10. Assessment of Eating Disorders

Key Questions:

10.1. What instruments are useful to assess eating disorder symptoms and behaviour?

10.2. What instruments are useful for the psychopathological assessment of eating disorders?

10.1. What instruments are useful to assess eating disorder symptoms and behaviour?

In the past few years several instruments have been designed for the assessment of symptoms and behaviours presented by patients with eating disorders. Self-report questionnaires and semi-structured interviews (see chapter 2, “Diagnosis”) are the two main assessment instruments. There are also other measures related to preoccupation with body image, dietary consumption, amongst others, as well measures related to comorbidity (depression, anxiety, etc.).

Self-report questionnaires measure symptoms and risk behaviour of eating disorders, and do not provide a specific diagnosis (see chapter 2, “Diagnosis”). In contrast to semistructured interviews that require experience and individualised administration and, hence, entail increased cost and time, self-report questionnaires are relatively economical, require less time and can be applied to big groups of people; however, there is greater difficulty as far as definition and interpretation of concepts, which mandates caution in the generalisation of results.

When applying a questionnaire, it is important to borne in mind its psychometric properties: validity and reliability, sensitivity and specificity, amongst other characteristics, with the aim of selecting the most convenient questionnaire in accordance with assessment objectives, throughout the initial diagnostic phase and also throughout the treatment phase.

This chapter presents a review of different self-report questionnaires that are most frequently used in the assessment of eating disorders. Additionally, some instruments that are used to assess characteristics related with eating disorders but that are not per se instruments to detect/diagnose/assess eating disorders are mentioned. Instruments employed in the psychopathological assessment of eating disorders are also described.
10.1.1. Specific instruments for the assessment of eating disorders:

**EAT-40, EAT-26 and ChEAT**
Adapted Spanish versions that have been validated in our setting are available.
(See chapter 6, “Detection” and Annexes 2.2. to 2.4.)

**EDI**
*Eating Disorder Inventory. Garner, et al., 1983*

The EDI (or EDI-I) is a self-report instrument designed to assess different cognitive and behavioural dimensions of AN and BN. It consists of 64 items grouped in 8 subscales that are positively correlated. The first three subscales measure behaviour and attitudes toward food, weight and body image (drive for thinness, bulimic symptomatology, self body image dissatisfaction), disturbances expressed in these areas are not specific of AN, given that similar responses appear in groups of people who are concerned about their diet. The other five subscales (ineffectiveness and low self-esteem, perfectionism, interpersonal distrust, interoceptive awareness or identification and maturity fears) assess general psychological characteristics associated with eating disorders, which are fundamental aspects of AN.

Each item is scored using a 6-point Likert scale. All subscales can be added to obtain an overall score or use each scale separately; clinically speaking, the quantitative value of each of the eight subscales is more relevant than the overall score. The maximum total score of this questionnaire is 192, the cut-off point is 42 points or less in the eight original subscales to diagnose an eating disorder. Some authors claim that the specificity of EDI is low, since it cannot properly differentiate individuals with eating disorders from those who present other psychological disorders. In a study carried out on women, it was reported that the subscales that best differentiate AN from BN are the ones addressing bulimic symptomatology and body image dissatisfaction, although the latter is high in both eating disorders. On the other hand, subscales such as low self-esteem, interpersonal fears, maturity fears, interoceptive identification and motivation to lose weight, which are usually high in both pathologies, distinguish patients with an eating disorder from control subjects. Subscales such as body image dissatisfaction, motivation to lose weight and dieting are usually high both in patients with eating disorders and in the general population.

There are several opinions on the utility of the EDI. Several authors suggest that it can be used as a screening test in non-clinical samples, but the fact that its ability to distinguish different types of eating disorders is questionable must be taken into account. However, it is suggested that the EDI is able to discriminate individuals with eating disorders and individuals without any psychiatric disturbances. This questionnaire has proven to be sensitive to changes registered in individuals when treatment is applied.

**Spanish version of the EDI**
The Spanish adaptation of the EDI was developed by Guimerá and Torrubia, 1987, in a clinical sample (hospital) of 24 patients with AN and 24 control subjects sharing similar ages and sociodemographic characteristics.
EDI-2 (Version 2 of the EDI-1)
Later (1991), Garner, et al. developed the EDI-2, comprised of 91 items (64 items of the EDI-1 and an additional 27 items). The items are grouped in 11 scales, 8 of them main scales (obsession about thinness, bulimia, body dissatisfaction, ineffectiveness, perfectionism, interpersonal distrust, interoceptive awareness and maturity fears) and 3 provisional scales (not a part of the EDI-1) (ascetism, impulse regulation and social insecurity). A 5th grade educational level is required to answer this self-report measure.

Spanish version of the EDI-2
The Spanish version was adapted by the TEA publishing house 1998. There is also a Spanish version validated in the Mexican population. When the cut-off point is 80 for the overall score, sensitivity is 91% and specificity is 80%; when it is 105 points, sensitivity is 82% and specificity is 89%.

BULIT
Bulimia Test. Smith and Thelen, 1984
There is an adapted Spanish version validated in our setting. (see chapter 6, “Detection” and Annex 2.5.)

BITE
Bulimia Investigatory Test Edinburgh. Henderson and Freeman, 1987
There is an adapted Spanish version validated in our setting. (see chapter 6, “Detection” and Annex 2.6.)

EDE-Q
Eating Disorders Examination-questionnaire. Fairburn and Beglin, 1993
The EDE-Q is a self-report questionnaire (it can be completed in less than 15 minutes) derived from the EDE semistructured interview developed by Fairburn and Beglin, 1993, and which contains its three main subscales (restraint, weight concern and shape concern). Results indicate a consistent positive correlation, albeit moderate, between the EDE and the EDE-Q. Correlation was higher in characteristics that do not present definition difficulties (for example, frequency of self-induced vomiting or average -days per week- laxative abuse); the greatest discrepancy indexes were found in the days-per-week assessment in which binge-eating episodes took place. These values were consistently higher in the EDE-Q. There is no information concerning the adaptation and validation of the EDE-Q in the Spanish population. However, there is an adapted Spanish version in a Colombian population sample (S-EDE-Q).

SCOFF
Survey Sick, Control, One, Fat, Food questionnaire. Morgan, et al., 1999
There is an adapted Spanish version validated in our setting. (see chapter 6, “Detection” and Annex 2.1.)

ACTA
(Attitude Regarding Change in Eating Disorders) Beato and Rodríguez, 2003
The ACTA questionnaire was developed by L Beato and T Rodriguez, 2003, with the objective
of assessing attitude regarding change in eating disorders. It consists of 59 items distributed in 6 subscales: precontemplation, contemplation, decision, action, maintenance and relapse. The ACTA is an easily administered instrument with adequate reliability and validity, and its use within the motivational approach can contribute useful information relating to therapeutic process knowledge.

**ABOS**

*Anorectic Behaviour Observation Scale for parents/spouse.*


The ABOS is a self-report questionnaire developed to obtain information from family members (parents) on their children’s behaviours and attitudes that may be symptomatic of AN or BN. Using a cut-off point of 19 points, the ABOS obtained 90% sensitivity and 89.6% specificity in a sample of female students, values that were reliable based on subsequent clinical assessment. It can be a complementary instrument to eating disorder screening tools.

**Spanish version of the ABOS**

There is no information regarding the availability of an adapted version of the ABOS scale validated in our setting.

10.1.2. Instruments with measures related with eating disorders

One of the most important features of eating disorders is the perception of body image. There are several tools available for its assessment, including: BSQ, BIA, BAT and BES. It is also important to evaluate eating disorders in terms of internalisation of cultural influences on the aesthetic body model (culture of thinness). To this end, the CIMEC and its revised version can be used. Another aspect that needs to be assessed is eating restraint, diet, weight, physical activity, etc. To assess these aspects and others it is important to select the most reliable and valid questionnaire, one that is also brief and specific to what it intends to measure.

**BSQ**

*Body Shape Questionnaire.* Cooper, *et al.*, 1987

The BSQ is a self-report questionnaire that measures body dissatisfaction, the fear of becoming fat, self-devaluation due to physical appearance, the desire to lose weight and avoidance of situations in which physical appearance might draw others’ attention.

It can also be a useful tool in the exploratory study of individuals who are at risk of developing an eating disorder, acknowledging that a body scheme disorder is only one of the symptoms of this pathology. It consists of 34 items and it is scored on a 1-to-6 Likert type scale, 34-204 being the range of scores. An overall score (the sum of direct item scores) can be obtained and 4 subscales can be derived: body dissatisfaction, fear of becoming fat, low self-esteem due to appearance and the desire to lose weight. The cut-off point for the overall score has been determined to be 105.

**Spanish version of the BSQ**

The BSQ has been adapted and validated in our population by Raich, *et al.*, 1996.
**BIA**  
*Body Image Assessment. Collins, et al., 1991*  
The BIA is a visual scale in which 7 figural stimuli of children and 7 figural stimuli of young adolescents, both male and female, appear separately, representing the standard percentile curves for BMI in children, ranging from the representation of a very thin figure to an overweight figure, with a score range of 1 (thinness) to 7 (obesity), with 0.5 point increments. The BIA can obtain an indicative discrepancy index between different “me’s” by subtracting the scores obtained from the real me (for example, real-ideal)\(^{16}\).

**Spanish version of the BIA**  
Spanish version developed by Sánchez, 2005

**BAT**  
*Body Attitude Test. Probst, 1995*  
The BAT is a questionnaire that assesses a subjective dimension of body image, specifically a disturbance in the attitude towards one’s own body. This test is endorsed by good psychometric results. Although it was initially conceptualised to assess body experience and attitude towards one’s own body in patients with eating disorders, it has also been used in the non-pathological population. The 20 items it is comprised of are grouped into three main factors: negative appreciation of body size, loss of familiarity with one’s own body and general body dissatisfaction\(^{37}\).

**Spanish version of the BAT**  
There is a Spanish version adapted and validated in our setting by Gila, *et al.*, 1999, in a sample of 165 patients with eating disorders (79 AN and 86 BN) and 220 girls from the general population. Its results indicate adequate validity and reliability\(^{39}\).

**BES**  
*Body-Esteem Scale. Mendelson and White, 1982*  
The BES is a self-report instrument comprised of 24 items that assess body self-esteem in children over the age of 7 with acceptable reading competence. It is a one-dimensional scale with yes/no answers that gathers information regarding feelings and self-evaluation of one’s appearance and evaluations attributed to others about one’s appearance. The BES has acceptable reliability and validity\(^{39}\).

**Spanish version of the BES**  
There is a Spanish version adapted and validated in our setting by Sperber, *et al.*, 2004\(^{36}\)

**CIMEC**  
*Questionnaire of Influences of the Aesthetic Body Model*  
*Toro, et al., 1994*  
The CIMEC was designed to measure relevant cultural influences that contribute to triggering, facilitating or justifying weight loss, especially for aesthetic or social reasons. It is comprised of 40 direct items than assess body image related anxiety, influence of social models and influence of social situations. Answers are assessed on a scale of 1 to 3 points. A higher score reflects greater influence of social models. The highest possible score is 80 and the lowest is 0, with a
cut-off point of 23/24 points. It was elaborated and validated in a sample of young Spanish females (59 anorectics and 59 control subjects), matched by age and social class. The questionnaire showed satisfactory internal consistency, as well as appropriate sensitivity (81.4%) and specificity (55.9%), making it a possibly useful screening instrument given the relationship between AN and sociocultural influences.

CIMEC-26 (abbreviated version of the CIMEC)

When the CIMEC-40 was assessed in both a clinical group and a control group, 26 items that presented statistically significant differences were alienated. These questions were used to create the CIMEC-26, from which 5 dimensions are derived: body image distress, mass media influence, influence of verbal messages, influence of social models and influence of social situations.

Results indicate that the CIMEC (CIMEC-40 and CIMEC-26) is a valid and reliable instrument to assess the influence of aesthetic body models in the Spanish population by means of certain specific sources (mass media, social models and social situations).

CIMEC-12 (CIMEC version for prepubertal children)

Spanish version developed by T Saucedo, 2000

Recommendations

| D | 10.1.1. | Assessment of patients with eating disorders should be comprehensive and include physical, psychological and social aspects, as well as a complete assessment of risk to self. (Adopted from recommendation 2.8.1.1. of the NICE guide). |
| D | 10.1.2. | The therapeutic process modifies the level of risk for the mental and physical health of patients with eating disorders, and thus should be monitored throughout treatment. (Adopted from recommendation 2.8.1.2. of the NICE guide). |
| D | 10.1.3. | Throughout treatment, health care professionals who evaluate children and adolescents with eating disorders should be alert to possible indicators of abuse (emotional, physical and sexual) to ensure an early response to this problem. (Adapted from recommendation 2.8.1.3. of the NICE guide). |
| D | 10.1.4. | Health care professionals who work with children and adolescents with eating disorders should familiarise themselves with national CPGs and current legislation regarding confidentiality. (Adapted from recommendation 2.8.1.5. of the NICE guide). |
10.1.5. The use of questionnaires adapted and validated in the Spanish population is recommended for assessment of eating disorders. At present, the following specific instruments for eating disorders are recommended: EAT, EDI, BULIT, BITE, SCOFF, ACTA and ABOS (version selection based on the patient’s age and other application criteria). To assess aspects related with eating disorders, the following questionnaires are recommended: BSQ, BIA, BAT, BES and CIMEC (the selection of the version should be based on age and other application criteria).

10.2. What instruments are useful for the psychopathological assessment of eating disorders?
(See also chapter 7, “Diagnosis”)

10.2.1. Impulsiveness

**BIS-11**
*Barratt Impulsiveness Scale, version 11. Patton, et al., 1995*

The BIS-11 is a self-report survey used to assess impulsiveness. It consists of 30 items grouped into four subscales: cognitive impulsiveness, motor impulsiveness, non-planned impulsiveness and total impulsiveness. These scales are scored using a 4-point Likert scale. The total score of the BIS-11 is a valid and reliable measure of impulsiveness. There are no cut-off points, although a distribution median has been proposed.

*Spanish version of the BIS-11*
There is a Spanish version adapted and validated in our setting by M Oquendo, et al., 2001.

10.2.2. Anxiety

**STAI**
*State-Trait Anxiety Inventory. Spielberger, et al., 1970*

The STAI is a self-report assessment of anxiety as a transitory state (anxiety/state; A/S) and as a latent trait (anxiety/trait; A/T). It can be applied to adolescents (aged 13 and over) and adults. The instrument consists of two parts comprised of 20 questions each. The first section (A/S) assesses a transitory emotional state, characterised by subjective, consciously perceived feelings of tension and apprehension and by hyperactivity of the autonomous nervous system. The second section (A/T) denotes relatively stable anxiety proneness and characterises individuals with a tendency to perceive situations as threatening. It has adequate validity and reliability.
Spanish version of the STAI
There is a Spanish version adapted to our setting by TEA Publishing House, 1982.

Children version of the STAI (STAI-C)
The STAI-C can be administered to children aged 9 to 15 years and takes 15 to 20 minutes. Its objective is the assessment of anxiety-state and anxiety-trait in this age group.

Spanish version of the STAI -C
There is a Spanish version adapted to our setting by TEA Publishing House, 1990.

HARS
*Hamilton Anxiety Rating Scale.* Hamilton, 1959
The HARS is a hetero-administered scale used to assess anxiety by evaluating anxiety, tension, neurovegetative and somatic symptoms. The scale consists of 14 items with values ranging from 0 to 4 and determines the intensity of the symptoms it describes in the past month.

Spanish version of the HARS
There is a Spanish version that has been adapted to our setting by A Lobo and L Chamorro, 2002.

CETA - Assessment of Anxiety Disorders in Children and Adolescents
Ezpeleta, et al.

Spanish original version developed by L Ezpeleta

10.2.3. Depression

BDI or Beck
*Beck Depression Inventory.* Beck, et al., 1961
The BDI or Beck Depression Inventory is a self-report questionnaire used to assess the existence or severity of depressive symptoms. Given its proven validity and reliability both in clinical and non-clinical populations it is one of the most widely used tests. It is also useful in the screening of the general population and somatic patients. It is comprised of 21 items and its objectives are to identify typical symptoms of severe depression and estimate depression severity. The overall score is used to estimate depression severity. The score obtained ranges from 0 to 63 points and the cut-off points are as follows: 0-9 (normal), 10-18 (mild depression), 19-29 (moderate depression) and 30-63 (severe depression). It can be used in patients aged 16 and over.

Spanish version of the BDI or Beck depression
There is an adapted version that has been validated for the Spanish population by C Conde and E Useros, 1975. J Sanz, et al., 2003, later adapted the Beck-II (BDI-II).

HAM-D
*Hamilton Depression Rating Scale.* Hamilton, 1959
The HAM-D is a hetero-administered questionnaire that assesses the severity of depressive symptoms, such as insomnia, agitation, anxiety and weight loss. Since its initial publication is
has been widely used. It consists of 21 multiple choice items. The first 17 questions contribute to the total score, while questions 18 to 21 provide more information on depression such as, for example, the presence of paranoid symptoms in the patient.

**Spanish version of the HAM-D**
There is a Spanish version adapted to our setting by A Lobo and L Chamorro, 2002.

**CDI**
*Children Depression Inventory. Kovacs, 1991*
The CDI is the most widely used questionnaire and is highly endorsed by experts in child depression, since it has proven to be very solid from a psychometric point of view and very useful for clinical purposes. It can be applied both in the general and clinical populations. In the first case, it is used for screening and in the second it constitutes the first element of diagnosis. The general depression score obtained is comprised of two scales: dysphoria and negative self-esteem. It is a self-report scale that contains 27 items. Each item has three possible answers that are quantified on a range of 0 to 2, based on the absence or severity of symptoms. This questionnaire can be administered to a population aged 8 to 15 years, with a completion time of 10 to 25 minutes.

**Spanish version of the CDI**
There is a Spanish version, adapted by TEA Publishing House.

**10.2.4. Personality**

**MCMI-III – Millon Clinical Multiaxial Inventory**
*Millon, 1990*
This tool enables the assessment and identification of patients with emotional and personal difficulties who may require a more comprehensive assessment or professional management. It consists of 175 items that assess the following scales: reliability and validity; basic personality aspects, pathological personality, moderate clinical syndromes and severe clinical syndromes. Easy to use, the interpretative procedures are computerised and the user can obtain them on the spot in the case of outpatients in mental health centres, general hospitals or private clinics for an expert report. There are cut-off points in the scales to aid decision-making when faced with behavioural disorders or clinical syndromes. Its application can be individual and collective, with completion time ranging from 20 to 25 minutes (individuals 18 years and older).

**Spanish version of the MCMI-III**
There is a version adapted by TEA publishing house.

**MACI (adolescent version of the MCMI-III)**
The MACI (*Millon Adolescent Clinical Inventory*) has been designed to assess personality characteristics and clinical syndromes in adolescents aged 13-19 years. It is applied on an individual basis. Its specific design for adolescents contrasts with other questionnaires aimed at the adult population. The whole theoretical system it is based on and the confluence of diagnostic suggestions and elements shared with the current DSM-IV, as well as a complete validation study, make it a valuable and relevant instrument. It is especially useful for the
assessment and confirmation of diagnostic hypotheses, for treatment planning and for measuring progress in the different phases of treatment. It is comprised of 160 items that are grouped in 27 scales that encompass three main dimensions: personality characteristics, expressed concerns and clinical syndromes. Cut-off points are provided to aid decision-making in the case of disorders or clinical syndromes and validity and control indexes (original version of the MACI).

**Spanish version of the MACI**
There is a version adapted by TEA publishing house\(^3\)

**TCI-R**
*Revised version of the Temperament and Character Inventory*. Cloninger, *et al.*, 1994
The TCI-R is a self-report instrument that quantifies seven personality dimensions and 25 secondary traits. It contains 240 items on a 5-point Likert scale. This questionnaire has been used in students, general population and clinical population. Its psychometric properties, as well as the empirical work conducted with the TCI-R, are described in the development group’s manual\(^6\).

**Spanish version of the TCI-R**
There is a version that has been adapted and validated in our setting by JA Gutiérrez-Zotes, *et al.*, 2004, in a sample of 400 volunteers (18-65 years) from geographic areas of Madrid, Tarragona and Barcelona\(^5\). This group had already developed the Spanish version of the original TCI\(^6\).

**IPDE**
*International Personality Disorder Examination*. Loranger, 1979
The IPDE is a diagnostic tool, based on a semistructured clinical interview that is compatible with ICD-10 and DSM-IV assessment criteria. Its results enable the measure of other major personality disorder categories that until now had been omitted, providing a uniform reliable diagnosis that can be internationally accepted\(^5\).

**Spanish version of the IPDE**
There is a Spanish version that was developed by López-Ibor, *et al.*, 1996\(^6\)

10.2.5. Obsessiveness

**Y-BOCS**
*Yale-Brown Obsessive-Compulsive Scale*. Goodman *et al.*, 1989
In 1989 Goodman, *et al.* designed the Y-BOCS scale for OCD defined in terms of DSM-III-R criteria. The scale measures the intensity of OCD without analysing symptom content; it assesses obsessions and compulsions separately; it is sensitive and selective in changes of symptom severity. It is not a diagnostic tool, it is quickly and easily applied, and does not confound trait and state variables. Hence, the Y-BOCS has been designed to be used in patients with an OCD diagnosis, constituting an adequate method to measure severity of symptoms and their variation due to treatment. Several comparison and validation studies have been conducted to compare instruments designed to measure obsessive-compulsive symptomatology and Y-BOCS stands
out as the most adequate, given its higher reliability, internal consistency and sensitivity to change.

Spanish version of the Y-BOCS
There is a version adapted and validated in our setting by Sal, et al., 2002.

CY-BOCS (children and adolescent version of the Y-BOCS)
There is a version that has been adapted and validated in our setting by Ulloa, et al., 2004.

Recommendation

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<td><strong>It is recommended to use questionnaires that have been adapted and validated in the Spanish population for the psychopathological assessment of eating disorders. At present, the following instruments are recommended to carry out the psychopathological assessment of eating disorders (version selection based on age and other application conditions):</strong></td>
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<td>- Impulsiveness: BIS-11</td>
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