficient statistic.

Max Hamilton never constructed a self-rating version of his HAM-A$_{14}$. The SCL-A$_{20}$ included in the Appendix can be considered as a form of self-reported state of anxiety corresponding to HAM-A$_{14}$. As indicated in the Appendix, nine of the symptoms measure psychic anxiety and 11 items measure the somatic anxiety syndrome.

5. Conclusion

The measurement of states of anxiety by use of symptom rating scales such as the HAM-A$_{14}$ is psychometrically most valid in generalized anxiety. Within such states of anxiety the factors of psychic anxiety versus somatic anxiety are important. The HAM-A$_6$ covers the core items of the DSM-IV syndromes of generalized anxiety with most emphasis on the psychic anxiety symptoms. The SCL-A$_{20}$ is the SCL-90 subscale to most validly cover the HAM-A$_{14}$ symptoms.

The Anxiety Symptom Scale (ASS) is useful as a screening instrument to cover the whole field of anxiety states, including phobia, panic, or OCD.

6. Appendix

All the scales shown below are in the public domain.
1. Anxiety Symptom Scale (ASS)
2. The Hamilton Anxiety Scale (HAM-A$_{14}$)
   a. Scoring Sheet
   b. Manual
3. SCL-D$_6$
4. SCL-A$_{20}$

6.1 Anxiety symptom scale (ASS)

The following questions ask about how you have been feeling over the past two weeks. Please put a tick in the box that is closest to how you have been feeling.

	How much of the time during the past two weeks have you been bothered by	All the time	Most of the time	Slightly more than half the time	Slightly less than half the time	Some of the time	At no time
1	nervousness, tension or inner unrest?	5	4	3	2	1	0
2	worrying too much about even the most insignificant things in your daily life?	5	4	3	2	1	0
3	having to avoid certain things, places or activities as anxiety-provoking?	5	4	3	2	1	0
4	incipient anxiety attacks (panic)?	5	4	3	2	1	0
5	Actual anxiety attacks	5	4	3	2	1	0

| 6 | recurrent, unpleasant compulsive thoughts that won't stop? | 5 | 4 | 3 | 2 | 1 | 0 |

| 7 | having to check everything you do, again and again? | 5 | 4 | 3 | 2 | 1 | 0 |

| 8 | having to repeat the same actions, e.g. washing or counting | 5 | 4 | 3 | 2 | 1 | 0 |

| 9 | feeling very shy in company, for example when eating or drinking in front of other people? | 5 | 4 | 3 | 2 | 1 | 0 |

| 10 | difficulty in performing your daily activities because of these symptoms? | 5 | 4 | 3 | 2 | 1 | 0 |

When interpreting the ASS, first determine whether Item 10 (symptom impact on daily functioning) has a score of 3 or more. If this is the case, then determine which of the nine anxiety symptoms has the highest score, and thereafter whether there is a score on the top three symptoms; these are the true anxiety symptoms.

When measuring treatment effect it is of course possible to use the total score.

6.2 Hamilton anxiety scale
6.2.1 HAM-A$_{14}$ Scoring sheet

No.	Symptom	Score	
1	Anxious mood	0-4	
2	Tension	0-4	
3	Fears	0-4	
4	Insomnia	0-4	
5	Difficulties in concentration and memory	0-4	
6	Depressed mood	0-4	
7	General somatic symptoms (Muscular symptoms)	0-4	
8	General somatic symptoms (Sensory)	0-4	
9	Cardiovascular symptoms	0-4	
10	Respiratory symptoms	0-4	
11	Gastrointestinal symptoms	0-4	
12	Genito-urinary symptoms	0-4	
13	Other autonomic symptoms	0-4	
14	Behaviour during interview	0-4	
	Total score	0-56	

Symptoms scored from 0 to 4   Sum

0 = not present   6 to 14 = mild anxiety
1 = mild degree   15 to 28 = moderate anxiety
2 = moderate degree   29 to 52 = severe anxiety
3 = marked degree
4 = maximum degree

6.2.2 HAM-A14 Manual

1. Anxiety

This item covers the emotional condition of uncertainty about the future, ranging from worry, insecurity, irritability, apprehension to overpowering dread. The patient's report of worrying, insecurity, uncertainty, fear and panic, i.e, the psychic, or mental ("central") anxiety experience is to be found significant.

0: The patient is neither more nor less insecure or irritable than usual.

1: The patient reports more tension, irritability or feeling more insecure than usual.

2: The patient expresses more clearly to be in a state of anxiety, apprehension or irritability, which he may find difficult to control. It is thus without influence on the patient's daily life, because the worrying still is about minor matters

3: The anxiety or insecurity is at times more difficult to control because the worrying is about major injuries or harms which might occur in the future. E.g.: The anxiety may be experienced as panic, i.e. overpowering dread. Has occasionally interfered with the patient's daily life.

4: The feeling of dread is present so often that it markedly interferes with the patient's daily life.

2. Tension

This item includes inability to relax, nervousness, bodily tensions, trembling and restless fatigue.

0: The patient is neither more nor less tense than usual.

1: The patient indicates to be somewhat more nervous and tense than usual.

2: The patient expresses clearly to be unable to relax, full of inner unrest which he finds difficult to control, but still without influence on the patient's daily life.

3: The inner unrest and nervousness is so intense or so frequent that it occasionally has interfered with the patient's daily work.

4: Tensions and unrest interfere with the patient's life and work at all times.

3. Fears

A type of anxiety that arises when the patient finds himself in special situations. Such situations may be open or closed rooms, to queue, to ride a bus or a train. The patient shall experience relief by avoiding such situations. It is important to notice at this evaluation, whether there has been more phobic anxiety during the present episode than usual.

0: Not present.

1: Doubtful if present.

2: The patient has experienced phobic anxiety, but was able to fight it.

3: It has been difficult for the patient to fight or overcome his phobic anxiety which has thus to a certain extent interfered with the patient's daily life and work.

4: The phobic anxiety has clearly interfered with the patient's daily life and work.

4. Insomnia

This item covers only the patient's subjective experience of sleep length (hours of sleep per 24-hour-period) and sleep depth (superficial and interrupted sleep versus deep and steady sleep). The rating is based on the three preceding nights. Note: Administration of hypnotics or sedatives shall be disregarded.

0: Usual sleep length and sleep depth.

1: Sleep length is doubtfully or slightly reduced (e.g.due to difficulties failing asleep), but no change in sleep depth.

2: Sleep depth is now also reduced, sleep being more superficial. Sleep as a whole somewhat disturbed.

3: Sleep duration as well as sleep depth is markedly changed. The broken sleep periods total only a few hours per 24-hour-period.

4: It is here difficult to ascertain sleep duration as sleep depth is so shallow that the patient speaks of short periods of slumber or dosing, but no real sleep.

5. Difficulties in concentration and memory

This item covers difficulties in concentration, making decisions about everyday matters, and memory.

0: The patient has neither more nor less difficulties in concentration and/or memory than usual.

1: It is doubtful whether the patient has difficulties in concentration and/or memory.

2: Even with a major effort it is difficult for the patient to concentrate on his daily routine work.

3: More pronounced difficulties with concentration, memory, or descision making. E.g. has difficulties to read an article in a newspaper or watch a television programme right through. Scores 3 as long as the loss of concentration or poor memory has not clearly influenced the interview.

4: When the patient during the interview has shown difficulty in concentration and/or memory, and/or when decisions are reached with considerable delay.

6. Depressed mood

This item covers both the verbal and the non-verbal communication of sadness, depression, despondency, helplessness and hopelessness.

0: Natural mood.

1: When it is doubtful whether the patient is more despondent or sad than usual. E.g. the patient indicates vaguely to be more depressed than usual.

2: When the patient more clearly is concerned with unpleasant experiences, although he still is without helplessness or hopelessness.

3: The patient shows clear non-verbal signs of depression and/or hopelessness.

4: The patient's remarks on despondency and helplessness or the non-verbal ones dominate the interview in which the patient cannot be distracted.

7. General somatic symptoms (muscular symptoms)

This item includes weakness, stiffness, soreness merging into real pain, which is more or less diffusely localised in the muscles. E.g. jaw ache or neck ache.

0: The patient is neither more nor less sore or stiff in his muscles than usual.

1: The patient indicates to be somewhat more sore or stiff in his muscles than usual.

2: The symptoms have gained the character of pain.

3: The muscle pains interfere to some extent which the patient's daily life and work.

4: The muscle pains are present most of the time and interfere clearly with the patient's daily life and work.

8. General somatic symptoms (sensory symptoms)

This item includes increased fatigability and weakness merging into real functional disturbances of the senses. Including: Tinnitus, blurring of vision, hot and cold flushes and prickling sensations.

0: Not present

1: It is doubtful whether the patient's indications of pressing or prickling sensations (e.g.,in ears, eyes or skin) are more pronounced than usual.

2: The pressing sensations in the ear reach the character of buzzing in the ears, in the eye as visual disturbances, and in the skin as prickling or itching sensations (paraesthesias).

3: The generalized sensory symptoms interfere to some extent with the patient's daily life and work.

4: The generalized sensory symptoms are present most of the time and interfere clearly with the patient's daily life and work.

9. Cardiovascular symptoms

This item includes tachycardia, palpitations, oppression, chest pain, throbbing in the blood vessels, and feelings of fainting.

0: Not present.

1: Doubtful if present.

2: Cardiovascular symptoms are present, but the patient can still control the symptoms.

3: The patient has now and again difficulties in controlling the cardiovascular symptoms which thus to some extent interfere with the patient's daily life and work.

4: The cardiovascular symptoms are present most of the time and interfere clearly with the patient's daily life and work.

10. Respiratory symptoms

This item includes feelings of constriction or contraction in throat or chest, dyspnoea merging into choking sensations and sighing respiration.

0: Not present.

1: Doubtful if present.

2: Respiratory symptoms are present, but the patient can still control the symptoms.

3: The patient has now and again difficulties in controlling the respiratory symptoms which thus to some extent interfere with the patient's daily life and work.

4: The respiratory symptoms are present most of the time and interfere clearly with the patient's daily life and work.

11. Gastro-intestinal symptoms

The item includes difficulties in swallowing, "sinking" sensation of the stomach, dyspepsia (heartburn or burning sensations in the stomach, abdominal pains related to meals, fullness, nausea and vomiting), abdominal rumbling and diarrhoea.

0: Not present.

1: Doubtful if present (or doubtful if different from the patient's ordinary gastrointestinal sensations).

2: One or more of the above-mentioned gastro-intestinal symptoms are present, but the patient can still control the symptoms.

3: The patient has now and again difficulties in controlling the gastrointestinal symptoms which thus to some extent interfere with the patient's daily life and work. E.g. tendency of losing control over the bowels.

4: The gastrointestinal symptoms are present most of the time and interfere clearly with the patient's daily life and work. E.g. losing control over the bowels.

12. Genito-urinary symptoms

This item includes non-organic or psychic symptoms such as frequent or more pressing passing of urine, menstrual irregularities, anorgasmia, dyspareunia, premature ejaculation, loss of erection.
0: Not present.
1: Doubtful if present (or doubtful if different from the ordinary genito-urinary sensations).
2: One or more of the above-mentioned genito-urinary symptoms are present, but they do not interfere with the patient's daily life and work.
3: The patient has now and again one or more of the above mentioned genito-urinary symptoms to such a degree that they to some extent interfere with the patient's daily life and work. E.g. tendency to lose control over micturition.
4: The genito-urinary symptoms are present most of the time and interfere clearly with the patient's daily life and work. E.g. losing control over micturition.

13. Autonomic symptoms

This item includes dryness of mouth, blushing or pallor, sweating and dizziness. 0: Not present.
1: Doubtful if present.
2: One or more of the above-mentioned autonomic symptoms are present, but they do not interfere with the patient's daily life and work.
3: The patient has now and again one or more of the above-mentioned autonomic symptoms to such a degree that they to some extent interfere with the patient's daily life and work.
4: The autonomic symptoms are present most of the time and interfere clearly with the patient's daily life and work.

14. Behaviour at interview

This item is based on patient behaviour during the interview. Did the patient appear tense, nervous, agitated, restless, fidgeting, tremulous, pale, hyperventilating, or sweating?
On the basis of such observations a global estimate is made:
0: The patient does not appear anxious.
1: It is doubtful whether the patient is anxious.
2: The patient is moderately anxious.
3: The patient is clearly anxious.
4: The patient is overwhelmed by anxiety. E.g. shaking and trembling all over.

6.3 SCL-D$_6$

During the past week including today, how much were you bothered by:	Not at all	A little bit	Moderately	Quite a bit	Extremely
(30) Feeling blue	0	1	2	3	4

(26) Blaming yourself for things	0	1	2	3	4
(31) Worrying too much about things	0	1	2	3	4
(71) Feeling everything is an effort	0	1	2	3	4
(14) Feeling low in energy or slowed down	0	1	2	3	4
(32) Feeling no interest in things	0	1	2	3	4
Total score					

Standardization:

0 – 6 : no depression

7 – 11: mild depression

12 – 17: moderate depression

18 – 24: severe depression

6.4 SCL-A20 Anxiety scale

During the past week including today, how much were you bothered by:		Not at all	A little bit	Moderately	Quite a bit	Extremely
31	Worrying too much about things?	0	1	2	3	4
2	Nervousness or shakiness inside?	0	1	2	3	4
33	Feeling fearful?	0	1	2	3	4
57	Feeling tense or keyed up?	0	1	2	3	4
23	Suddenly scared for no reason?	0	1	2	3	4
17	Trembling?	0	1	2	3	4
72	Spells of terror or panic?	0	1	2	3	4
47	Feeling afraid to travel on buses, subways or trains?	0	1	2	3	4
25	Feeling afraid to go out of your house alone?	0	1	2	3	4

82	Feeling afraid you will faint in public?	0	1	2	3	4
55	Trouble concentrating?	0	1	2	3	4
42	Soreness of your muscles?	0	1	2	3	4
52	Numbness or tingling in parts of your body?	0	1	2	3	4
49	Hot or cold spells?	0	1	2	3	4
12	Pains in heart or chest	0	1	2	3	4
39	Heart pounding or racing?	0	1	2	3	4
48	Trouble getting your breath?	0	1	2	3	4
40	Nausea or upset stomach?	0	1	2	3	4
4	Faintness or dizziness?	0	1	2	3	4
78	Feeling so restless you can't sit still?	0	1	2	3	4
Total score						

Standardization: A score between 20 and 29 is the risk zone of anxiety and a score of 30 or more is a clear clinical anxiety state

7. References

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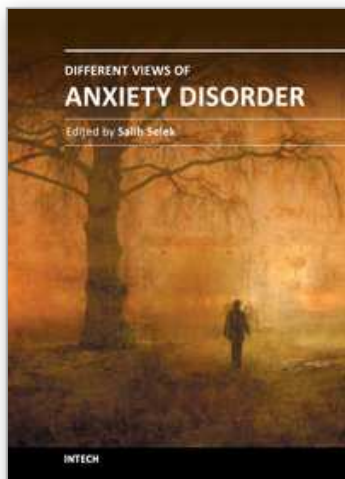
Different Views of Anxiety Disorders

Edited by Dr. Salih Selek

Anxiety, whether an illness or emotion, is a term with historical roots even in the Bible, but it was not popular until the modern age. Today, we can group, diagnose and treat several anxiety disorders to an extent, but the assessment of symptoms and severity, dealing with resistant conditions, new treatment modalities and specific patient population, such as children, are still the challenging aspects of anxiety disorders. This book intends to present anxiety disorders from a different view and discuss a wide variety of topics in anxiety from a multidimensional approach. This Open Access book addresses not only psychiatrists but also a broad range of specialists, including psychologists, neuroscientists and other mental health professionals.

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