

Mental health case-management significantly reduces hospital admissions and bed days in adults with Type 1 Diabetes Mellitus

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Background and Aims

There is growing evidence of an association between mental health problems and recurrent hyperglycaemia and diabetic ketoacidosis in patients with type 1 diabetes mellitus (T1DM). A recent systematic review showed limited evidence for the use of mental health interventions to reduce acute diabetes presentations, with no specific studies focusing on T1DM population.

We aim to describe the effects of case-management mental health approach to reduce readmissions, hospital bed days and HbA1c for T1DM patients.

Methods

T1DM patients, readmitted to three acute hospitals in East London for diabetes-related issues with at least one previous hospital presentation in the prior year were offered a pilot intervention with case-management by a Consultant Psychiatrist specialised in diabetes.

Case-management includes:

- Treatment of underlying mental health problems
- Psychotherapeutic approach to understand the causes of admissions and where necessary, increase self-management of diabetes.

Outcome measures

Hospital attendance rates, hospital bed days, glycaemic control (HbA1c)

Case-management

1st session:
Assessment
2 x 1 hour sessions



Monthly:
Face to face
Total of 12-18 months

Mental health
- Prior and current diagnoses
- Treatment plan

Diabetes Management
- General understanding of diabetes (testing, regimen, adherence)
- Establish the link between mental health and self management

Relationship
- Establish a therapeutic relationship to act as conduit to wider department

Social aspects
- Housing, income support
- Support with application and appeals

MH 1: Depression/ Anxiety / Psychotic illness: Psycho-pharmacological treatment

MH 2: Substance Misuse issues: Psycho-education links with MH and diabetes self-management

MH 3: Personality disorders: Psycho-therapeutic approach

Results

20 patients agreed to mental health intervention. 15 of them were females and the median age was 27 (IQR 22-38) years. All participants had ≥ 1 mental health diagnoses. The mean duration of diabetes was 10.7 years. The mean length of treatment was 15 \pm 6 months.

Outcomes:

Hospital attendance rates:

In two years prior to intervention, the mean number of hospital admissions was 9.5 \pm 8.4 episodes. Following intervention, this significantly reduced to 3.9 \pm 5.3 episodes, $p < 0.05$. Approximately 75% of attendances were diabetes-related with considerable overlap with non-diabetes attendances.

Hospital bed days:

Before treatment, the median bed days was 0.69 days/month (IQR 0.30-0.96) and post-treatment was 0.17 days/month (IQR 0.00-0.98), $p = 0.029$. Estimated 125 bed days saved over 12 months and the total cost saved from this was £159, 875.

Glycaemic control (HbA1c levels):

The mean pre- and post-treatment HbA1c was 102 \pm 24 and 94 \pm 19 mmol/mol ($p = 0.250$).

Conclusion

Specialist mental health case-management can significantly reduce all hospital attendances, hospital bed days and recurrent admissions in T1DM population.