

# Psychiatric morbidity in endocrine disorders



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CLINICALLY SIGNIFICANT PSYCHIATRIC  
MORBIDITY IN

# endocrine disorders

# The role of mental health in the management of **Diabetes Mellitus**

The interface of diabetes and psychiatry has fascinated endocrinologists and psychiatrists for years.



**17TH CENTURY SPECULATION**  
**“Long sorrow and other depression.”**

- THOMAS WILLIS



**THE PATHOLOGY OF MIND”, 1879**  
**“Diabetes is a disease that often shows itself in families in which insanity prevails.”**

-SIR HENRY MAUDSLEY

DM and psychiatric disorders share a bidirectional association, both influencing each other in multiple ways.

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# Comorbidity is present in different patterns

## 1. NO CONNECTION

The two can present as independent conditions with no apparent connection.



## 2. PSYCHIATRIC DISORDERS

The course of DM can be complicated by emergence of psychiatric disorder; wherein DM seems to contribute to the pathogenesis of psychiatric disorders.



## 3. RISK FACTORS

Disorders like depression and schizophrenia act as significant independent risk factors for development of DM.

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# Comorbidity is present in different patterns...Cont'd

## 4. OVERLAPPED CONDITIONS

There could be an overlap between the clinical presentation of hypoglycaemic, ketoacidotic episodes and conditions such as panic attacks.



## 5. SIDE EFFECTS

Impaired glucose tolerance and DM could emerge as side effects of meds used in psychiatric diseases.

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# FACTS



## CATEGORY ASSOCIATION

Nearly every category of ICD-10 Chapter F (mental disorders) is associated with Diabetes (Type 1, type 2 or both).

## FEARS & WORRIES

Many people with DM suffer from diabetes related worries, fears and distress such as fears of hypoglycaemia, complications of DM, and the burden of the permanence of the condition.

## UNDETECTED FACTORS

Upto 45% of cases of mental disorder and severe psychological distress go undetected among pts being treated for DM related to both pt and physician factors.

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# DIABETIC DISTRESS

1. EMOTIONAL BURDEN OF LIVING WITH DM
2. DISTRESS ASSOCIATED WITH THE DM SELF MANAGEMENT REGIMEN
3. STRESS ASSOCIATED WITH SOCIAL RELATIONSHIPS
4. STRESS WITH PATIENT-PROVIDER RELATIONSHIP

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# PSYCHOLOGICAL INSULIN RESISTANCE

## NEGATIVE RESPONSE

Strong negative response to the recommendations from health-care providers that a person may benefit from adding insulin to his/her diabetes regimen.

## MALADAPTIVE BELIEF

There may be a maladaptive belief that requiring insulin is a sign of personal failure in their self-management, or that the illness has become more serious.



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# FEAR OF HYPOGLYCAEMIA

Episodes of this, specially serious or nocturnal ones, can be traumatising, both for the patient and for his care givers.

Individuals with schizophrenia and other mental illnesses are at increased risk for developing Type 2 DM. Their life expectancy is estimated to reduce by approx 20 yrs compared to the general population.

Related to CVD (increased rates of smoking, poor diet, obesity, lower levels of physical activity).

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## THE OLDER PERSON

**60% >**

Type 2 DM is associated with a 60% greater risk of developing dementia, and DM may present for the first time in a person with CI or dementia.

## Suboptimal diabetes

CI is associated with suboptimal diabetes self management; including medication adherence, missed appointments, poor insulin administration, techniques and inability to recognise and self manage incidents of hypoglycaemia.

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## THE OLDER PERSON

# <18kg/m<sup>2</sup> BMI

Nutritional compromise is a significant difficulty in severe mental illness, with data showing that 15% of female inpatients in mental health settings have a BMI of <18kg/m<sup>2</sup> and 5% have a BMI < 14kg/m<sup>2</sup>.

## Extreme cases

Adverse outcomes of hypoglycaemia include worsening CI, further malnutrition, falls, fractures, CVS and CNS events, and deaths.

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# CARE MODEL

## DIAGNOSIS & ACCESS

In both, DM and dementia/CI, there is a need for early diagnosis, improved access to specialised clinics, access to correct information, and increased participation of the pt with either condition in routine and regular health checks.

## SELF-MANAGEMENT

Early diagnosis also helps carers support self-management, manage hypoglycaemia and avoid hospital admission.

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# IMPORTANT

**Address social problems in older people with comorbid DM and mental illness. They are more likely to be in need of social support to help self-manage.**

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## For Inpatients/Admitted patients



**NEED TO EXCLUDE A PSYCHIATRIC DISORDER**



**TREATMENT OF THE COMORBID PSYCHIATRIC DISORDER**



**SELF HARM IS A RISK/SUICIDAL ATTEMPT BY INSULIN**



**BEHAVIOURAL DISTURBANCE NEEDS MANAGEMENT**



**PSYCHIATRIC DISORDER NEEDS FOLLOW UP AFTER DISCHARGE**



**PERSISTENT MISUSE OF DRUGS AND ALCOHOL**

# Substance Misuse



## CO-RELATION

Association between alcohol consumption and hypoglycaemia.



## INCREASED CONSUMPTION

Increased by the concomitant use of hypoglycaemia-inducing medication.



## INCREASED RISK

Individuals with SUD have significantly increased risk of hospitalisation, unplanned hospital admission, premature death from DM complications and an increased length of hospital stay.



# The Paediatric/Adolescent with DM & Psychological Issues...Cont'd

## INCREASED RISK OF TYPE 2 DM

Schizophrenia and bipolar have an increased risk of developing Type 2 DM.

## CHILDHOOD PSYCHOSIS

Childhood onset psychosis is usually associated with significant impairment in cognitive and executive functioning.

## GLYCEMIC CONTROL

It is not always possible to ensure proper glycemic control.

## CARE TRANSFER

The transfer of diabetic care from parents to young person is a critical window for the emergence of significant psychiatric morbidity, specially eating disorders and insulin omission. Glycaemic control in young people is associated with family functioning.

# The Paediatric/Adolescent with DM & Psychological Issues

## ONSET & DIAGNOSIS

The onset and diagnosis of Type 1 DM are life events and can affect the well being of parent and child, and impact on DM self- management.

## PSYCHIATRIC DISTRESS

Many people with Type 1 DM may have psychiatric distress which may not fit diagnostic psychiatric disorder criteria but which can be very disabling.

## TYPE 1 DEATHS

Young women with Type 1 DM are 6 times more likely to die than those without diabetes and rates of suicide are also increased.

## PSYCHOLOGICAL & SOCIAL FACTORS

Psychological and social factors are closely associated with premature death in young Type 1 DM patients.



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# EATING DISORDER ...CONT'D

## DIABULIMIA

Increased recognition of the extent and impact of disordered eating in DM.

## TYPE 1 DM

Pts with both Type 1 DM and eating disorders tend to be heavier than those with eating disorders only.

Unhealthy eating patterns are easier to mask with insulin reduction.

Purging by insulin omission is more secretive than purging by vomiting or laxatives.

Extreme hyperglycaemia without ketosis can be maintained by low levels of long acting insulin.

# EATING DISORDER ...CONT'D

## UNDERACHIEVING ACHIEVERS

They may be high achievers who are able to manage the demands of a family or a job but unable to maintain DM within a target.

## INSULIN MANIPULATION

Evidence of manipulation of insulin, and attempted reduction of insulin for weight management that was difficult for teens becomes impossible for adults.

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# EATING DISORDER ...CONT'D

## ANOREXIC GROUP

There is another gap that is more in common with the restrictive anorexic group. They eat very little and are of low weight. There is less hypoglycemia and sugar control is not normally an issue.

## EATING ENVIRONMENT

Family factors, the eating environment and criticism/conflict are known to have an impact on the development and maintenance of disturbed eating behaviour in adolescent with type 1 DM.



**BODY  
SHAPE  
WEIGHT  
FAMILY  
EMOTIONAL  
INBALANCE  
SELF-ESTEEM  
CONFIDENCE  
CRITICISM**

## **PREDISPOSING FACTORS**

There is an interplay of predisposing factors (weight and shape, BMI, low self esteem perfectionism, emotional instability, salience of food control in DM self management). With appetite dysregulation (neuro adaptation following repeated disinhibited eating, food addiction) and environmental factors (family expressed emotions and perceived criticism from professionals) in the maintenance of disordered eating.

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# TAKE HOME PEARLS...CONT'D



## Psychological Concerns

DM is often associated with psychological concerns specific to the illness and cause conditions such as diabetic distress, psychological insulin resistance and the persistent fear of hypoglycaemic episodes.



## Psychological Disorders

Psychological disorders include MDD, bipolar and related disorders, schizophrenia spectrum and other psychotic disorders, anxiety, sleep, eating disorders and stress disordered disorders are more prevalent in DM.



## Early Mortality

People living with DM and depressive disorders are at increased risk for earlier all-cause mortality compared to people living with DM without depression.

# TAKE HOME PEARLS



## Regular Screening

All individuals with DM should be regularly screened for the presence of diabetic distress, as well as symptoms of common psychological disorders.



## Decreased Participation

Compared to those with DM only, individuals with DM and mental health concerns have decreased participation in self care, decreased QOL. Increased in functional impairment with increased risk of complications and increased health care costs.



## Motivational Interviewing

CBT, motivational interviewing, stress management, addressing mental health issues are useful.

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# SCREENING MONITORING INTERVENTION

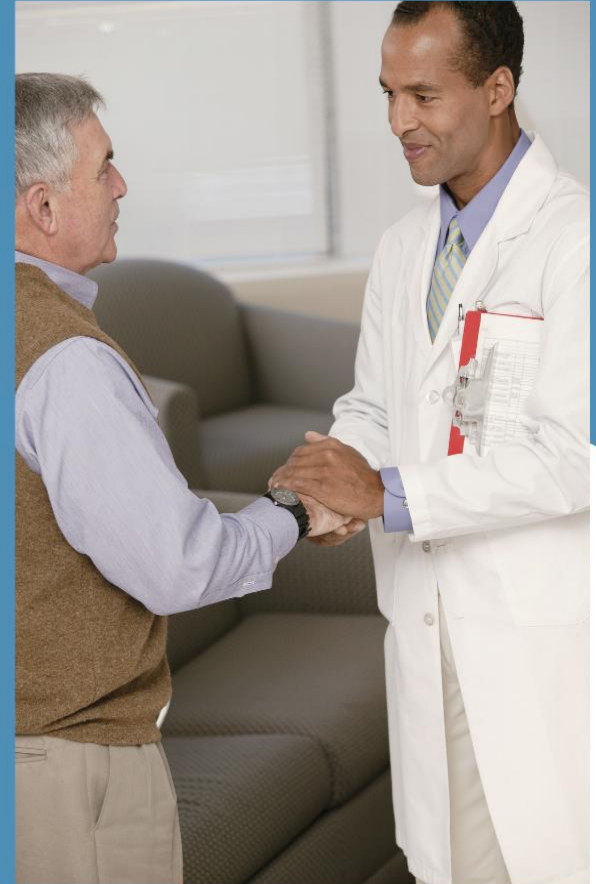
## PSYCHIATRIC MEDICATION

Individuals taking psychiatric medication, particularly anti-psychotics, benefit from regular screening of metabolic parameters to identify glucose dysregulation. Dyslipidemia and weight gained through the course of the illness is monitored, so appropriate interventions can be constituted.

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# TELL THE PATIENT

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## FAMILY STRESS

Living with DM can be burdensome and anxiety-provoking, with the constant demands taking a psychological toll. Hence they may experience distress, anxiety which may be disabling, and mood swings. This often leads to stress in families.

## TALK & COPE

It is important to recognise emotions and talk to family, friends and fellow sufferers, learn effective coping mechanisms to help and support.



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## COMMON DISORDERS

Mood and anxiety disorders are particularly common in people with DM. Eating, sleeping and stress related disorders are also common.

Voice your concerns to the doctor.

## MENTAL & PHYSICAL CARE

Mental health disorders can affect ability to cope with and care for DM.

Hence it is as important to look after your mental health as your physical health.



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# Hyperthyroidism

MDD, ANXIETY & IRRITABILITY

GENERALLY RESPONSIVE  
TO ADEQUATE ENDOCRINAL TREATMENT

SOMETIMES NEEDS ANTIDEPRESSANTS



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# Hypothyroidism

- Depression, paranoid symptoms & cognitive disturbances

# Hyperparathyroidism

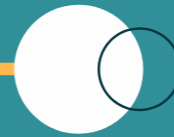
- Depression
  - Cognitive symptoms
- 
- 



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# POLYCYSTIC OVARIAN SYNDROME

- Depression, GAD & Aggression



# PRIMARY ALDOSTERONISM

- Depression, hostility & anxiety
- Antidepressant drugs ineffective/ bromocriptine helps

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# CUSHING'S SYNDROME

MDD (upto 50%), anxiety & manic episodes

Inhibitors of steroid production are effective

E.g. dehydroepiandrosteron sulphate


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# Addison's disease

# Hyperprolactinaemia



Depression (apathy, social withdrawal, irritability) & usually responsive to steroid replacement

Depression, anxiety, aggression & persistent somatisation



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# CONCLUSIONS

There is a complex relationship between hormone abnormalities and psychological factors

New challenges are emerging for patient management in endocrinology, which are often associated with psychological symptoms

Sometimes these symptoms reach the level of psychiatric illnesses... mainly mood and anxiety disorders, otherwise they are sub-clinical (irritable moods & somatisation)

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# CONCLUSIONS

In patients who show residual symptoms with persistence of psychological distress upon proper endocrinal treatment, responding to their specific needs is likely to improve the level of remission

The support provided by an interdisciplinary approach, psychiatric or psychological interventions and rehabilitation measures may be of great value

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# THANK YOU



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