Journal of Intellectual Disability Research

VOLUME 44 PART 2 pp 147–154 APRIL 2000

Hidden psychiatric morbidity in a vocational programme for people with intellectual disability

L. Salvador-Carulla,[1] C. Rodríguez-Blázquez,[2] M. Rodríguez de Molina,[3] J. Pérez-Marín[4] & R. Velázquez[5]

1 *University of Cádiz, Jerez (Cádiz), Spain*
2 *University of Cádiz, Jerez (Cádiz), Spain*
3 *Physician. University of Cádiz, Jerez (Cádiz), Spain*
4 *PROMI Foundation Cabra (Córdoba), Spain*
5 *University of Cádiz, Jerez (Cádiz), Spain*

Abstract

The aim of the present study was to assess the point-prevalence of psychiatric disorders according to DSM-III-R criteria and the hidden morbidity in individuals with intellectual disability working in a vocational setting. The present study was carried out in a vocational centre in Southern Spain which is considered to be a model for social integration. One hundred and thirty workers with intellectual disability were interviewed by two experienced clinicians using the Assessment and Information Rating Profile, DSM-III-R criteria, and the General Assessment of Functioning and Clinical Global Impression scales. The point-prevalence of psychiatric morbidity, hidden morbidity and treatment adequacy were estimated. Morbidity was hidden (i.e. not previously diagnosed) in 50% of psychiatric cases. Forty-two (32.3%) subjects had a psychiatric diagnosis with the following distribution: schizophrenia (17.7%), other psychotic disorders (9.23%), mood disorders (4.61%), adaptive disorders (2.31%), anxiety disorders (1.54%) and other psychiatric disorders (6.15%). Treatment was judged inadequate in 30% of subjects. The point-prevalence of psychiatric problems in a vocational setting in Spain was similar to that found in other environments. Hidden morbidity was similar to that found in primary care. The present study highlights the need for standardized instruments for psychiatric assessment in non-clinical settings as well as specific training in this area.

Keywords dual diagnosis, hidden morbidity, supported employment, treatment appropriateness

Introduction

Over the last 2 decades, the assessment of psychiatric morbidity in subjects with intellectual disability (ID) has been the object of growing interest. The prevalence of psychiatric disorders in the studies conducted to date have ranged from 30% to 40% (Lund 1985; Iverson & Fox 1989; Hand 1993; Newman *et al.* 1996). Although affective disorders and neuroses are more prevalent

Correspondence: L. Salvador-Carulla, Centro de Investigación en Minusvalías, Universidad de Cádiz – PROMI, Urb. El Bosque, Edif. Cycas, 7-C, 11405 Jerez (Cádiz), Spain (e-mail: luis.salvador@cdz.servicom.es).

in the general population (Bland *et al.* 1988; Robins *et al.* 1991), individuals with ID present higher rates of psychoses and autism, with a high prevalence of behavioural disorders, although the latter figure should be interpreted with caution.

However, the above studies present a number of limitations; in many cases, effective comparison is impossible because these used different designs (e.g. point-prevalence versus life-prevalence) and lack an assessment system which includes standardized interviews and diagnostic criteria specially adapted for use in ID. In fact, the detection methods for the general public may not be valid in people with ID because of their special characteristics (e.g. reading/writing comprehension difficulties and need to adapt vocabulary). On the other hand, population-based epidemiological studies are difficult to carry out in this group because a significant number of them live away from their original placement.

These characteristics confirm the need to analyse morbidity rates not only in the community, but also in special settings. A number of studies have focused on psychiatric morbidity in specific conditions, such as Down's syndrome (Myers & Pueschel 1991) or Williams's syndrome (Einfeld *et al.* 1997). Other studies have focused on an elderly population (Hand 1993), and various healthcare settings, such as general hospitals (Pary 1993; Gustafsson 1997), psychiatric hospitals (Jordá *et al.* 1986), institutions (Linaker & Nitter 1990; Linaker 1994) or community programmes (Reiss 1990). However, very little data is available regarding psychiatric morbidity in the population with ID integrated into vocational programmes. Knowledge of morbidity rates in this population group is essential, given the progressive increase in community-based programmes and the low level of training in psychiatric aspects of carers working in such settings. The lack of trained staff could make it difficult to detect and provide adequate treatment for these patients' disorders.

The present study was aimed at analysing the hidden psychiatric morbidity and the point-prevalence of mental disorders in a vocational setting with a highly developed integration programme.

Materials and methods

The present study was conducted on a working population of subjects with ID from a vocational centre of the 'Asociación para la Promoción del Minusválido' (PROMI, i.e. the Association for the Promotion of the Handicapped). This non-governmental organization has several centres in various Spanish regions. The Cabra Special Employment Centre is considered to be a model for supported employment programmes by the European Union. Most of the subjects at this centre come from psychiatric hospitals and institutions; PROMI also provides accommodation for its employees in both residences and the community. An 'affirmative industry' model is used in the programme: its subjects are paid at least the national minimum wage and enjoy the usual legal employment benefits. The standardized socio-vocational programme and the 'promotional model' developed by PROMI have been described elsewhere (Pérez-Marín *et al.* 1997).

Sample

Out of 146 individuals included in the vocational programme at the Special Employment Centre during the month of the present study (from 15 April to 15 May 1992), 130 subjects met the study criteria. The present study includes all those who were taking part in the programme on 1 April 1992, who were made up of both men and women aged between 18 and 65 years of age, who met the AAMR (1992) and DSM-III-R criteria for ID. Subjects with a normal or borderline IQ were excluded. Informed consent was obtained from all subjects, as well as their legal guardians and carers, and the employers, before the evaluation was conducted. All subjects who met the inclusion criteria agreed to take part in the study (see Table 1 for the sample description).

Instruments

The Assessment and Information Rating Profile (AIRP; Bouras 1995) is a semi-structured, computerized system for collecting clinical information, including patients' sociodemographic characteristics, family and medical histories, level of

Table 1 Overall sample description (n = 130): sociodemographic and clinical characteristics of the subjects with intellectual disability (ID)

Characteristic	Number	Percentage
Age (years; mean ± SD)	36.12 ± 10.5	
Gender:		
male	92	70.8
female	38	29.23
Marital status:		
single	128	98.46
married	2	1.54
Residence:		
residential centre	56	43.07
protected housing	63	48.46
family residence	11	8.16
Time at centre (years; mean ± SD)	6.81 ± 4.7	
Classification of ID according to DSM-III-R:		
mild	83	63.84
moderate	34	26.15
severe/profound	4	3.07
unspecified	9	6.92
Associated medical illness:		
epilepsy	14	10.77
others	13	10
none	103	79.23
DSM-III-R criteria:		
case	42	32.3
non-case	88	67.69
General psychiatric state:		
Clinical Global Impression Scale (severity of illness):		
not assessed	1	0.77
normal (no illness)	24	18.46
partially ill	27	20.77
mildly ill	39	30
moderately ill	26	20
notably ill	11	8.46
severely ill	2	1.53
very severe patient	0	0
Global Assessment of Functioning Scale (mean ±SD):		
total	58.33 ± 16	
symptoms	58.33 ± 15.43	
functioning	61.03 ± 13.7	
Psychosocial stress (Axis IV, DSM-III-R):		
inadequate information	4	3.07
absent	106	81.53
mild	14	10.77
moderate	6	4.61
severe/extreme/catastrophic	0	0
Current psychiatric treatment:		
psychopharmacological treatment	45	34.07
non-psychopharmacological treatment	85	65.38

ID, skills, psychopathological symptoms, behavioural problems, and decision-making skills. The AIRP enables users to compile different indices regarding skills levels, behavioural problems (severity and frequency) and psychopathology. It has been validated and adapted for use in Spain by the Psychosocial Medicine Research Group at the University of Cádiz, Cádiz (Rodríguez de Molina 1994; Salvador-Carulla *et al.* 1995). In the above authors' validation study, the AIRP's Clinical Psychopathology Mental Handicap Rating Scale (CPMHRS) achieved good-quality rates. Establishing a nine out of 10 cut-off point on the CPMHRS, a Positive Predictive Value (PPV) of 0.65 and a Negative Predictive Value (NPV) of 0.92 were established. The proportion of properly classified cases (sensitivity) was 85%. This validation study also found that the Behavioural Problems Scale showed good quality rates.

The criteria for assessing treatment needs were drawn from a brief standardized psychiatric interview for medical patients (EPEP; Lobo *et al.* 1993). These criteria define three levels of need for treatment. Scores range from 0 ('not a psychiatric case') to 2 ('Psychiatric disorder sufficiently severe to justify therapeutic intervention'). These criteria are solidly established in current clinical practice in Spain.

Examinations were made consecutively of all subjects meeting the present authors' inclusion criteria during the month after the date of reference (point-prevalence study). Three independent assessments were made in less than a week by clinical interviewers experienced in evaluating subjects with ID. One of the interviewers administered a ID-adapted version of the Mini-Mental Examination (Hidalgo 1995) as well as re-evaluating subjects' IQ according to Weschler Adult Intelligence Scale (WAIS). Another evaluator assessed the subjects' social skills using the SAS scale of the Assessment and Information Rating Profile (AIRP; Bouras 1995), and administered the psychopathologic and abnormal behaviour sections of that diagnostic instrument. A third evaluator conducted an open psychiatric interview using DSM-III-R criteria, and administered Spanish versions of the Clinical Global Impression (CGI) and the General Assessment of Functioning (GAF) scales (APA 1989, 1994), as well as assessing social, occupational and family functioning with the Global Impression Scale (GIS; Salvador-Carulla *et al.* 1995). When the diagnosis was in doubt, a final decision was postponed for one week and the case was discussed with the study coordinator. An assessment of the need for psychopharmacological treatment was also conducted.

Results

Subjects' sociodemographic characteristics are shown in Table 1. There is a notable predominance of men (71%), nearly half of the subjects (48.5%) were living in sheltered housing, and most had a diagnosis of mild (64%) or moderate (26%) ID. According to DSM-III-R criteria, 32.3% of the subjects were considered psychiatric cases. Forty per cent were symptom-free or did not reach clinical relevance levels on the severity subscale of the CGI, while the remaining 27.7% presented mild symptoms, without meeting psychiatric caseness criteria.

With regard to gender-based distribution of psychiatric disorders, 16 women in the present study (39.47%) presented some kind of psychiatric disorder, whereas the proportion of men presenting psychiatric disorders was 29.35%.

As to the degree of ID, 37.5% of the subjects with mild ID and 35.29% of those with moderate ID presented some kind of psychiatric diagnosis.

According to the need for treatment criteria of the EPEP, 42 subjects (32.31%) were considered to have psychiatric symptoms intense enough to justify therapeutic intervention. Another 18 presented psychiatric symptoms, but with insufficient intensity to require intervention, and 70 individuals (53.84%) were considered 'non-cases'.

The distribution of psychiatric diagnoses is shown in Table 2. A total of 23 subjects (17.7%) were given a DSM-III-R diagnosis of psychosis. Out of these individuals, 12 (9.23%) were diagnosed as having an unspecified psychotic disorder. In one of these cases, this condition was associated with an obsessive-compulsive personality disorder. Six subjects (4.61%) presented mood disorders, three (2.31%) some type of adjustment disorder and two subjects presented generalized anxiety disorder, with one of them having an

Table 2 Description of the psychiatric diagnoses (Axis I) of the sample according to DSM-III-R criteria

Psychiatric diagnosis	Number	Percentage
Psychotic disorders		
Schizophrenia:		
paranoid	4	3.07
disorganized	3	2.31
residual	2	1.54
undifferentiated	1	0.77
subtotal	10	7.79
Psychotic disorders not specified in other sections:		
Schizo-affective:		
depressive type	5	3.84
bipolar type	1	0.77
subtotal	6	4.61
No psychotic disorder	6	4.61
Delusional disorders:		
delusions of persecution	1	0.77
Total	23	17.7
Other psychiatric disorders		
Mood disorders:		4.61
major depression (recurrent)	1	0.77
dysthymia (primary, early onset type)	4	3.07
cyclothymia	1	0.77
subtotal	6	4.61
Adjustment disorders:		
with mixed emotional symptoms	2	1.54
with depressed mood	1	0.77
subtotal	3	2.31
Anxiety disorders:		
disorder with generalized anxiety	2	1.54
Unspecified mental disorders (non-psychotic):		
unspecified mental disorders	8	6.15
Total	19	14.61

associated paranoid personality disorder. Lastly, eight subjects (6.15%) presented an unspecified mental disorder (non-psychotic). There was sufficient information to rule out a psychotic disorder, but it was impossible to further specify their condition. One of these cases presented an associated schizoid personality disorder.

Out of the 42 subjects classified as psychiatric cases during the assessment, only 21 had been diagnosed previously, indicating a hidden morbidity rate (not diagnosed previously) of 50% (2 : 1). Some 39.1% of subjects with psychotic disorders, 72.7% of subjects with affective disorders and 50% of those with unspecified mental disorders had never been diagnosed before. During the assessment period, 34.6% of the subjects were undergoing psychopharmacological treatment. Out of these, 13 (10%) were being treated with benzodiazepines, nine (6.92%) with some kind of antidepressant and 26 (20%) were taking neuroleptics. Eleven subjects (8.46%) took antiepileptic medication, either alone or with other medication. Psychopharmacological treatment was being administered to 64.3% of subjects with dual diagnosis and 20.5% of the subjects without an associated psychiatric diagnosis. Fifteen subjects (35.7%) who met DSM-III-R criteria were not receiving any pharmacological treatment during the assessment period. The Clinical Guidelines for treatment of psychiatric disorders (Soler & Gascón 1994) were used to evaluate treatment appropriateness. According to

this guidelines, treatment was judged inadequate in 30% of cases.

The overall rate of behavioural problems was 26.9% according to the Behavioural Problems Scale on the AIRP. In 11.5% of the cases, these behaviours provoked serious problems in the patients' environment. The most frequent behavioural problem was 'tantrums and/or verbal aggression' (item 8), which appeared in 36.2% of the cases; in second place was 'frequent demands for attention' (item 4). The next most common problems were 'physical aggression towards others' and 'antisocial behaviour' (23.1% and 21.6%, respectively), followed by 'hyperactivity' (16.9%), 'screams and/or troublesome noises' (14.7%) and 'inadequate personal habits' (13.1%). The remaining problematical behaviours appeared in less than 10% of the subjects. 'Tantrums and/or verbal aggression' was the behavioural problem most frequently considered severe in these subjects (25.4%), followed by 'frequent demands for attention' (21.6%), 'physical aggression towards others' (19.3%), 'antisocial behaviour' (11.6%) and 'inadequate personal habits' (10%).

Discussion

One-third of the subjects integrated in the vocational programme evaluated in the present study presented an additional psychiatric diagnosis. It should be noted that most of the population in the evaluated programme came from psychiatric institutions and other special centres, and therefore, the proportion of these disorders could be considered higher than what could be expected in occupational centres in Spain. Particularly relevant is the hidden psychiatric morbidity rate of 50%, similar to that found in a primary care (Goldberg 1985). The present study highlights the importance of improving the methods for screening and detection of psychiatric disorders in ID as well as the need for adequate training programmes on mental health in ID. The AIRP proved to be a useful tool for psychiatric caseness screening in vocational programmes (Salvador-Carulla *et al.* 1998). Newer instruments have been developed for this purpose, such as the PAS-ADD Checklist (Moss *et al.* 1997) and the Mini PAS-ADD (Prosser *et al.* 1997), which are being tested in the context of the European Union Biomed MEROPE project (PL 963760). The present project addresses some of these key issues, such the standardization of these two assessment instruments (PAS-ADD Checklist and Mini PAS-ADD) and the international implementation of a training programme for carers.

With regard to the distribution of psychiatric disorder, the high rate of psychotic disorders concurs with previous studies (Lund 1985) and it is probably a result of the origin of the sample (a significant percentage of whom were previously institutionalized). The frequency of mood disorders and anxiety is lower than would be expected based on epidemiology studies in the general population. Although this finding coincides with previous studies, it could be attributed to problems in the assessment system itself. A study on a population of subjects over 50-year-old using the PAS-ADD semi-structured interview suggests that there is an underdiagnosis of these problems when traditional assessment systems are used (Moss *et al.* 1993). Another noteworthy factor is the low level of drug and alcohol addiction, which has also been found in previous studies. A considerable number of the behavioural syndromes found in the present study had no corresponding psychiatric diagnosis according to the international diagnostic systems, and 6–15% of the psychiatric cases identified were 'not otherwise specified' (NOS) disorders, according to DSM-III-R coding. The assessment of treatment appropriateness in ID according to general clinical guidelines is made particularly difficult by NOS disorders and behavioural syndromes without formal psychiatric diagnoses. To date, there has been little research on this relevant issue (Reiss & Aman 1998).

The findings of the present study may have relevant implications for the organization of health care in vocational settings in Spain. Better links with mental health services should be established, probably through special liaison units. Specific training programmes in the recognition and management of mental disorders in ID should be also encouraged.

Acknowledgements

This study was supported by research grants PM 96-0109 and SEC 92-0862 from the Spanish

Ministry of Education, and 99/0035-01 from the Fondo de Investigaciones Sanitarias (Fund of Health Research), Spanish Ministry of Health.

References

American Association on Mental Retardation (AAMR) (1992) *Mental Retardation: Definition, Classification and Systems of Supports*. American Association on Mental Retardation, Washington, DC.

American Psychiatric Association (APA) (1989) *Manual Diagnóstico y Estadístico de los Trastornos Mentales, Tercera Edición, Revisada (DSM-III-R)*. Masson, Barcelona.

American Psychiatric Association (APA) (1994) *Diagnostic and Statistical Manual of Mental Disorders*, 4th edn. (*DSM-IV*). American Psychiatric Association, Washington, DC.

Bland R. C., Orn H. & Newman S. C. (1988) Lifetime prevalence of psychiatric disorders in Edmonton. *Acta Psychiatrica Scandinavica* Supplement **338,** 24–32.

Bouras N. (1995) *Assessment and Information Rating Profile (AIRP)*. Unpublished manuscript. Guy's Hospital, Division of Psychiatry and Psychology, London.

Einfeld S. L., Tonge B. J. & Florio T. (1997) Behavioural and emotional disturbance in individuals with Williams syndrome. *American Journal of Mental Retardation* **102,** 45–53.

Goldberg D. (1985) The diagnosis of anxiety in primary care settings. *British Journal of Clinical Practice* **38** (Suppl.), 28–33.

Gustafsson C. (1997) The prevalence of people with intellectual disability admitted to general hospital psychiatric units: level of handicap, psychiatric diagnoses and care utilization. *Journal of Intellectual Disability Research* **41,** 519–26.

Hand J. E. (1993) Summary of national survey of older people with mental retardation in New Zealand. *Mental Retardation* **31,** 424–8.

Hidalgo C. (1995) *Evaluación neuropsicológica en población adulta afecta de retraso mental*. Universidad de Cádiz, unpublished Doctoral Thesis.

Jordá E., Espinosa J. & Gómez M. (1986) Estudio de los pacientes de larga estancia internados en ocho hospitales psiquiátricos españoles. In: *Cronicidad en Psiquiatría* (ed. J. Espinosa), pp. 121–236. Asociación Española de Neuropsiquiatría, Madrid.

Iverson J. C. & Fox R. A. (1989) Prevalence of psychopathology among mentally retarded adults. *Research and Developmental Disability* **10,** 77–83.

Linaker O. M. & Nitter R. (1990) Psychopathology in institutionalised mentally retarded adults. *British Journal of Psychiatry* **156,** 522–5.

Linaker O. M. (1994) Assaultiveness among institutionalised adults with mental retardation. *British Journal of Psychiatry* **164,** 62–8.

Lobo A., Campos R., Pérez-Echeverría M. J., Izuzquiza J., García-Campayo J., Saz P. & Marcos G. (1993) A new interview for the multiaxial assessment of psychiatric morbidity in medical settings. *Psychological Medicine* **23,** 505–10.

Lund J. (1985) The prevalence of psychiatric morbidity in mentally retarded adults. *Acta Psychiatrica Scandinavica* **72,** 563–70.

Moss S., Patel P., Prosser H., Goldberg D., Simpson N., Rowe S. & Lucchino R. (1993) Psychiatric morbidity in older people with moderato and severe learning disability. *British Journal of Psychiatry* **163,** 471–80.

Moss S., Prosser H., Costello H., Simpson N. & Patel P. (1997) *PAS-ADD Checklist*. Hester Adrian Research Centre, University of Manchester, Manchester.

Myers B. A. & Pueschel S. M. (1991) Psychiatric disorders in persons with Down syndrome. *Journal of Nervous and Mental Disease* **179,** 609–13.

Newman D. L., Moffitt T. E., Caspi A., Magdol L., Silva P. A. & Stanton W. R. (1996) Psychiatric disorder in a birth cohort of young adults: prevalence, comorbidity, clinical significance and new case incidence from ages 11–21. *Journal of Consulting and Clinical Psychology* **64,** 552–62.

Pary R. J. (1993) Acute psychiatric hospital admissions of adults and elderly adults with mental retardation. *American Journal of Mental Retardation* **98,** 434–6.

Pérez-Marín J., Alonso F. & Salvador L. (1997) *Integración y promoción de las personas con Retraso Mental*. PROMI, Cabra (Córdoba).

Prosser H., Moss S., Costello N., Simpson N. & Patel P. (1997) *The Mini PAS-ADD: a preliminary assessment schedule for the detection of mental health problems in adults with learning disabilities.* Hester Adrian Research Centre, University of Manchester, Manchester:

Reiss S. (1990) Prevalence of dual diagnosis in community-based day programs in the Chicago metropolitan area. *American Journal of Mental Retardaion* **94,** 578–85.

Reiss S. & Aman M. G. (eds) (1998) *The International Consensus Handbook. Psychotropic Medications and Developmental Disabilities*. The Ohio State University Nisonger Center, Ohio.

Robins L. N., Locke B. Z. & Regier D. A. (1991) An overview of psychiatric disorders in America. In: *Psychiatric Disorders in America* (eds R. N. Robins & D. A. Regier), Free Press, New York, NY.

Rodríguez de Molina M. (1994) *Evaluación de la comorbilidad de trastornos psiquiátricos en el Retraso Mental en el medio laboral*. PhD Thesis. Universidad de Cádiz, Cádiz.

Salvador-Carulla L., García-Mellado M. J., Romero C. & Montero S. (1995) *Evaluación Psicosocial Del Retraso Mental*. Instituto Nacional de Servicios Sociales, Madrid.

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

Soler P. A. & Gascón J. (1994) *Recomendaciones terapéuticas básicas en los trastornos mentales*. Masson-Salvat Medicina, Barcelona.

Received 30 September 1999