Journal of Intellectual Disability Research

VOLUME 46 PART 3 pp 209–217 MARCH 2002

Feasibility, reliability and validity of the Spanish version of Psychiatric Assessment Schedule for Adults with Developmental Disability: a structured psychiatric interview for intellectual disability

R. G. Gonzalez-Gordon,[1] L. Salvador-Carulla,[2] C. Romero,[3] F. Gonzalez-Saiz[3] & D. Romero[4]

1 *Clinical Unit, AFANAS, Jerez, Spain*
2 *University of Cadiz, Cadiz, Spain*
3 *Instituto de Medicina Psicosocial, Jerez, Spain*
4 *AFANAS, Jerez, Spain*

Abstract

Background Over 30% of people with intellectual disability (ID) have a comorbid psychiatric disorder. However, there are few assessment instruments available for international use and cross-cultural validation studies of these instruments are rare. The aim of the present study was to standardize the Spanish version of the Psychiatric Assessment Schedule for Adults with Developmental Disability (PAS-ADD-10), a semi-structured interview for people with ID.

Methods After a conceptual translation, feasibility (i.e. applicability, acceptability and practicality) and reliability analyses were carried out. The predictive validity of the PAS-ADD-10 CATEGO-5 codings was also examined (i.e. positive and negative predictive values). Four independent raters with wide-ranging experience in quantitative evaluation and psychiatric assessment of ID evaluated a sample of 80 subjects with ID and borderline intellectual functioning at the AFANAS occupational centre in Jerez, Southern Spain. The ICD-10 codes were used for psychiatric diagnosis.

Results The practicality of the PAS-ADD-10 is limited because of the need for previous standardization of SCAN interviews. Nevertheless, its overall feasibility was judged adequate by raters and the PAS-ADD-10 was considered extremely useful for training. Test–retest and inter-rater reliability kappa values were moderate to high. The CATEGO coding showed limited validity because of overdiagnosis of anxiety disorders and underdiagnosis of mood and psychotic disorders (positive predictive value = 74%, negative predictive value = 76%).

Conclusions The PAS-ADD-10 is a useful tool for standard psychiatric assessment of people with ID; however, CATEGO codings show low validity and a series of modifications should be considered before this instrument is used extensively in Spain. In this regard, a study on the clinical usefulness of the PAS-ADD-10 in patients with ID and severe mental disorders has been undertaken.

Keywords PAS-ADD-10, psychiatric interview, reliability, Spain, validity

Correspondence: Luis Salvador-Carulla MD, Professor of Psychiatry, University of Cadiz, Plaza San Marcos 6, Jerez 11403, Spain (e-mail: luis.salvador@retemail.es).

Introduction

The prevalence of mental illness in people with intellectual disability (ID) is at least as high as it is among the general population (Salvador-Carulla *et al.* 1998a; Deb *et al.* 2000). Nonetheless, the diagnosis of psychiatric disorders in people with ID is hampered by a series of questions. First, attention, speech and cognitive deficits pose an added burden to psychiatric interviewing in this population. Secondly, psychiatric classification systems developed for the general population may not be valid for people with ID. Problems arise regarding the validity of diagnoses based solely on third-party information, and the reliability of open interviews compared with diagnoses obtained through a structured interview. Thirdly, there is a lack of international cross-cultural studies using a common methodology; such research would make it possible to use the available structured interviews in this field internationally.

The Psychiatric Assessment Schedule for Adults with a Developmental Disability (PAS-ADD-10; Moss *et al.* 1997) is an interview specifically designed for the psychiatric assessment of people with ID. It is a semi-structured interview based on the Schedules for Clinical Assessment in Neuropsychiatry (SCAN) that produces automated research diagnoses using CATEGO-5 algorithms. The instrument has been fully described elsewhere (Costello *et al.* 1997; Moss *et al.* 1997). This interview's original reliability study showed the following results: the mean kappa across all individual item codes was 0.65. The mean kappa agreement on item groups was 0.66. Correlation between total symptom scores was 0.74. The mean kappa agreement on index of definition was 0.70 (Costello *et al.* 1997). Results from the original validity study indicated good simple validity for the PAS-ADD in relation to psychotic symptoms and depressive symptoms. Anxiety symptom identification was not well validated, probably because of small numbers (Moss *et al.* 1997).

The present paper describes the Spanish adaptation of the PAS-ADD-10, which encompasses its conceptual translation as well as its feasibility, reliability (test–retest and inter-rater) and predictive validity. A series of suggestions to improve the instrument's clinical usefulness has also been formulated.

Subjects and methods

The present study was performed at the occupational centre of AFANAS, a non-governmental organization (NGO) in Jerez, southern Spain. The subjects included in this study (n = 80) were assisted at this centre between October 1997 and September 1998. The inclusion criteria were both sexes, an age range of 18–65 years and an IQ of 20–70 (mild, moderate or severe ID). Ten cases with a borderline IQ (71–75) were also considered in the present analysis. Subjects with profound ID (IQ < 20), and those with severe speech or cognitive impairment were excluded from the study.

Subjects

IQ was evaluated with the Spanish version of the Wechsler Adult Intelligence Scale (WAIS; Wechsler 1993). Adaptive behaviour, and the type, frequency and seriousness of behavioural problems were evaluated using the Spanish version of the Inventory for Client Agency Planning (ICAP; Bruininks *et al.* 1992; Montero 1996). Psychopathological assessment included the Spanish version of the PIMRA-AIRP questionnaire (Bouras 1993; Salvador-Carulla *et al.* 1998a) and the Clinical Global Impression (CGI). The PAS-ADD-10 has been briefly described above (Moss *et al.* 1997). Since the PAS-ADD-10 is linked to the SCAN, the present authors followed the Spanish version of the SCAN for the conceptual translation (Vázquez-Barquero 1993). The CATEGO-5 automated diagnostic system was used for the predictive validity analysis (Vázquez-Barquero & Gaite 1993). Intellectual disability was diagnosed according to ICD-10 and DSM-IV criteria. The ICD-10 was also used for psychiatric diagnoses.

Procedure

Conceptual translation process

The present authors followed the process of conceptual translation used in the OMS/NIH studies

(Room *et al.* 1996) and in the Spanish translation of the SCAN system (Vázquez-Barquero 1993). In conceptual translation, the essence of the underlying concept prevails over literal translation (linguistic equivalence).

Evaluation process

The evaluation was carried out by four clinicians with prior experience of the psychopathological assessment of patients with ID. Interviews were conducted with the patient and two key informants (carer and relative). Reliability was explored only in the interview with the patient and not in the interview with informants.

Rater A performed all the interviews and recorded them on videotape. These interviews were blindly coded by another rater (B). In order to ascertain the test–retest reliability of the instrument, rater A carried out a second PAS-ADD-10 test 7–15 days later. Independently of this, and after the first evaluation, a psychiatrist without experience in the use of the PAS-ADD-10 (C) conducted an open interview, assigning CIE-10 diagnostic codes. Definite diagnosis was based upon a review of all available data: the subject's medical history; the PAS-ADD-10 interview (without the CATEGO-5 code), both with the patient and the carer; the psychiatric diagnosis carried out by the examiner C; and the reassessment of the case by rater A using information provided by carers within a month after the first interview. Diagnoses were then compared with examiner B, and checked by a psychiatrist with extensive experience in ID, who had access to all available information except for PAS-ADD-10 records (D). Because of ethical restrictions at the NGO, only two raters (A and C) had eye-to-eye contact with the subjects.

Feasibility

Andrews *et al.* (1994) described three different domains of feasibility: (1) applicability involves the usefulness to key users (i.e. clinicians, carers, managers and patients) of the information provided; (2) acceptability refers to the simplicity of the administration and use of the interview insofar as the length of time needed for completion, completion burden and design of the interview are concerned for both interviewers and interviewees; and (3) practicality refers to the cost–benefit of implementation, training required, and complexity of coding, presentation and interpretation of results. The PAS-ADD-10 is the first semi-structured psychiatric interview for ID used in Spain. Therefore, experience of its use is limited to the four raters participating in the present study. In order to assess feasibility, a qualitative approach was followed. The four raters prepared independent reports regarding the three domains based on a structured scale provided by the present authors.

Reliability

Inter-rater reliability between rater A and B codings was estimated. Test–retest reliability was estimated with the two codings made by rater A in a 1–2-week interval. Inter-informant reliability tests were not performed because of varying levels of knowledge about patients on the part of carers and conceptual problems inherent to this particular measure in ID (Salvador-Carulla *et al.* 1998b).

Validity

A study of the predictive validity (i.e. sensitivity, specificity, positive predictive value and negative predictive value) of the PAS-ADD-10 CATEGO-5 ICD-10 codings was carried out using a series of two comparative factors: (1) the blinded clinical diagnosis given by a psychiatrist (C) through an open interview; and (2) a comprehensive diagnosis by rater D that acted as the gold standard (see above).

The predictive validity of the interview with informants was not assessed for two reasons: (1) the lack of an algorithm for combining the scores obtained in both interviews (with the patient and with the informant); and (2) conceptual problems and inconsistency in the information obtained from different carers at non-residential facilities (Salvador-Carulla *et al.* 1998b).

Design and statistical analysis

Reliability was calculated by simple percentage of agreement and kappa values, which were transformed into ordinal measures following Kramer &

Feinstein's (1981) criteria. The reliability of quantitative items was estimated by intraclass correlation coefficient (ICC) and 95% confidence intervals (CIs) (Shrout & Fleiss 1979). Reliability was calculated only for items rated in more than 10% of cases. Sensitivity, specificity, positive predictive value (PPV) and negative predictive value (NPV) were calculated for a 'psychiatric caseness' prevalence of 42%. This was the rate of psychiatric disorders estimated for the occupational centre in a previous study (Gonzalez-Gordon & Romero 1998). The CATEGO-5 and SPSS software programs were used for the computer analysis.

Results

Characteristics of the sample

The average age of the subjects was 33.8 ± 9.1 years and 73.8% were males. The majority (98.7%) were single and lived with their families (90%). Most of the subjects had either mild (37.5%) or moderate ID (46.3%). Three subjects had severe ID and 10 subjects had borderline IQs. The average IQ was 54 ± 13.6. Fourteen subjects had Down's syndrome, 13 suffered from epilepsy, five had endocrine diseases, seven had impaired vision and one had a hearing impairment. The severity of the psychiatric symptoms (CGI) was partial in 16 subjects (20%), mild in 17 (21.3%), moderate in six (7.5%) and severe in three subjects (3.7%). Thirty-eight subjects (47.5%) showed no clinical impairment on the CGI. At the time of evaluation, 30% of the subjects were taking psychotropic drugs. Behavioural problems were present in 41.25% of subjects: these were mild in 17 subjects, moderate in 10 and severe in six subjects. All of the subjects with behavioural disorders had two or more related problems.

Spanish translation of the PAS-ADD-10

This process included a complete revision of a new version of the instrument (PAS-ADD-10) and important changes were made to the earlier version (Moss *et al.* 1993). A preliminary trial with a beta version was conducted so as to detect problems in the structure of the interview, translation errors, difficulties in its understanding, and a series of terms and expressions which could cause linguistic, cultural or ethical conflicts. The final Spanish version was back-translated into English and reviewed by the original author.

Feasibility

In general, the interview provides useful information for clinicians as well as for carers (applicability). The PAS-ADD-10 facilitates systematic clinical data gathering. Symptoms which do not cause disruptive behaviour or those that are easily attributed to ID (e.g. psychopathological overshadowing) can be detected by this instrument. The average length of time required to complete an interview with a patient was 32.4 ± 9.16 min , and the interview with carers had a similar duration (31.2 ± 2.5 min). The PAS-ADD-10 questions and exploratory aids provided the information needed for rating. On the other hand, informants had difficulties in producing reliable information regarding the autonomic symptoms of anxiety. The glossary of the PAS-ADD-10 simplifies rating of difficult items and the rating sheets were easy to complete. Encoding data in CATEGO 5 was hampered by the SCAN items which were not used by the PAS-ADD-10. Interviewees offered clear and thorough information about their mental health, although questions about frequency and duration are often difficult to rate reliably. The present authors noticed that the interviewees tended to talk about symptoms as if they had only recently appeared. Acquiescence was common. In general, the probability of detecting psychiatric symptoms increased with the IQ level. The glossary and the rating sheets were user-friendly for raters. Most of the subjects accepted the interview without any resistance. Resistance was associated with fears of failure in subjects with severe ID. In other cases, it was a result of tiredness. In such instances, a break in the interview facilitated completion. The overall satisfaction with the PAS-ADD-10 was acceptable. For the interviewers, this instrument is an effective guide for exploring psychopathological aspects which would be difficult to evaluate without a structured methodology. With adequate training, the interview is easy to give, although the training costs are high because previous training for the SCAN interview is required (practicality). The complexity of the rating was judged adequate. With regard to the ease

of expressing results, rating sheets provided an idea of the main impaired areas at a glance.

Reliability

Test–retest reliability

The average kappa value for items rated in more than 10% of subjects was 0.49. The level of agreement was fair for 26% of the items, moderate for 57%, strong for 15% and nearly perfect for 2% of the items (Table 1).

Average kappa values for each section of the interview ranged between 0.47 and 0.60. The items with highest levels of agreement were in the 'Worries' section. The average ICC for the 'types of symptoms' scores (e.g. neurotic, depressive and psychotic) at the CATEGO-5 was 0.87. The ICC values for the CATEGO-5 total score and for the index of definition (ID) were also high (Table 2).

Seventeen subjects (23.7%) were classified as meeting psychiatric 'casesness' criteria, both at the test and at the retest. Ten subjects (13.8%) met 'caseness' at the test interview, but not at the retest. The kappa test–retest agreement was 0.56. The cross-tabulation of test–retest CATEGO-5 diagnoses is shown in Table 3. Disagreement appeared in 16 subjects (22.2%). Ten subjects who were diagnosed as having anxiety disorders in the test interview did not receive this diagnosis in the retest interview. Six subjects with no diagnosis in the test interview were diagnosed as having anxiety disorders in the retest interview.

Table 1 Test–retest and inter-rater reliability of items rated in more than 10% of individuals using the PAS-ADD-10 (Spanish version):

Level of agreement*	Reliability (%)	
	Test–retest	Inter-rater
Poor	0	4
Low	0	7
Fair	26	5
Moderate	57	11
Strong	15	28
Nearly perfect	2	45

*Kappa values for level of agreement: (poor) < 0; (low) 0–0.20; (fair) 0.21–0.40; (moderate) 0.41–0.60; (strong) 0.61–0.80; and (nearly perfect) 0.81–1.00.

Table 2 PAS-ADD-10 (Spanish version): test–retest reliability of the 'types of symptoms' from the CATEGO-5

Types of symptoms	Intraclass correlation coefficient	Ninety-five per cent confidence interval
Neurotic symptoms	0.79	0.69–0.88
Depressive symptoms	0.91	0.84–0.97
Psychotic symptoms	0.98	0.95–1.00
Odd language and behaviour	0.92	0.86–0.98
Negative language and behaviour	0.97	0.93–1.00
Positive functioning	0.64	0.53–0.75
Total scores	0.82	0.73–0.91
Index of definition	0.84	0.75–0.92

Table 3 PAS-ADD-10 (Spanish version): cross-tabulation of ICD-10 diagnoses computed by CATEGO-5 in the test and retest interviews

Test interview diagnosis	Retest interview diagnosis*			
	None	Anxiety/phobias	Schizophrenia/psychosis	Total
None	39	6	0	45
Anxiety/phobias	10	15	0	25
Schizophrenia/psychosis	0	0	2	2
Total	49	21	2	72†

*Percentage of agreement = 0.77; kappa = 0.56.

†Eight subjects were not evaluated in the retest phase.

Inter-rater reliability

The average item-to-item kappa value of all the items was 0.68. Table 1 shows the distribution of the weighted kappa values. The level of agreement was poor or low in 4% of the items, strong in 28% and nearly perfect in 45% of the items. The average kappa values for each section of the interview ranged between 0.17 and 0.94. Higher levels of agreement were found in the following sections: 'Eating and weight change' (0.94), 'Worries' (0.81), 'Tension' (0.78), 'Physical illness' (0.74) and 'Energy' (0.65). The lowest level of agreement was found in the 'Behaviour, speech and affect' section (0.17).

The average inter-rater ICC value for the 'types of symptoms' scores (e.g. neurotic, depressive and psychotic) on the CATEGO-5 was 0.77. The ICC values for the CATEGO-5 total score and for the index of definition were high (0.94 and 0.95, respectively) (Table 4).

The PAS-ADD-10 assessment by two independent raters (A and B) provided identical results in 66 subjects (83.5%); 19 subjects (24%) had a CATEGO-5 diagnosis in both assessments (by rater A and rater B) and 47 subjects (60%) were classified as non-cases in both ratings. Eight subjects (10%) who met CATEGO-5 'casesness' criteria in the assessment made by rater A were classified as non-cases by rater B. On the other hand, five subjects (6%) classified as 'non-cases' by A were considered CATEGO-5 cases by B. The overall CATEGO-5 inter-rater agreement was 0.62.

Table 4 PAS-ADD 10 (Spanish version): inter-rater reliability of the 'types of symptoms' at the CATEGO-5

Types of symptoms	Intraclass correlation coefficient	Ninety-five per cent confidence interval
Psychotic symptoms	0.98	0.95–1.00
Depressive symptoms	0.96	0.92–1.00
Positive functioning	0.94	0.88–0.99
Neurotic symptoms	0.89	0.82–0.96
Odd language and behaviour	0.70	0.59–0.80
Negative behaviour and language	0.14	0.06–0.21
Total scores	0.94	0.88–0.99
Index of definition	0.95	0.90–0.99

Predictive validity

In order to test the predictive validity of psychiatric diagnosis, three assessments have been compared: (1) CATEGO-5 by rater A; (2) psychiatric diagnosis by rater C using an open interview; and (3) definite psychiatric diagnosis by rater D (gold standard). Twenty-seven subjects (35%) met psychiatric 'casesness' criteria on the PAS-ADD-10 CATEGO-5, 29 (38%) were classified as 'cases' by the psychiatrist in the open clinical interview and 32 (42%) according to the definite diagnosis. CATEGO-5 predictive validity values were as follows: sensitivity, 0.63; specificity, 0.84; PPV, 0.74; and NPV, 0.76. The psychiatrist's diagnosis following an open interview yielded better results: sensitivity, 0.91; specificity, 1; PPV, 1; and NPV, 0.94. Cross-tabulation of the different assessments is shown in Table 5.

With regard to anxiety disorder, the high number of diagnoses ($n = 25$) generated by the CATEGO-5 compared with the definitive diagnosis ($n = 8$) is striking. The most important differences were found in the diagnoses of simple phobias and agoraphobia. The CATEGO-5 missed 11 (i.e. all) cases of mood disorders, three cases of acute psychotic disorder, two cases of paranoid schizophrenia, two cases of obsessive-compulsive disorders and two cases of personality disorder.

Discussion

The PAS-ADD-10 is the first comprehensive, standardized psychiatric interview for people with ID – a population group with special communication problems – following international standardization. It has been translated into other languages, including German and Dutch (S. Moss, personal communication). It is worth noting that the Spanish study was carried out in an occupational centre and severe psychiatric disorders were not found in this environment. Therefore, the present analysis should be completed by another study on ID patients with severe mental disorders. This second study is currently underway at Bellisens Psychiatric Hospital, Reus, Catalonia, Spain. Ten individuals with borderline IQs (70–75) have been included in this

Table 5 ICD-10 diagnoses in individuals with intellectual disability (n = 70) and borderline intellectual functioning (n = 10) in an occupational centre: (1) automated diagnosis by CATEGO-5 after PAS-ADD-10 interview; (2) clinical diagnosis after open interview; and (3) definite diagnosis (gold standard)

ICD-10 category	CATEGO-5 PAS-ADD-10	Open interview	Definite diagnosis
Psychotic disorders			
Delusional disorder	0	1	1
Undifferentiated schizophrenia	1	2	2
Acute psychotic disorder	0	3	3
Paranoid schizophrenia	0	2	2
Hebephrenic schizophrenia	1	0	0
Subtotal	2 (2.6%)	8 (10.4%)	8 (10.4%)
Mood disorders			
Depressive disorder	0	1	2
Disthymia	0	3	3
Depressive episode	0	6	5
Bipolar disorder	0	1	1
Subtotal	0	11 (14.3%)	11(14.3%)
Neurotic disorders			
Specific phobias	16	4	7
Social phobia	2	1	1
Agoraphobia without panic disorder	7	1	1
Obsessive–compulsive disorder	0	2	2
Subtotal	25 (32.5%)	8 (10.4%)	11 (14.3%)
Personality disorders			
Querulant personality	0	1	0
Paranoid traits	0	1	1
Paranoid disorder	0	0	1
Subtotal	0	2 (2.6%)	2 (2.6%)
Total	27 (35%)	29 (38%)	32 (42%)

sample. IQ 75 is the upper cut-off point accepted by the American Association on Mental Retardation for coding ID (AAMR 1992). This population group uses the same integration programmes as subjects with ID in Spain. Individuals with profound ID were excluded from the present sample, but not from the original study. In order to perform a validation study of an assessment instrument, the sample should not be exposed to other sources of variance; for example, different interview techniques or different sources of information. The present authors believe that independent psychometric assessment should be carried out in individuals who lack verbal abilities and who have lower levels of IQ because of major differences in sources of information, data gathering and psychopathology in comparison with people with ID who are verbal and have higher IQ levels. Nevertheless, this conservative approach should have favoured better results in the present study, which was not the case.

The cross-cultural adaptation of the PAS-ADD-10 was more difficult than that of other psychiatric interviews previously adapted by the present authors. In spite of the thoroughness of the translation process, it cannot be ruled out that limitations in the adaptation may be caused by the current translation. The feasibility assessment would have been stronger if these ratings were supported by quantitative data. However, the qualitative analysis showed a series of limitations related to the acceptability and practicality of the instrument. The PAS-ADD-10 should only be used by interviewers who have previous experience of ID and mental illness, and official training in the SCAN, as well as standard training in PAS-ADD-10. This training system is too complex and overly expensive. In any case, PAS-ADD-10 training is extremely useful for introducing inexperienced clinicians to the psychiatric evaluation of ID.

Test–retest reliability was lower than inter-rater reliability. This is probably because of the variability

in symptom accounts by people with ID (Moss *et al.* 1996) rather than a result of biases intrinsic to the instrument or rating errors. The present results cannot be fully compared to the original reliability study (Costello *et al.* 1997), which analysed inter-rater reliability but not test–retest reliability. Severity of psychiatric symptoms may have been higher in the UK samples (Moss *et al.* 1997) since these were drawn from cases referred to a special psychiatric unit, while the present research was done on a community sample assessed in an occupational centre. The PAS-ADD-10 sections on neurotic symptomathology accounted for most items coded in more than 10% of subjects. The low prevalence obtained on the sections for 'Drug and alcohol misuse' and the psychotic module are noteworthy. The present average inter-rater kappa values are similar to those in the original study, i.e. 0.68 and 0.65, respectively. The agreement for most anxiety items was higher in the Spanish study. These differences may be a result of variations in the level of intellectual functioning between the two studies: the average IQ was 39.17 in the UK study, while it was 54.08 in the present sample.

Unexpectedly, the results obtained from an open clinical interview were closer to the definitive diagnosis than those obtained from the PAS-ADD-10 interview. In the present study, the authors observed an overdiagnosis of anxiety disorders, and an underdiagnosis of affective and psychotic disorders. The disagreement between the CATEGO-5 and the definitive diagnosis highlights the need to carry out informant interviews in order to obtain a valid diagnosis in a population with ID. However, it is necessary to develop a standard algorithm to merge information obtained from the patient and from the informant. The original authors (S. Moss, personal communication) suggested counting the most severe result obtained in each interview, but this option has not been formally tested. In the present authors' experience, the most severe rating is not always the most accurate. Furthermore, the information provided by relatives and carers is qualitatively different; it may be influenced by different levels of training, intimacy and knowledge in different environments (e.g. in an occupational workshop or in a residence). All of these factors hamper the assessment of inter-informant reliability in ID (Salvador-Carulla *et al.* 1998b).

The proportion of subjects in the sample who did not receive a PAS-ADD-10 diagnosis, compared with the definitive assessment (16%), may be a reflection of the 'snapshot' of the mental state provided by narrow focusing on current status. This possibility was also suggested by the original study (Moss *et al.* 1997). Other structural and content problems relate to the assessment of behavioural disorders and their differentiation from specific psychopathological symptoms. However, discrepancies in the validity results obtained in Spain and the UK may be attributed to problems in using the CATEGO-5 algorithms in Spain (Vázquez-Barquero & Gaite 1993). The 1993 automated CATEGO-5 system is currently being reviewed.

Conclusions

The PAS-ADD-10 is a useful learning tool for training in ID psychiatric assessment; it is reliable and it has excellent possibilities for future use in clinical studies. Nevertheless, at least in its Spanish version, it is necessary to revise some aspects related to its structure and content (e.g. previous clinical history and evaluation of behavioural problems). The training process, the CATEGO-5 algorithms, and the combined use of information obtained from patients and informants need further review before the instrument can be recommended for extensive clinical use in Spain**.** In spite of these limitations, the PAS-ADD-10 represents a major advance in the standardized psychiatric assessment of ID. Newer instruments developed by the original authors, such as the PAS-ADD Checklist and the MINI-PAS-ADD, may overcome some of the difficulties mentioned in this paper (S. Moss, personal communication).

Acknowledgements

This study was supported by a grant from the Spanish Research Health Fund (FIS, ref. 99/0035-01) and by the European Union Biomed-2 MEROPE project (ref. PL 96/3760). The authors warmly thank the staff, subjects and relatives of AFANAS in Jerez for their cooperation.

References

American Association on Mental Retardation (AAMR) (1992) *Mental Retardation. Definition, Classification and Systems of Support*, 9th edn. American Association on Mental Retardation, Washington, DC.

Andrews G., Perters L. & Tesson M. (1994) *Measurement of Consumer Outcome in Mental Health. A Report to the National Mental Health Information Strategy Committee*. Clinical Research Unit for Anxiety Disorders, Sydney.

Bouras N. (1993) *Assessment and Information Rating Profile (AIRP). Section of Mental Handicap*. Division of Psychiatry, Guy's Hospital, London.

Bruininks R. H., Hwa C. & Lakin K. C. (1992) Components of personal competence and community integration for persons with mental retardation in small residential programs. *Research in Developmental Disabilities* **13,** 463–79.

Costello H., Moss S. C., Prosser H. & Hatton C. (1997) Reliability of the ICD-10 version of the Psychiatric Assessment Schedule for Adults with Developmental Disability (PAS-ADD). *Social Psychiatry and Psychiatric Epidemiology* **32,** 339–43.

Deb S., Thomas M. & Bright C. (2000) Prevalence of functional psychiatric illness in a population-based cohort of adults with intellectual disability aged between 16 and 64 years. *Journal of Intellectual Disability Research* **44,** 260.

Gonzalez-Gordon R. G. & Romero D. (1998) Evaluación psicologica y psiquiatrica de adultos con discapacidad intelectual en tratamiento con psicofármacos. *Actas Luso-Españolas de Neurología, Psiquiatria y Ciencias Afines* **26,** 114.

Kramer M. S. & Feinstein A. R. (1981) Clinical biostatistics: LIV. The biostatistics of concordance. *Clinical Pharmacological Therapy* **29,** 111–23.

Montero D. (1996) *Evaluación de la conducta adaptativa en personas con discapacidades. Adaptacion y Validacion del ICAP*. Ediciones Mensajero, Bilbao.

Moss S., Ibbotson B., Prosser H., Goldberg D., Patel P. & Simon N. (1997) Validity of the PAS-ADD for detecting psychiatric symptoms in adults with learning disability (mental retardation). *Social Psychiatry and Psychiatric Epidemiology* **32,** 344–54.

Moss S. C., Patel P., Prosser H., Goldberg D. P., Simpson N., Rowe S. & Lucchino R. (1993) Psychiatric morbidity in older people with moderate and severe learning disability (mental retardation). Part I: development and reliability of the patient interview (the PAS-ADD). *British Journal of Psychiatry* **163,** 471–80.

Moss S., Prosser H., Ibbotson B. & Goldberg D. (1996) Respondent and informant accounts of psychiatric symptoms in a sample of patients with learning disability. *Journal of Intellectual Disability Research* **40,** 457–65.

Room R., Janca A., Bennett L. A., Schmidt L. & Sartorius N. (1996) WHO cross-cultural applicability research on diagnosis and assessment of substance use disorders: an overview of methods and selected results. *Addiction* **91,** 199–220.

Salvador-Carulla L., García-Mellado M. J., Velázquez R., Romero C. & Alonso F. (1998b) A reliability study of the Spanish version of the Social Behaviour Schedule (SBS) in a population of adults with learning disabilities. *Journal of Intellectual Disability Research* **42,** 22–8.

Salvador-Carulla L., Rodríguez-Blázquez C., Rodríguez de Molina M., Angel A. & Alonso F. (1998a) Mental retardation and psychiatric morbidity in a vocational programme. *Journal of Vocational Rehabilitation* **11,** 216–21.

Shrout P. E. & Fleiss J. L. (1979) Intraclass correlations: uses in assessing rater reliability. *Psychological Bulletin* **86,** 420–8.

Vázquez-Barquero J. L. (1993) *SCAN: Cuestionarios para la evaluación clínica en neuropsiquiatría. Glosario: Definiciones diferenciales de los ítems del SCAN y comentarios sobre el texto*. Meditor, Madrid.

Vázquez-Barquero J. L. & Gaite L. (1993) *Categos: Manual de los programas de introducción de datos y elaboración diagnostica. SCAN: Cuestionarios para la evaluación clínica en neuropsiquiatría*. Pfizer S.A., Madrid.

Wechsler D. (1993) *WAIS: Test de Inteligencia Wechsler para adultos. Manual*. TEA Ediciones, Madrid.

Received 21 May 2001; revised 24 September 2001