

RELAPSE OF DEPRESSION IN PEOPLE WITH DOWN'S SYNDROME

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Introduction

Although psychiatric studies have been conducted amongst children with Down's syndrome (Menolascino, 1965; Menolascino, 1970; Gath and Gumley, 1986), few studies have examined psychiatric illness amongst Down's syndrome adults. Individuals with Down's syndrome are known to be vulnerable to the mental disorders associated with hypothyroidism (Murdoch *et al.*, 1977). Similarly, histopathological changes of Alzheimer's disease are recognised to occur in middle aged people with Down's syndrome (Jervis, 1948; Mann, 1988), and clinical dementia has been reported amongst the elderly (Zigman *et al.*, 1987; Lai and Williams, 1989; Evenhuis, 1990; Collacott, 1992).

In a Danish study, 11 out of 44 adults with Down's syndrome were found to have psychiatric disorders (Lund, 1988). An uncontrolled study of children and adults with Down's syndrome living in Rhode Island, described

164 adult out-patient attendees, of whom 11 were said to have a diagnosis of depression (Myers and Pueschel, 1991). Collacott *et al.* (1992) reported 11% of adults with Down's syndrome to have a history of depression, out of the total population of 378 adults with the syndrome living in Leicestershire. There have additionally been several case report descriptions of depression occurring in people with Down's syndrome (Roith, 1961; Reid, 1972; Keegan *et al.*, 1974; Sovner and Desnoyers Hurley, 1983; Sovner *et al.*, 1985; Warren *et al.*, 1989; Storm, 1990; Lazarus *et al.*, 1990).

Despite the recent reports of high rates of depressive episodes occurring in this group, there is little knowledge of the natural history of the illness in Down's syndrome. Depression has been linked to low adaptive behaviour skills some years after return to euthymia (Collacott and Cooper, 1992). This occurs particularly, the earlier the age of the individual at

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onset of the first depressive episode (Cooper and Collacott, 1993). We have been unable to find any reports describing features that are associated with recurrence of the depression, in people with Down's syndrome. Identification of such features would provide a prognostic indicator, for use in clinical practice.

Method

Within Leicestershire, the population of adults with Down's syndrome had been previously determined to be 378. The psychiatric case notes held by the learning disability service were reviewed for all 378 individuals. Those adults with a known past history of depression were so identified. There are no standard criteria for the diagnosis of mental illness in people with learning disabilities. Hence, a diagnosis of depression was based on the documented symptoms and signs matching the descriptive guidelines in ICD-9, for manic depressive psychosis, depressed type or neurotic depression, in the opinion of both authors.

The adults identified to have a past history of depression were then divided into two groups. The "single episode group" comprised those who had had just one depressive episode. The "recurrent episode" group comprised those individuals who had had more than one episode of depression. Individuals in the single episode group who had been followed up for less than five years were excluded, as the course that their future

illness profile would take is yet to be established.

The characteristics of the two groups were compared, in order to determine which features are associated with relapse of depression. Comparison was made between sex and age of the individuals, symptoms and signs documented during the episodes, the identification of associated life events, and the duration of the episode.

Statistically significant differences between the two groups were sought by employing the X^2 test, Mann-Whitney U test and t-test.

Results

Number of subjects and depressive episodes

Forty-two subjects were identified who have a past history of depression. These 42 adults have sustained 56 depressive episodes. Eight individuals have sustained recurrent depressive episodes (22 episodes), whereas 34 individuals had just a single episode of depression. Of the 34 adults who had sustained a single episode of depression, 18 have been followed up for at least five years, with no depressive recurrence. The comparison was therefore made between the 18 adults who have had a single episode of depression (and have been followed up for more than five years), and the eight individuals with recurrent depressive episodes. Of the 26 adults in the study group, eight lived in long stay National Health Service facilities, whilst 18 resided in the community.

Age and sex

In the single episode group, 11 out of the 18 individuals were female, compared to an equal sex representation in the current episode group ($X^2 = 0.28$; D.F. = 1; $P = N.S.$). The mean age at first depressive episode was younger for individuals who had just a single episode, at 26.2 years, compared to a mean age of 36.5 years for those with recurrent depressive episodes ($t = 2.01$; D.F. = 24; $P = 0.056$).

Duration of episodes

TABLE I demonstrates the duration of episodes. It can be seen that for individuals with a single episode of depression, the episode was more likely to be of longer duration than for individuals in whom depression was recurrent ($P = 0.006$).

Life Events

In some cases, a life event was recorded by the psychiatrist, as being associated with the depressive episode. Such

life events were recorded in association with eight of the 18 episodes in the single episode group, but prior to only three of the 22 episodes in the recurrent group ($X^2 = 4.71$; D.F. = 1; $P = 0.030$). Life events most commonly documented were relationship problems within the family or with close friends, and change in residence +/- carer.

Depressive symptoms and signs

Overall, certain symptoms and signs were noted to occur more commonly than others. These were depressed affect, social withdrawal, anhedonia, tearfulness, reduced energy, psychomotor retardation, loss of appetite, regression of self care skills, hypochondrias and reduced speech. Comparison of the two groups revealed that certain symptoms occurred more commonly in one or other of the groups. The frequency of such features is documented in TABLE II. During episodes, individuals whose episodes of depression recurred, more frequently sustained anhedonia ($X^2 = 6.08$; D.F. = 1; $P = 0.014$), loss of appetite ($X^2 = 4.64$; D.F. = 1; $P = 0.031$), and

TABLE I
Duration of depressive episodes in the two groups

	* Single episode group (n = 18)	** Recurrent episode group (n = 22)
< 3 months	3	7
3 - 6 months	1	8
6 - 12 months	0	2
1 - 2 years	3	2
> 2 years	9	2

* duration unknown in 2 cases; ** duration unknown in 1 case.

Mann-Whitney U test = 255.500; $P = 0.006$

TABLE II
Symptoms found to occur at different rates in the two groups

	Single episode group (n = 18)	Recurrent episode group (n = 22)	P
Anhedonia	8	18	0.014
Mid-insomnia	1	8	0.020
Reduced appetite	7	16	0.031
Weight loss	3	8	N.S.
Diurnal mood variation	3	8	N.S.
Reduced self care	10	5	0.033
Irritability	8	0	<0.001
Aggression	10	2	N.S.

mid-insomnia ($X^2 = 5.39$; D.F. = 1; $P = 0.020$). Weight loss and diurnal mood variation were also considerably more common, although differences did not reach statistical significance. Individuals who had just one episode of depression were more likely to lose self care skills ($X^2 = 4.55$; D.F. = 1; $P = 0.033$), and to have irritability of mood whilst during episode ($X^2 = 12.22$; D.F. = 1; $P < 0.001$).

Discussion

For people with Down's syndrome, recurrence of depressive illness occurred in those who had their first depressive episode at an older age, and who had episodes of shorter duration, when compared to those who had only one episode of depression. People whose depression recurred were less likely to have life events associated with the episodes, and were more likely to experience anhedonia, mid-insomnia, reduced appetite, weight loss and diurnal mood

variation, when compared to those who had just a single episode of depression. Patients with the clinical profile of irritability and loss of self care skills are less likely to have a recurrence of their illness.

There is value in determining the characteristics that constitute "good prognostic" and "poor prognostic" indicators for individuals with Down's syndrome who become depressed. The treatment of depression involves the use of physical methods (drugs/E.C.T.), supportive psychotherapy and manipulation of social circumstances. In some cases, more specialized psychotherapies or social therapy may be required. If an individual presents certain poor prognostic indicators during an episode of depression, this may point to the importance of examining psychological and social factors in detail. Support for the carer becomes even more crucial. Knowledge of prognosis can itself be helpful; the unknown may often be more frightening than an awareness that similar discrete episodes of ill health are possible in the future.

This study indicates the need for further work in this area. It gives evidence to suggest a concept of "good prognosis depression" and "poor prognosis depression" occurring in people with Down's syndrome. Retrospective studies of this nature have inherent problems. In particular, analysis of clinically recorded life events occurring in association with depression, is difficult. However, the differences found between the two groups of subjects are, in some cases, striking, and warrant awareness amongst practising psychiatrists and allied professionals.

Summary

Forty-two adults with Down's syndrome living in Leicestershire have a past history of depression. Of these, 18 have had a single episode of depression and have been followed up for at least five years, and eight have had recurrent depressive episodes (22 episodes). Several characteristics are found to be associated with relapse of depression. Older age of onset of the first depressive illness, and short duration of episode are linked with future recurrence of depression. People whose depression becomes recurrent are less likely to have associated life events identified during the episode, and are more likely to demonstrate the "biological" features of depression with anhedonia. A clinical profile including irritability and loss of self care skills renders recurrence of depression less likely.

References

- Collacott, R. A. (1992). The effect of age and residential placement on adaptive behaviour of adults with Down's syndrome. *British Journal of Psychiatry*, 161, 675-679.
- Collacott, R. A. and Cooper, S.-A. (1992). Adaptive behaviour after depressive illness in Down's syndrome. *Journal of Nervous and Mental Disease*, 180, 468-470.
- Collacott, R. A., Cooper, S.-A. and McGrother, C. (1992). Differential rates of psychiatric disorders in adults with Down's syndrome compared to other mentally handicapped adults. *British Journal of Psychiatry*, 161, 671-674.
- Cooper, S.-A. and Collacott, R. A. (1993). The prognosis of depression in Down's syndrome. *Journal of Nervous and Mental Disease*, 181, 204-205.
- Evenhuis, H. M. (1990). The natural history of dementia in Down's syndrome. *Archives of Neurology*, 47, 263-267.
- Gath, A. and Gumley, D. (1986). Behavioural problems in retarded children with special reference to Down's syndrome. *British Journal of Psychiatry*, 149, 156-161.
- Jervis, G. A. (1948). Early senile mongoloid idiocy. *American Journal of Psychiatry*, 105, 102-106.
- Keegan, D. L., Pettigrew, A. and Parker, Z. (1974). Psychosis in Down's syndrome treated with amitriptyline. *Canadian Medical Association Journal*, 110, 1128-1129.
- Lai, F. and Williams, R. S. (1989). A prospective study of Alzheimer's disease in Down's syndrome. *Archives of neurology*, 46, 849-853.
- Lazarus, A., Jaffe, R. L. and Dubin, W. R. (1990). Electroconvulsive therapy and major depression. *Journal of Clinical Psychiatry*, 51, 422-425.
- Lund, J. (1988). Psychiatric aspects of Down's syndrome. *Acta psychiatrica Scandinavica*, 78, 369-374.
- Mann, D. M. A. (1988). Alzheimer's disease and Down's syndrome. *Histopathology*, 13, 125-137.

- Menolascino, F. J.** (1965). Psychiatric aspects of mongolism. *American Journal of Mental Deficiency*, 69, 653-660.
- Menolascino, F. J.** (1970). Down's syndrome: clinical and psychiatric findings in an institutionalized sample. *Psychiatric Approaches to Mental Retardation*. Ed. FJ Menolascino, New York: Basic Books.
- Murdoch, J. C., Ratcliffe, W. A., McLarty, D. G., Rodgers, J. C. and Ratcliffe, J. G.** (1977). Thyroid function in adults with Down's syndrome. *Journal of Clinical Endocrinology*, 44, 453-458.
- Myers, B. A. and Pueschel, S. M.** (1991). Psychiatric disorders in persons with Down's syndrome. *Journal of Nervous and Mental Disease*, 179, 609-613.
- Reid, A. H.** (1972). Psychosis in adult mental defectives I: Manic-depressive psychosis. *British Journal of Psychiatry*, 120, 205-212.
- Roith, A. I.** (1961). Psychotic depression in a mongol. *Journal of Mental Subnormality*, 7, 45-47.
- Sovner, R. and Desnoyers Hurley, A. D.** (1983). Do the mentally retarded suffer from affective disorders? *Archives of General Psychiatry*, 40, 61-67.
- Sovner, R., Desnoyers Hurley, A. D. and Labrie, R.** (1985). Is mania incompatible with Down's syndrome? *British Journal of Psychiatry*, 146, 319-320.
- Storm, W.** (1990). Differential diagnosis and treatment of depressive features in Down's syndrome: a case illustration. *Research in Developmental Disabilities*, 11, 131-137.
- Warren, A. C., Holroyd, S. and Folstein, M. F.** (1989). Major depression of Down's syndrome. *British Journal of Psychiatry*, 155, 202-205.
- Zigman, W. B., Schupf, N., Lubin, R. A. and Silverman, W. P.** (1987). Premature regression of adults with Down's syndrome. *American Journal of Mental Deficiency*, 92, 161-168.