Cross-sectional survey of depression and anxiety in a diabetes clinic population: levels and role in blood sugar control

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Introduction

Diabetes is a common, chronic condition which despite support from a multi-disciplinary team, adds a significant burden of responsibility to the individual. As a result, many people with diabetes have poor psychological wellbeing and are twice as likely to suffer from depression as the general population (1). This is particularly important to address as studies have shown that diabetes and co-morbid depression lead to poorer clinical outcomes (2).
Furthermore, reports show that 85% of people with diabetes do not have access to specialist psychology services with fewer than 3% of diabetes services meeting the psychologically relevant NSF standards and NICE (3). The NSF standards emphasise the importance of supporting diabetics in their psychological development and in maintaining good diabetic control. It is therefore essential to identify and cater for the psychological needs of the diabetic population.

The aims of the study were to:

- To establish the prevalence of depression and anxiety within the clinic and the effects on diabetic control and clinical outcomes.
- To make visible the extent and range of need for access to specialist psychology services within the clinic.

Methods

142 diabetic patients (type 1 diabetes n=67, type 2 diabetes n=60) attending outpatient clinic at the Royal Free Hospital gave their consent to participate.

Depression and anxiety were measured using the PHQ-2 (patient health questionnaire) and the GAD-2 (general anxiety disorder) respectively. The PHQ-2 score is based on DSM-IV criteria and has a sensitivity of 89.2% and a specificity of 90% for major depression in comparison to mental health interviews by professionals. Other psychological components assessed were fear of hypoglycaemia and eating disorder.

The data was supported with questions on patient characteristics and clinical outcomes. These included items on diabetes complications and self-management behaviours (i.e. home blood glucose monitoring, HbA1c, frequency of injections, diet and treatment satisfaction).

The data were analysed using SPSS for Windows. Comparisons of continuous variables was by T-test and categorical data was compared using the Chi-square test. Anxiety and depression were correlated using Pearson's test. A significance level of 95% was used.

Conclusions

From this data, it can be seen that there is a high prevalence of depression (27%) and anxiety (20%), which is more than double the population level (8-12%) (4). It is also evident that depression leads to significantly poorer self-management behaviours, with increased odds of: higher number of complications, higher self reported blood glucose levels and poorer self-monitoring of blood sugar levels. By identifying and intervening to reduce depression in this population, it is possible to improve their glucose control and therefore improve long term clinical outcomes as well as dealing with their psychological disorder.
There is also an association of depression with fear of hypoglycaemia and eating problems, which can also contribute to poorer clinical outcomes.
Patients with depression also suffer from increased incidences of severe hypoglycaemia, including loss of consciousness or a fit. These can have disastrous consequences and so it is essential to treat any possible underlying causes such as depression.
90% of the clinic population also felt that having psychological services by staff that know about their diabetes is important with the majority saying it is very important.
This gives an evidence base for a greater level of psychological service provision tailored to the patients' needs. The data also emphasises the importance for physicians to actively screen for depression.

References:
1) Minding the gap - the provision of psychological support and care (Dec 2008)
2) Lustman PJ, Anderson RJ, Freedland KE, de Groot M, Carney RM, Clouse RE: Depression and poor glycemic control. Diabetes Care 2000, 23(7):934-42.
3) National services framework (NSF) for diabetes (2008)
4) Office for National Statistics Psychiatric Morbidity report (2001)

Results

The prevalence of depression and anxiety are 27% and 20% respectively and there is a strong correlation between these variables (R^2 =0.59) (Fig 1). There are significantly increased odds of having poorer management behaviours and a higher number of complications and self reported high sugar levels in patients with depression, as well as greater prevalence of fear of hypoglycaemia (Fig 2). When asked about the importance of having a clinical psychologist who knows about their diabetes, 20% feel it is moderately important and 70% feel it is very important, whilst only 10% do not see it as important.

	Frequency	Percentage
Depression	39	27
Anxiety	29	20
Sex		
Male	78	54.5
Female	62	43.4
BMI	26.8 (S.D. = 5.8)	
Type of diabetes		
Type 1	67	46.9
Type 2	60	42
Other	8	5.6
Duration of diabetes (years)	17 (S.D. = 13)	
Insulin		
Yes	111	77.6
No	26	18.2
Oral hypoglycaemic agents		
Yes	53	37.1
No	84	58.7
HbA1c	69.5 (S.D. = 23)	

Figure 1: Patients' characteristics and prevalence of psychological disorders

Odds ratios	Depression vs No depression
Self reported high bgl	2.85
Poor self monitoring	3
>3 complications	8.7
Fear of hypoglycaemia	3.4
Severe episodes of hypoglycaemia (daytime)	3.2
Severe episodes of hypoglycaemia (night time)	6
eating out of control	2.82

Figure 2: Odds ratios for depression vs no depression. Bgl = blood glucose level. Significance P <0.05

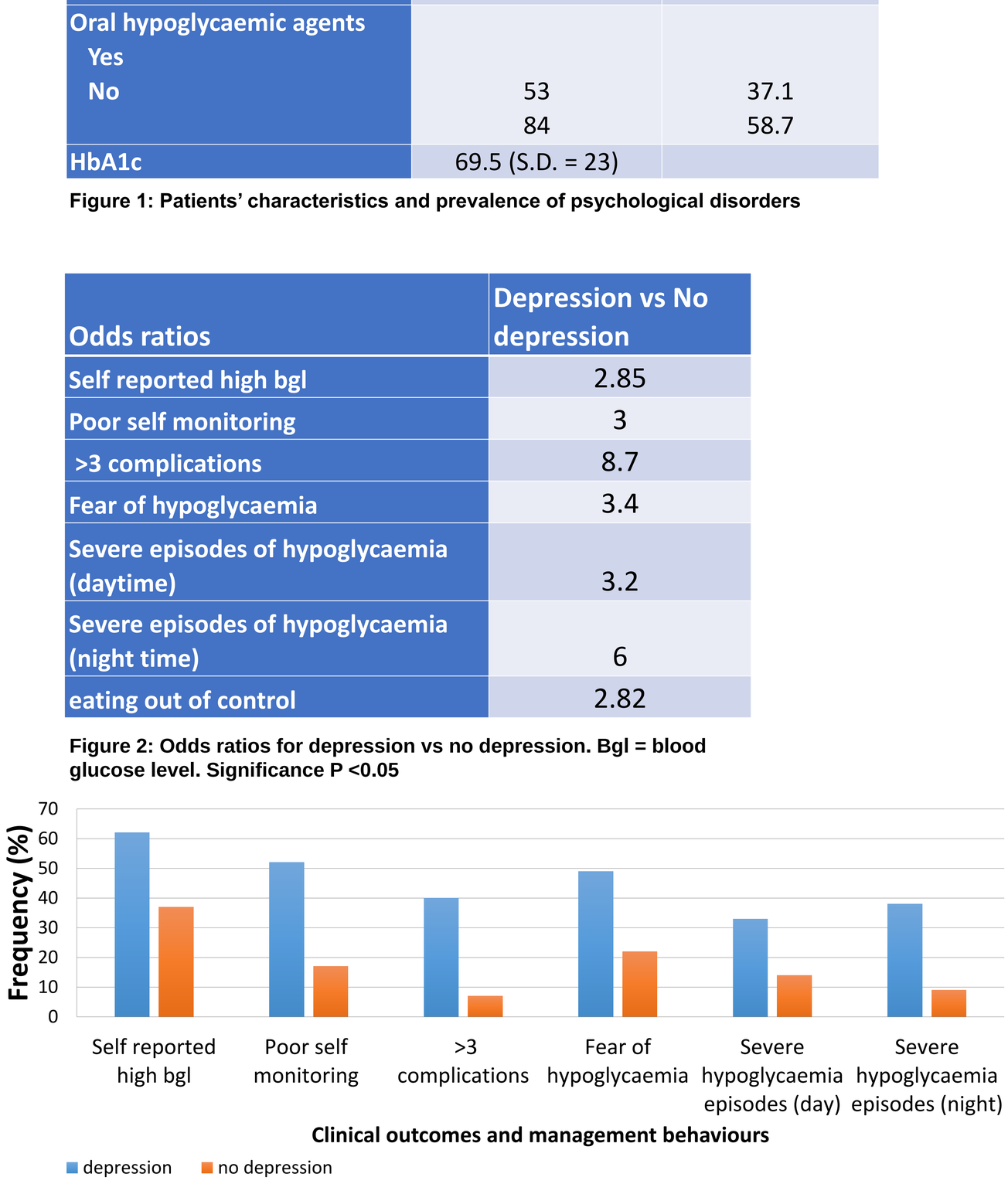

Figure 3: Clinical outcomes and management behaviours in depression vs no depression. bgl = blood glucose level. Significance P<0.05