Can adjustment disorder and depressive episodes be distinguished? Results from ODIN

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Abstract

Background: No large-scale epidemiological study has included adjustment disorders (AD) for consideration yet it is considered to be a common psychiatric diagnosis.
Methods: Using a two stage screening method, those above a threshold score for possible caseness on the Beck Depression Inventory (BDI), were interviewed using SCAN to identify those with depressive episode and AD. Variables that might distinguish AD from depressive episode were examined.
Results: The prevalence of AD was extremely low with one center having no cases. Finland, the country with the highest prevalence, only achieved a frequency of 0.8 and 1% respectively for urban and rural sites. Logistic regression failed to identify any variables that independently differentiated AD from depressive episode. Findings relating to severity of symptoms using BDI were robust.
Limitations: The small sample size might have contributed to a failure to identify distinguishing features between AD.
Conclusions: Reasons for the failure of even robust results, such as BDI severity, to distinguish AD from depressive episode are considered of which problems in conceptualizing AD are the most likely. Further studies are required.

Keywords: Adjustment disorder. Depression. Symptom severity.

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Adjustment disorder with depressive symptoms (AD) is a recognized psychiatric disorder, being included in both ICD-10 (1992) and DSM-IV (1994). However, neither specify in any detail the diagnostic criteria and both regard it is a diagnosis that is made when the person does not meet the criteria for any more specific diagnosis such as depressive episode or major or minor depression.

In spite of the acknowledgement in DSM-IV that adjustment disorders are common there has been a dearth of research on them and none of the major epidemiological studies such as the ECA (Myers et al 1984), the National Co-morbidity Survey (Kessler et al. 1994) or the Household Survey (Jenkins et al 1997) have included adjustment disorders among their putative diagnoses. In fact most of the diagnostic instruments used in these studies to not incorporate adjustment disorders, with the exception of the Structured Clinical Assessment in Neuropsychiatry (SCAN) (Wing 1990) although it only incorporates it at the end in the section on Inferences and Attributions. The ODIN study was unique in including this diagnostic category as one of the depressive disorders of interest.

The aim of the present study was to identify the clinical and demographic variables that distinguish depressive episode and adjustment disorder from each other. It was hypothesized that there would be little distinction between adjustment disorder and mild depressive episode but that the difference between adjustment disorder and moderately severe depressive episode would be significant on a number of these variables.

Methods

The methods for this study have been described in detail elsewhere (Dowrick et al 1998) but will be summarised here for clarity.

Screening, diagnosis and risk factors: Adults aged between 18 and 64 were selected from the census register in urban and rural sites in Ireland, Britain, Norway, Finland, and from an urban site only in Spain. The sample was screened for depressive disorder using the Beck Depression Inventory (BDI) (Beck et al 1961). Those scoring above the cut-off of 13 were then offered a diagnostic interview, using the Schedule for Clinical Assessment in Neuropsychiatry (SCAN)(WHO 1990). The ICD-10 (WHO 1992) diagnoses of interest were single and recurrent depressive episodes (mild, moderate and severe), bipolar and persistent mood disorders and adjustment disorder with depressive features. All SCAN cases were re-assessed 6 and 12 months after the initial diagnostic interview.

The diagnoses of specific interest in this study were mild and moderate depressive episode.(single and recurrent) and adjustment disorder with depressive features.

In addition subjects completed a measure of social support – The Oslo Social Support Scale (Nosikov and Gudex 2003). This measured perceived concern shown be others

(from none to a lot 1-5), ease in obtaining practical help from neighbours (from very difficult to very easy 1-5) and people to count on when serious personal problems arise (none to 5 or more 1-4**).** For the purpose of statistical analysis these were collapsed into binary variables. Life events over the previous 6 months were measured by the List of Threatening experiences (Brugha et al 1985) in which the person responds yes or no to a list of 12 events). Socio-demographic details including age, sex, marital status were also obtained. Those instruments not already available in the language of the subjects were translated by the study group and then back translated by a professional translator.

Personality Assessment: Personality was assessed using the Personality Assessment Schedule (PAS) (Tyrer and Alexander 1979). Only those who were SCAN positive for any depressive disorder were assessed and this took place at the time of the 2nd. SCAN interview since a sizeable proportion would have recovered by then, minimising the possibility of contamination by axis 1 symptoms. The PAS is a structured interview in which 24 personality traits are rated on a 9-point. Scale. A computer programme generates a categorical diagnosis for ICD-10 coded for this study as a binary variable either present or absent.

Social Function Schedule: Social function was measured using the Social Functioning Schedule (SFS) (Remington and Tyrer 1979). The interview takes about 15 minutes and twelve areas of functioning are assessed on a visual analogue scale, covering the previous month. A composite score is generated with a high score indicating the greatest impairment. A score less than the mean is coded 0 and above the mean is coded 1 in the tables below.

Training and Quality Assurance: All interviewers were trained in the use of the PAS and SCAN by approved trainers.

Statistical analysis: Data was analysed using SPSS for windows (12.0). Weighted prevalence and logistic regression estimates were carried out using STATA Release 8.1 (Stata Corporation 2002) after allowing for the two-phase sampling procedure and different response rates across sites (Dunn et al 1999).

Results

14,387 people were screened by postal questionnaire for depressive disorders. Of the first phase responders (n=8862 representing a 65% response rate) those scoring at or above the cut-off of 13 were interviewed face-to-face using SCAN and a diagnosis of one of the depressive disorders made. Some 73% responded to this second phase. Non-responders were more likely to be male, young and socio-economically disadvantaged.

The overall weighted prevalence of depressive episode (single or recurrent) was 6.6% (95% CI 5.4-8.4) and for adjustment disorder was 0.3% (95% CI 0.1-0.5). The prevalence of each for the various sites is shown in table 1.

Table 1 near here

One center, UK, had no case of adjustment disorder and all but Finland had very low rates so it was decided to concentrate the analysis on the Finnish sample where the weighted prevalence for adjustment disorder was 0.8% (95% CI 0.3-1.8) for the urban and 1% (95% CI 0.5-2.1) for the rural site.

Tables 2 and 3 near here

Tables 2 and 3 show the profile of those with AD and the variables that distinguish (or showed a trend toward) those with AD from mild and moderately severe depressive episode and from both combined.

A few variables distinguished each of the three categories of depressive episode from adjustment disorder and these included personality disorder, concern shown by others and item 20 of the BDI. However, a number of other items from the BDI and others relating to help from neighbours and continuing caseness at time 2 showed a trend towards significance.

In order to evaluate the independent contribution of the variables to the distinction between adjustment disorder and depressive episode, a logistic regression analysis was carried out controlling for location (urban/rural), age, sex and marital status. No significant variables were identified that independently distinguished AD from any of the depressive categories although there was a trend towards personality disorder being significant for AD when compared to mild depressive episode (OR 7.71, $p<0.07$, 95% CI 0.83-71.8) and for AD compared to the combined (mild and moderate) depressive diagnoses (OR 7.29, $p<0.08$, 95% CI 0.80-66.8) although the confidence intervals were very wide. Of interest was the failure to find a significant difference in BDI score at time one between AD and the various categories of depressive episode. Moreover, notwithstanding the small sample size, the odds ratio for this item had narrow confidence intervals for AD compared to mild depressive episode (OR 1.01, $p<0.95$, 95% CI 0.91-1.12) and compared to the combined mild and moderate depression group (OR 1.03, $p<0.48$, 95% CI 0.94-1.13), suggesting that this is likely to be a robust result.

Discussion

This study is unique in being the only large epidemiological studies to include AD as one of the putative diagnoses among the range of depressive disorders that also included mild and moderate depressive episode, dysthymic and bipolar disorder. It therefore provides an opportunity to examine the possible overlap between the diagnoses of depressive episode (mild and moderate) and AD and also to examine the independent relationship between a number of variables known to be associated with these diagnoses.

There are a number of weaknesses in this study also of which the small number diagnosed with AD and moderate depressive episode are the most obvious. This

significantly reduces the power to detect differences between the diagnostic subgroups and it is possible that the failure to find distinguishing features between AD and mild or moderate depressive episode represents a type 2 error. However, by exploring further those variables that had narrow confidence intervals it is possible to identify at least some results that were robust and BDI score at time 1 is of importance in this regard.

AD is a diagnosis that has been shown to be common in primary care populations (Blacker and Clare 1988), in out-patient and in-patient samples (APA 1994) as well as in certain subgroups such as those involved in deliberate self-harm (Schnyder and Valach 1997) and those with physical illness (Strain et al 1998). It was therefore anticipated that it would be a relatively common diagnosis. However, in spite of the large sample of over 14,000 that was initially screened, its low frequency in all sites was a surprise and, even Finland the country with the highest prevalence only achieved figures of 0.8 and 1% respectively for urban and rural sites. As AD is under-researched and not included in any of the other major epidemiological studies there is no empirical information to assist in understanding the present findings.

Three possible explanations for the low prevalence present themselves. Although SCAN includes AD among its diagnoses, the prevalence found in this study might be a reflection of the limitations of SCAN in detecting AD, notwithstanding the extensive training that the ODIN group received in using SCAN (Dowrick et al 1998). One concern is that it is diagnosed only at the end of the interview in the section entitled Inferences and Attributions but with little guidance on how to distinguish AD from depressive episode except that the symptoms must have been rated in the earlier sections on depression, anxiety etc. and that the criteria for other disorders must not have been met although clinical judgment must also be applied. The lack of specific criteria for AD may be responsible for some of the difficulties in diagnosing this disorder when compared to other depressive disorder diagnoses (Rohde et al 1997) coupled with the hierarchical nature of diagnosis in SCAN. This warrants further study.

A second possibility is that the failure to diagnose AD, represents a wider problem with how such disorders are conceptualized. Since both ICD-10 and DSM-IV state that AD should not be diagnosed when the duration or severity thresholds for other more specific disorders are reached, the finding in the present study that severity of BDI score at the outset did not distinguish AD from mild depressive episode or from the combined depressive episodes, suggests that the two are being conflated, with an over- reliance on symptom numbers and duration at the expense of context and symptom configuration. This “cook-book” approach lends weight to the view that the expansion of depressive episode and of major depression may now be encompassing self-limiting periods of low mood that are triggered by stressful events (Regier et al 1998; Parker 2005) resulting, inevitably, in a failure to distinguish AD from depressive episodes. In light of the findings regarding symptom severity in the present study further study is required, since the high prevalence of depressive episodes found in this (Ayuso-Mateos et al 2001)and other studies (Kessler et al 1994; Jenkins et al 1997) has implications for treatment and resource allocation.

A further possible reason for the low prevalence rests with the methods of case identification used in ODIN. As it adopted a two stage screening strategy it is possible that those with AD, although initially screening positive for possible depressive disorder, may not have met the criteria for SCAN caseness at the subsequent interview, due to spontaneous symptom resolution that is the hallmark of AD. However, other two-stage screening studies (Blacker and Clare 1988) found a high prevalence for AD of 17%. Moreover, in the present study the SCAN interview took place within two weeks of completing the BDI and as it measures symptoms that have been present in the previous month the likelihood of missing disorders with spontaneous resolution is reduced.

In conclusion, the failure to find any variable that independently distinguished AD from depressive episodes was unexpected but the power to detect differences was compromised by the small sample size and possibly by problems in conceptualising AD as evidenced by symptom severity results across the diagnostic groups. Clearly further studies are required with larger samples.

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Table 1 Weighted prevalence (%) for depressive episode and adjustment disorder by site

	Depressive episode		Adjustment disorder	
	π^*	95%CI	π^*	95%CI
Finland – urban	4.7	3.0-7.3	0.8	0.3-1.8
rural	4.1	1.7-9.1	1.0	0.5-2.1
Ireland – urban	8.9	3.8-19.4	0.4	0.05-3.5
rural	6.2	2.8-13.2	-	
Norway – urban	7.0	4.6-10.4	0.2	0.03-1.9
rural	8.4	4.0-16.8	-	
Spain – urban	1.8	1.1-3.0	0.2	0.09-0.9
Britain – urban	15.0	8.8-24.4	-	
rural	4.8	3.1-7.3	-	
Total	6.6	5.4-8.4	0.3	0.1-0.5

π^*: Weighted prevalence (%)

Table 2: Descriptive statistics for variables associated with disorder-ICD10 in Finland

	Variable	AD (N=16) N (%)	MoDD (N=8) N (%)	MiDD (N=40) N (%)
Urban/rural	Urban	6 (37.5)	7 (87.5)	23 (57.5)
	Rural	10 (62.5)	1 (12.5)	17 (42.5)
Gender	Male	2 (12.5)	3 (37.5)	11 (27.5)
	Female	14 (87.5)	5 (62.5)	29 (72.5)
Marital status	Single	1 (6.25)	1 (12.5)	6 (15)
	Married, divorced, others	15 (93.75)	7 (87.5)	34 (85)
Age	<30	1 (6.25)	1 (12.5)	6 (15)
	<=30	15 (93.75)	7 (87.5)	34 (85)
BDI score at t1	<13	1 (6.25)	1 (12.5)	5 (12.5)
	>=13	15 (93.75)	7 (87.5)	35 (87.5)
People to count on	<=2	13 (81.25)	8 (100)	33 (82.5)
	>2	3 (18.75)	0	7 (17.5)
Concern by others	Lots, some	10 (62.5)	1 (12.5)	21 (52.5)
	Uncertain, little, none	6 (37.5)	7 (87.5)	19 (47.5)
Help with neighbour	Very easy, easy, possible	12 (75)	3 (37.5)	26 (65)
	Difficult, very difficult	4 (25)	5 (62.5)	14 (35)
Number of life events	0	4 (25)	1 (14.29)	13 (33.33)
	>=1	12 (75)	6 (85.71)	26 (66.67)
Social function score	0	2 (12.5)	0	5 (12.5)
	>=1	14 (87.5)	8 (100)	35 (87.5)
Presence of confident	Yes	2 (12.5)	2 (25)	2 (5)
	No	14 (87.5)	6 (75)	38 (95)
Score of diffuse support	<=4	2 (12.5)	2 (25)	7 (17.5)
	>4	14 (87.5)	6 (75)	33 (82.5)
Attended scan at t2	Attended	15 (93.75)	4 (50)	34 (85)
	Otherwise	1 (6.25)	4 (50)	6 (15)
Depressed at scan2	Yes	11 (78.57)	1 (25)	21 (61.76)
	No	3 (21.43)	3 (75)	13 (38.24)
Abnormal personality	Yes	13 (92.86)	3 (75)	22 (64.71)
	No	1 (7.14)	1 (25)	12 (35.29)
BDI question 1	0	1 (6.25)	2 (25)	9 (22.5)
	>=1	15 (93.75)	6 (75)	31 (77.5)
BDI question 2	0	3 (18.75)	2 (25)	6 (15)
	>=1	13 (81.25)	6 (75)	34 (85)
BDIquestion 3	0	3 (21.43)	2 (25)	15 (37.5)
	>=1	11 (78.57)	6 (75)	25 (62.5)
BDI question 4	0	0	1 (12.5)	2 (5)
	>=1	16 (100)	7 (87.5)	38 (95)
BDI question 5	0	3 (18.75)	1 (12.5)	18 (45)
	>=1	13 (81.25)	7 (87.5)	22 (55)
BDI question 6	0	8 (50)	4 (50)	30 (75)
	>=1	8 (50)	4 (50)	10 (25)
BDI question 7	0	2 (12.5)	1 (12.5)	15 (37.5)
	>=1	14 (87.5)	7 (87.5)	25 (62.5)
BDI question 8	0	1 (6.25)	0	7 (14.89)
	>=1	15 (93.75)	8 (100)	40 (85.11)
BDI question 9	0	9 (56.25)	3 (37.5)	21 (52.5)
	>=1	7 (43.75)	5 (62.5)	19 (47.5)
BDI question 10	0	8 (50)	1 (12.5)	16 (40)
	>=1	8 (50)	7 (87.5)	24 (60)
BDI question 11	0	3 (18.75)	1 (12.5)	6 (15)
	>=1	13 (81.25)	7 (87.5)	34 (85)
BDI question 12	0	4 (25)	2 (25)	10 (25)
	>=1	12 (75)	6 (75)	30 (75)
BDI question 13	0	1 (6.25	3 (37.5)	8 (20)
	>=1	15 (93.75)	5 (62.5)	32 (80)
BDI question 14	0	6 (37.5)	3 (37.5)	12 (30)
	>=1	10 (62.5)	5 (62.5)	28 (70)
BDI question 15	0	4 (25)	3 (37.5)	10 (25)
	>=1	12 (75)	5 (62.5)	30 (75)
BDI question 16	0	2 (12.5)	2 (25)	8 (20)
	>=1	14 (87.5)	6 (75)	32 (80)
BDI question 17	0	1 (6.25)	1 (14.29)	1 (2.5)
	>=1	15 (93.75)	6 (85.71)	39 (97.5)
BDI question 18	0	11 (68.75)	5 (62.5)	25 (64.10)
	>=1	5 (31.25	3 (37.5)	14 (35.9)

BDI question 19	0	10 (66.67)	6 (75)	28 (73.68)
	>=1	5 (33.33)	2 (25)	10 (26.32)
BDI question 20	0	3 (18.75)	5 (62.5)	12 (30)
	>=1	13 (81.25)	3 (37.5)	28 (70)
BDI question 21	0	2 (12.5)	1 (12.5)	10 (25.64)
	>=1	14 (87.5)	7 (87.5)	29 (74.36)

AD: adjustment disorder, MoDD: moderate depressive disorder, MiDD: mild depressive disorder

Table 3 Univariate analysis of variables significantly (or showing a trend) associated with AD (i.e. AD versus M_oDD, M_iDD, or DD) in Finland

	N=24 AD=16,M_ODD=8	N=56 AD=16,M_iDD=40	N=64 AD=16,DD=48
Rural/Urban	P=0.03	P=0.15	**P=0.09**
Concern by others	**P=0.03**	P=0.35	P=0.39
Help from neighbours	**P=0.09**	P=0.35	P=0.38
Attended scan at t2	**P=0.03**	P=0.35	P=0.26
Depressed at scan2	**P=0.08**	P=0.22	P=0.21
Abnormal personality	P=0.41	**P=0.04**	**P=0.08**
BDIQessionare5	P=0.59	**P=0.06**	P=0.22
BDIQessionare6	P=0.67	**P=0.07**	P=0.14
BDIQessionare7	P=0.72	**P=0.06**	P=0.20
BDIQessionare10	**P=0.09**	P=0.35	P=0.38
BDIQessionare13	**P=0.09**	P=0.19	P=0.27
BDIQessionare20	**P=0.05**	P=0.31	P=0.35

AD: adjustment disorder
M_oDD: moderate depressive disorder
M_iDD: mild depressive disorder
DD: depressive disorder
P: Fisher's exact tests