Psychometric and Neuropsychological Assessment

14

14.1 Introduction

While the diagnosis can be made on the basis of an unstructured interview, and this is the way mostly followed in everyday clinical practice, the quantification of symptomatology and of various deficits is quite a different issue. Although the clinical opinion can give a rough impression of the 'quality' of the clinical picture and its 'severity', and most important how they change from one time point to another, such estimations are largely idiosyncratic.

The psychometric and neuropsychological tools do exactly that. They quantify the clinical picture and are useful for keeping records, facilitating communication between clinicians, monitoring patients over time and providing of reliable data for statistical and administrative purposes since health-care administrators and insurances are increasingly demanding standardized assessment and reporting to justify the need for services or to assess the quality of the provided care. Additionally, the use of psychometric and neuropsychological tools is the backbone of modern psychiatric research, and the average clinician should be familiar with at least the basic principles of psychometrics and the basic tools in order to be able to follow the advances in the field.

In practical terms, rating scales offer some practical advantages, like saving valuable physician time in carefully selected patients, since self-report questionnaires can be filled in the waiting room or other type of testing can be done by nurses or technicians. Also it is not unusual that patients answer easier to paper and pencil testing concerning 'sensitive' topics, e.g. sexuality, in comparison with the face-to-face interview. However, it is an important, although a very frequent, mistake many clinicians do, when the diagnostic decision is uncertain, to utilize psychometric testing for additional confirmation or information. The clinician should have in mind that unfortunately, psychiatry has not yet access to an equivalent of a true laboratory testing, which is independent of clinical assessment, the way the rest of medicine has. It is doubtful that the rating scale can elicit information that an experienced clinician cannot elicit with a face-to-face unstructured interview. What the

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psychometric and neuropsychological tools do is that they constitute a standardized protocol for the registration of symptoms, signs and deficits.

In general, the rating scales are divided into two broad categories: self-report and administered by an interviewer. Further, concerning of their task, they are divided in those that give information to assist the diagnosis of a specific disorder, and therefore they have a cut-off score which suggests the presence or absence of diagnosis and those that simply quantify a psychometric feature either normal or pathological. Many tools claim to do both but almost always they are better suited to do either.

The individual items vary in format and the most common ways to answer them is either bimodal (usually yes/no or true/false) or a Likert scale, which is an ordinal scale with three to seven points that measures severity, intensity, frequency or other attributes. When a Likert scale is used, the levels are usually partially or fully anchored, and an explanation or a meaning is assigned for each level.

The two principal properties of a psychometric or neuropsychological tool are reliability (a scale should be consistent and repeatable in terms of different raters, different times or different conditions) and validity (a scale should truly measure what it is supposed to measure and not something similar, e.g. depression not anxiety).

14.2 Psychometric Tools

There is a large number of psychometric tools available for the assessment of various aspects of the clinical symptomatology of mood disorders and the clinician can choose which one to use on the basis of his training and specific needs. A basic list can be found in Table 14.1.

14.2.1 Depression Rating Scales

The rating of depression can be done both on the basis of self-report and also on the basis of an interview, since usually there is insight and the patient is able to describe his inner experience. The literature suggests there is no significant difference among the various self-administered instruments assessing depression in terms of performance, and overall sensitivity is around 84 % and specificity around 72 % (Mulrow et al. 1995; Fountoulakis et al. 2007).

14.2.1.1 The Hamilton Depression Rating Scale (HAM-D) (Hamilton 1960)

The HAM-D is worldwide the most well-known and frequently used scale to quantify depression. There are several versions but the most often used are the 17- and the 21-item versions. It is based on an interview by a trained examiner and a structured interview is also available. This is the most widely known and used scale worldwide. Some of the items it includes are assessing somatic symptoms, anxiety or physiological function. Medication adverse events might contaminate many of them. These characteristics make its application in the somatically ill and the elderly

Table 14.1 List of psychiatric rating scales by field of assessment

Domain	Tool
Mania	Young Mania Rating Scale (YMRS)
	Bech–Rafaelsen Mania Rating Scale (MRS)
	Hypomania/Mania Symptom Checklist (HCL-32)
Depression	Hamilton Depression Rating Scale (HAM-D)
	Mondgomery–Asberg Depression Rating Scale (MADRS)
	Beck Depression Inventory (BDI-I and BDI-II)
	Zung Depression Rating Scale (ZDRS)
	Geriatric Depression Scale (GDS)
	Center for Epidemiological Studies-Depression (CES-D)
Anxiety	Hamilton Anxiety Scale (HAM-A)
	Panic Disorder Severity Scale (PDSS)
	Yale–Brown Obsessive–Compulsive Scale (YBOCS)
	State–Trait Anxiety Inventory (STAI)
Psychotic features	Brief Psychiatric Rating Scale (BPRS)
	Positive and Negative Symptoms Scale (PANSS)
	The Scale for the Assessment of Positive Symptoms and the Scale for the Assessment of Negative Symptoms (SAPS/SANS)
Temperament and personality	Temperament Evaluation of the Memphis, Pisa, Paris, and San Diego Autoquestionnaire (TEMPS-A)
	Temperament and Character Inventory (TCI)
	NEO-Personality Inventory-3rd edition (NEO-PI-3)
	Minnesota Multiphasic Personality Inventory 2nd edition (MMPI-2)
Disability/general	Visual analog scale (VAS)
	Clinical Global Impression (CGI)
	Global Disability Scale (Glo.Di.S)
	Sheehan Disability Scale (SDS)
	Global Assessment of Functioning (GAF)
	Global Assessment of Relational Functioning (GARF)
	Social and Occupational Functioning Assessment Scale (SOFAS)
	SF-36
Multiple assessment tools	Mood Disorder Questionnaire (MDQ)
	Brief Psychiatric Rating Scale (BPRS)
Adverse events scales	The Systematic Assessment of Treatment-Emergent Events (SAFTEE)
	Abnormal Involuntary Movement Scale (AIMS)
	UKU-SERS Scale
	Simpson–Angus Rating Scale for Extrapyramidal Side Effects
Substance abuse scales	CAGE
	Alcohol Use Disorders Identification Test (AUDIT)
	Addiction Severity Index (ASI)
	Drug Abuse Screening Test (DAST)

(continued)

Table 14.1 (continued)

Domain	Tool
Other	Risk Assessment for Suicidality Scale (RASS)
	Scale to the Unawareness of Mental Disorder (SUMD)
	Drug Attitude Inventory-30 items version (DAI-30)
	Insight and Treatment Attitudes Questionnaire (ITAQ)
	Sleep Disorders Questionnaire (SDQ)
	Internet Addiction Scale (IAS)
	Arizona Sexual Experiences Scale (ASEX)
	Social Support Questionnaire (SSQ)
	Caregiver Burden Scale (CBS)

somewhat problematic. Overall the scale does not correspond to the concept of depression as we consider it today and as it is defined according to contemporary classification systems. Many aspects of depression (e.g. atypical or mixed features) are not assessed.

The scale takes less than half hour to be administered and both reliability and validity appear to be good. There is a huge body of data and experience from its use in a variety of tasks, including pharmaceutical trials.

14.2.1.2 Montgomery–Asberg Depression Rating Scale (MADRS) (Montgomery and Asberg 1979)

The MADRS was developed almost explicitly for use in pharmaceutical clinical trials and therefore the items it includes are those who are more sensitive to medication treatment. It does not assess depression in a global way and misses much of symptomatology, as it is designed for use in younger and somatically healthy patients. It includes only ten items and its rating is based on an interview, although a self-report version also exists. It takes probably 15 min to administer and exerts very good reliability and validity and notably high sensitivity to change.

14.2.1.3 Beck Depression Inventory (BDI-I) (Beck et al. 1961, 1996)

The BDI is based on the cognitive theory for depression proposed by Aaron Beck. It includes 21 items; it is self-report and assesses behaviour, thought content and the cognitive aspect of depression but avoids many aspect of symptomatology. It is widely used and a revised version (BDI-II) which is adjusted to contemporary classification (with the inclusion of somatic symptoms) is also available.

The scale can be completed in less than 10 min. Although the overall reliability is good, there is a problem with lower than expected test–retest reliability which essentially might reflect changes in the underlying symptoms.

14.2.1.4 Zung Depression Rating Scale (ZDRS) (Zung 1965)

The ZDRS is an old self-report scale which reflects an older concept of depression which was widely accepted during the 1960s and might not produce reliable and valid results in somatic patients and geriatric populations. It also under-assesses atypical depressive patients. However, both reliability and validity are good.

14.2.1.5 Geriatric Depression Scale (GDS) (Yesavage et al. 1982)

It is the first scale especially designed for use in elderly populations. It is a self-report scale; however, sometimes it is necessary to administer it through an interviewer. It exists in a 30-item and a 15-item form. It focuses mainly on the psychological concern of the patient and the way he/she perceives life, avoiding the assessment of somatic complaints.

14.2.1.6 Center for Epidemiological Studies-Depression Scale (CES-D) (Radloff 1977)

The CES-D is a self-report instrument and one of the most widely used. It seems that it is least affected by somatic disorders and handicaps. It consists of 20 items. The validity of the CES-D might be compromised when used with somatic patients or elderly individuals, and modifications for its use in these populations have been recommended. Both reliability and validity are high and extensive literature on its use is available.

14.2.2 Mania Rating Scales

Mania has quality issues similar to psychotic episodes, including limited or lack of insight, hostility and lack of cooperation as well as agitation all of which make self-reporting problematic. Therefore, both the two major mania scales are interview based. There is at least one hypomania scale (HCL-32) which is self-report.

14.2.2.1 Young Mania Rating Scale (YMRS) (Young et al. 1978)

The YMRS is applied by a trained interviewer and includes 11 items. It takes less than 30 min to apply. It has good reliability and validity and it is supported by a large literature. It is useful in both clinical practice and research and it has been proved sensitive to change.

14.2.2.2 The Bech–Rafaelsen Mania Rating Scale (MRS) (Bech et al. 1978)

It consists of 11 items and assesses the severity of mania in bipolar patients. It is rated by an examiner. Its reliability and validity are reported to be good. It is not used as widely or as often as the YMRS and the supporting literature is limited.

14.2.2.3 Hypomania/Mania Symptom Checklist (HCL-32) (Angst et al. 2005)

The HCL-32 is a checklist of 32 manic or hypomanic symptoms. It is self-report instrument in contrast to the YMRS and the MRS, and it is especially useful in the screening for BD-II and bipolar spectrum disorders. It has satisfactory reliability and validity.

14.2.3 Anxiety Rating Scales

Anxiety is a concept which covers many disorders in contemporary classification. It exists in the frame of individual disorders (e.g. panic disorder, generalized anxiety

disorder, etc.) or as a transnosological constellation of symptoms (e.g. the anxiety specifier in mood disorders). The anxiety disorders are characterized by different temporal properties. For example, panic disorder is episodic with attacks of short duration while generalized anxiety disorder is more chronic. Some forms are mainly cognitive while some others are mainly somatic and neurovegetative. Anxiety as an accompanying feature of BD can take any form, from a distinct disorder to a subtle specifier. However, these specific characteristics of anxiety are important in order to determine the scale which best fits the needs of the study or the individual patient. Obsessive convulsive disorder (OCD) is no longer classified in anxiety disorders according to DSM but a related scale is listed here in accord with the ICD classification. Anxiety scales can be self-reported because like depressive scales, they depend on subjective descriptions of inner states and insight and cooperation are good.

14.2.3.1 Hamilton Anxiety Rating Scale (HAM-A) (Hamilton 1959)

The HAM-A is the sister scale of the HAM-D. Therefore, it presents many of the same advantages and disadvantages including a global assessment of anxious symptomatology which however is not in accord with the concepts adopted by contemporary classification systems. It covers 'worry' in a limited way while on the contrary it includes many somatic items. It does not assess episodic anxiety in the form of panic attacks. It is interview-based and so far no detailed guidelines for its application exist.

14.2.3.2 Panic Disorder Severity Scale (PDSS) (Shear et al. 1997)

The PDSS is specifically designed to assess anxiety in the frame of panic attacks. It includes seven items and its development was partially based on the Yale–Brown obsessive–compulsive scale. Originally the scale was developed to be used on the basis of an interview but a self-report version is also available. Reliability and validity are acceptable and it seems to be sensitive to change.

14.2.3.3 Yale–Brown Obsessive–Compulsive Scale (YBOCS) (Goodman et al. 1989a, b)

The YBOCS was developed to measure the severity of symptoms in OCD. It includes ten items and it is based on a clinical interview but a self-report version is also available. It takes approximately 15 min to complete. Although data are rather limited, the reliability and validity appear to be good.

14.2.3.4 State–Trait Anxiety Inventory-Form Y (STAI-Y) (Spielberger 1966, 1970, 1972, 1976, 1979)

The STAI-Y is a self-rating scale for the assessment of state and trait anxiety. State anxiety (S-anxiety) refers to the subjective and transitory feeling of tension, nervousness and worry and may be characterized by activation of the autonomous nervous system, at a given moment. Trait anxiety (T-anxiety) refers to relatively stable individual differences in anxiety proneness as a personality trait, that is, in the tendency to perceive and respond to stressful situations with elevations in the intensity of state anxiety (S-anxiety) reactions. In general, the STAI measures anxiety as a

feature of the general population; thus, it is expected its scores to follow the normal distribution. However, it is widely used in the assessment of patient populations. The STAI is reported to be reliable and valid and has been used extensively in research and clinical practice and comprises separate self-report scales for measuring state and trait anxiety, consistent with the definitions given above. The S-anxiety scale consists of 20 statements that evaluate how the respondent feels 'right now, at this moment'. The T-anxiety scale consists of 20 statements that evaluate how the respondent feels 'generally'.

14.2.4 Psychotic Symptoms Rating Scales

The assessment and quantification of psychotic symptoms constitute a challenge. Psychotic patients often have limited insight, poor judgment and collaboration and behaviour problems (e.g. agitation) which make assessment difficult. As a rule, psychotic symptoms are reliably rated only through an interview performed by a trained clinician and rarely or never with self-report instruments.

14.2.4.1 The Brief Psychiatric Rating Scale (BPRS) (Zanello et al. 2013; Gabbard et al. 1987; Flemenbaum and Zimmermann 1973)

The BPRS was developed in the 1960s as a short comprehensive scale for the measuring of the severity of all aspects of psychiatric symptomatology but mainly of psychotic symptoms. The standard version includes 18 items and it is applied by a trained interviewer. Its administration takes approximately half hour and a semi-structured interview is available. Reliability and validity are reported to be good although the scale is somewhat old-fashioned and does not conform with contemporary classification systems. It has been used extensively for decades in research studies concerning schizophrenia.

14.2.4.2 The Positive and Negative Syndrome Scale (PANSS) (Kay et al. 1987)

The PANSS was developed in the late 1980s and includes 30 items which compose three subscales: positive symptoms, negative symptoms and general psychopathology. It is applied on the basis of an interview by a trained clinician and takes approximately 45 min to complete. It has become the standard tool for the assessing of patients with schizophrenia and other psychotic disorders. It has high reliability and validity.

14.2.4.3 The Scale for the Assessment of Positive Symptoms and the Scale for the Assessment of Negative Symptoms (SAPS/SANS) (Andreasen et al. 1995)

The SAPS and the SANS were developed to provide a detailed assessment of positive and negative symptoms of schizophrenia. They can be used separately or in combination. Each one includes 30 items. A trained clinician is necessary for their application. Each scale demands approximately half hour for its application. Both

have excellent reliability and validity and one of their strongest points is the precise description of each item plus detailed guidelines for the application. Probably they are more complicated and difficult to apply in comparison to the PANSS and this is the reason they are not preferred.

14.2.5 Disability and General Assessment

Disability is a complex concept which is discussed in detail in Chap. 10. The available instruments to quantify it are also complex and they often mix symptoms with subjective feelings and objective dysfunction and impairment. A tool to assess the general impression of the condition of the patient usually mixes a number of information and eventually arrives at a scoring which often reflects the rater's impression concerning the severity of the illness. Partially this concept is covered in the chapter which discusses 'staging' (Chap. 15).

14.2.5.1 Visual Analogue Scale (VAS) (Rosenthal et al. 1987)

The VAS constitutes a very simple method, according to which, the examiner or the patient himself is asked to determine the quantity of the symptomatology, according to a specific question, on a bar 100 mm in length. One end of the bar is defined as 'lack of ….' (0 mm) and the opposite one as 'profound ….' (100 mm). The distance from the beginning (in mm or in %) is considered as the 'degree' of the symptom or of the issue under assessment. This method has been in existence since 1921. Today, it is considered somewhat outdated and not suitable for research purposes, but still it is useful in order to rate issues pertaining to the inner experience of the patient, or too complex constructs, although in the latter case a single aspect seems to dominate the opinion of the ratter.

14.2.5.2 Clinical Global Impression (CGI) (Guy 1976)

The CGI is essentially a group of simple scales rather than a single scale. They are rated by an interviewer and were developed to assess mainly symptom severity and change usually as treatment response. The most frequently used are Clinical Global Impression- Severity scale (CGI-S) and the Clinical Global Impression- Improvement scale (CGI-I). However, various modifications exist on the basis of different definition of the target to be rated, e.g. the Clinical Global Impression-Overall Bipolar Severity (CGI-BP).

14.2.5.3 General Assessment of Functioning (GAF) (Patterson and Lee 1995), General Assessment of Relational Functioning (GARF) and Social and Occupational Functioning Assessment Scale (SOFAS) (Morosini et al. 2000)

These are a family of scales introduced by the DSM classification system. They are rated by an interviewer and assess global functioning in the psychological (GAF), family, social (GARF) and occupational domain (SOFAS). They utilize a continuum

from 0 to 100 similar in many ways to a VAS. They represent a non-specific way to quantify various domains of interest but they are of unknown (possibly low) reliability and validity.

14.2.5.4 Short Form-36 Items (SF-36) (McHorney et al. 1993)

The SF-36 is a self-report scale which is often used as a measure of quality of life but in fact it is a general measure of health status from the patient's point of view. This means that the scale registers the subjective view of the patient which is often independent of the presence or absence of specific diseases. It consists of 36 items and focuses on the person's functioning in relationship to somatic problems and psychological distress over the last month. It takes less than 15 min to administer. Although it has shown high reliability and validity, the interpretation its scores should be done very carefully and always by taking into consideration the special characteristics of the study sample or the individual person.

14.2.5.5 Global Disability Scale (Glo.Di.S) (Fountoulakis et al. 2012a)

The Glo.Di.S was developed on a concept similar of that of the WHO-DAS and the World Health Organization concerning disability. It includes 25 items assessing different aspects of disability which are grouped in factors explaining (everyday functioning, social and interpersonal functioning, severity and mental disability). Reliability is very high (Cronbach's alpha 0.95). The Glo.Di.S. has the potential to serve as a reliable and valid tool for assessing functioning and disability, but the literature is still limited. Further research is needed to prove that it could be useful across countries and populations and whether it provides data that are culturally meaningful and comparable. It can be used in surveys and in clinical research settings, and it can generate information of use in evaluating health needs and the effectiveness of interventions to reduce disability and improve health.

14.2.6 Temperament and Personality Inventories

Issues pertaining to temperament are discussed in Chap. 5 and to personality in Chap. 8. Below the most widely used questionnaires to assess temperament, character and personality are listed along with a brief description. All are self-report questionnaires with high reliability and strong theoretical background.

14.2.6.1 The Temperament Evaluation of the Memphis, Pisa, Paris, and San Diego Autoquestionnaire (TEMPS-A) (Akiskal et al. 2005)

The TEMPS was developed as a semi-structured TEMPS-I, administered in interview format and as a self-rating autoquestionnaire, the TEMPS-A with 109 (for men) or 110 (for women) items. It is based on Hagop Akiskal's theory on the affective components of temperament and their relationship to mood disorders and creativity. This approach resulted in an operationalized definition of the five affective temperaments (depressive, hyperthymic, irritable, cyclothymic and anxious) which

are reflected in the five subscales of the TEMPS-A. The TEMPS-A is different from the TCI and the NEO-PI-3 in that it frames questions in the language of affectivity and is rooted in an evolutionary biologic perspective and its clinical validity has been recently supported on a genetic basis.

14.2.6.2 NEO-Personality Inventory-3rd Edition (NEO-PI-3) (Costa and McCrae 1997)

The NEO-PI-3 is a personality inventory which is based on the five factor theory of personality dimensions (big five). It includes 240 items which are grouped in five major traits (extraversion, agreeableness, conscientiousness, neuroticism and openness to experience). Below each trait there are six facets. Its development was based in principal on a psycholinguistic approach, and therefore it reflects concepts and ideas that exist in everyday human language but not complex scientific constructs. There are also shorter versions. There is a big literature support concerning its reliability and validity.

14.2.6.3 Temperament and Character Inventory (TCI) (Cloninger et al. 1993)

The TCI was developed as a questionnaire to explore the neurobiological foundation for personality, according to the theories of Robert Cloninger. Originally it had been suggested that the temperaments as defined by the Cloninger theory correspond to dopaminergic, serotonergic and noradrenergic activity. More recent studies have linked them to genes. The TCI includes the assessment of complex inner experience which is avoided by the NEO-PI-3 and attempts to dig into complex concepts. It too has high reliability and validity and a bulk of supportive literature.

14.2.6.4 Minnesota Multiphasic Personality Inventory 2nd Edition (MMPI-2) (Butcher et al. 1991)

The MMPI is the personality questionnaire most widely used in both clinical practice and research. Its second edition includes 567 items and is used in a variety of settings and aims, from clinical practice to screen job candidates. It takes approximately 2 h to complete. The MMPI was developed completely and exclusively in an empirical way from a large pool of items. There is no solid theory behind its development; however, various studies on its structure revealed clusters of items corresponding to human behaviours. It is considered to assess the more 'state' aspect of personality in contrast to the TEMPS, TCI and NEO-PI-3 which assess more stable aspects of temperament and personality.

14.2.7 Adverse Events Scales

There are a number of scales which have been developed to assess the adverse effects from medication treatment. There are two types: those who assess movement disorders and EPS in particular and those who cover a broad variety of adverse events.

14.2.7.1 The Systematic Assessment of Treatment-Emergent Events (SAFTEE) (Levine and Schooler 1986)

The SAFTEE has two versions, a general inquiry form (SAFTEE-GI) and a detailed specific inquiry form (SAFTEE-SI). The later includes a formal review of

symptoms. The questions used are focused on the novelty of the symptoms and avoid implying any relationship to medication. The SAFTEE form utilizes specified terms which are listed by organ system to register the answers and guides the interviewer in a specific way to proceed. It has good reliability and validity and it is useful also in clinical practice as a structured way to assess adverse events.

14.2.7.2 Abnormal Involuntary Movement Scale (AIMS) (Abnormal Involuntary Movement Scale (AIMS) 1988; Lane et al. 1985)

The AIMS registers dyskinetic symptoms in patients taking antipsychotics. It includes 12 items but formally a total score is not calculated. It takes less than 10 min to administer and manifests excellent reliability and validity.

14.2.7.3 Simpson–Angus Rating Scale for Extrapyramidal Side Effects (Simpson and Angus 1970)

The Simpson–Angus rating scale was developed to monitor the effects of antipsychotics. It includes ten items and it focuses on the assessment of drug-induced parkinsonism. It takes approximately 10 min to administer and manifests good reliability and validity.

14.2.7.4 UKU-SERS (Lingjaerde et al. 1987)

The UKU-SERS provides a global and comprehensive side-effect profile with well-defined and operationalized items. It covers most known adverse events caused by psychotropic agents. It includes 48 items and takes approximately half an hour to administer, but it demands experienced trained clinicians for its application. The reliability and validity are both satisfactory. A patient-rated version is also available.

14.2.8 Substance Use Scales

The assessment of substance use disorders can be greatly facilitated with the use of self-report scales for a number of reasons, including saving time for the clinician and making the patient feeling more comfortable with reporting his abuse and dependence problems.

14.2.8.1 CAGE (Ewing 1984)

The CAGE was developed as a very brief screen for significant alcohol problems. It is an acronym for the four questions that comprise the instrument (cut-annoyed-guilt-eye opener). It can be administered in less than a minute, either orally or on paper. It is of unknown reliability but validity is very good, but it cannot identify early cases.

14.2.8.2 Alcohol Use Disorders Identification Test (AUDIT) (Saunders et al. 1993)

The AUDIT was developed by the WHO as a brief screening instrument for the early detection of hazardous and harmful alcohol use. It assesses alcohol use for the last year and currently. It includes ten items and can be applied in less than 5 min by

a lay interviewer. It includes an optional clinical screening part involving a physical examination and blood tests. It has good reliability and validity and focuses on the early detection rather than the diagnosis.

14.2.8.3 Addiction Severity Index (ASI) (McLellan et al. 1992)

The ASI was developed to assess functional impairment due to alcohol or drug use problems. It includes 142 items which register both subjective patient reports as well as observations made by the interviewer. It covers the last month but also the lifetime of the patient, it takes more than an hour to apply and in principal it requires a trained clinician to administer. Its reliability and validity are reported to be good.

14.2.8.4 Drug Abuse Screening Test (DAST)

The DAST is an adaptation of the Michigan Alcohol Screening Test (MAST) and was developed as a screening and assessment instrument for drug abuse. It includes 20 items, it assesses lifetime drug use and it is sensitive to change at the lifetime scale but not for shorter periods. Its administration takes less than 10 min. Reliability and validity are reported to be good.

14.2.9 Other Rating Scales

A number of other rating scales exist, developed to assess a variety of topics and symptoms. These include the Risk Assessment for Suicidality Scale (RASS) (Fountoulakis et al. 2012b), the Scale to the Unawareness of Mental Disorder (SUMD), the Drug Attitude Inventory-30 items version (DAI-30), the Sleep Disorders Questionnaire (SDQ), the Arizona Sexual Experiences Scale (ASEX) and others.

14.3 Neuropsychological Tools

It is probably true that in most parts of the world, the training of the average psychiatrist focuses little on the ways of assessing in depth and detail the neurocognitive deficit. Therefore, the use of neuropsychological tools is almost the standard way to investigate this domain of symptomatology. An additional reason is that there is a long tradition of charting and quantification of the neurocognitive impairment across a variety of psychiatric and neurological disorders with the use of sophisticated tools.

The application of most of these tools requires some degree of special training since the interviewer should be familiar with neurocognitive function and its domains as well as their interplay. It is not unusual for an anxious geriatric patient to obtain a dementia-like MMSE score if the rater is inexperienced and applies the instrument in a cookbook fashion.

The most often used neuropsychological tests in everyday clinical practice is the Mini Mental Status Examination (MMSE) (Folstein et al. 1975), the Wechsler Memory Scale-Revised (D'Elia et al. 1989) the Trail Making Test (Reitan 1971) and the Clock Drawing Test (Sunderland et al. 1989). The general intelligence (IQ) can be measured with the Wechsler Adult Intelligence Scale- – Revised (WAIS-R)

which includes two subscales: verbal and performance. The Verbal Fluency Test demands the patient to name as many objects and animals is able to, within a time frame of 1 min.

In Table 14.2 a list of cognitive domains and the test most useful in the assessment of each domain are given.

Table 14.2 List of neuropsychological tools by domain of assessment

Domain	Tool
General screening tests	Mini Mental State Examination (MMSE)
	Cambridge Cognitive Examination (CAMCOG)
Premorbid IQ	Single-word reading score from the North American Adult Reading Test (NAART)
	Wide Range Achievement Test (WRAT)
	Vocabulary subtest score from the Wechsler Adult Intelligence Scale (WAIS)
Current IQ	Wechsler Adult Intelligence Scale (WAIS)
Psychomotor and mental speed	Digit Symbol Substitution Test (DSST)
	Trail Making Test-A (TMT-A)
	Reaction time tests
Attention	Continuous Performance Test (CPT)
	Digits Forward
Working memory	Digits Backward
Verbal memory	
Learning	California Verbal Learning Test (CVLT)
Short delayed recall	Rey Auditory Verbal Learning Test (RAVLT)
Long delayed recall	Wechsler Memory Scale-Logical Memory (WMS-LM)
Recognition	Free recall
Nonverbal memory	Rey Complex Figure Test (RCFT)—Immediate and delayed recall
	Wechsler Memory Scale-Visual Reproduction (WMS-VR)
Visuospatial function	Block design
	Rey Complex Figure Test (RCFT)—copy
Language/verbal fluency	Controlled Oral Word Association Test (COWA-FAS)
	Animal Naming (AN)
Executive function	Wisconsin Card Sorting Test (WCST)—Categories achieved and perseverative errors
	Stroop Color Word Test (SCWT)
	Trail Making Test-B (TMT-B)
Social cognition and theory of mind	Benton Facial Recognition Test (BFRT)
	Faces Test (FT)
	Eyes Test (ET)
	Hinting Task (HT)
	False belief and deception tasks
	Picture sequencing
	Character intention tasks
	Faux pas

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