Dietitians Australia

Nutrition Issues and Mental Health in Diabetes

The association between mental health and diabetes

Diabetes self-care and quality of life are poorer when combined with mental health comorbidities such as depression, anxiety, and schizophrenia.[1] Approximately one in nine Australians, aged 16-85, will experience mental health concern/s combined with chronic condition/disease such as diabetes.[2,3] In comparison, people with diabetes will experience poorer mental health compared to the general population (43.4% versus 32.2%).[4]

The causation between diabetes and mental health is not clear due to the link between mental health and diabetes risk factors.[5] Depression is associated with diabetes complications at double the rates of the general population,[4] however depressive symptoms typically go undiagnosed in individuals with diabetes due to lack of awareness.[6,7] Hence, it is important to screen for mental health issues, particularly among susceptible populations.

Treatments for mental health issues and diabetes tend to be delivered independently and a review of interventions has found that none so far benefit both conditions.[8] Harkness et al.[8] identified that running an integrative biopsychosocial intervention that tackles both mental and physical illnesses, requires a high level of expertise and a multidisciplinary team approach.

Diabetes Distress

It has been identified that 25% of Type 1 Diabetes Mellitus (T1DM) and 20% of Type 2 Diabetes Mellitus (T2DM) clients will suffer from diabetes distress.[9,10] Distress may co-exist with depression or be a precursor for depression.

Additionally, diabetes distress can increase the risk of hospitalisation rates and risk of suicide in individuals who are diagnosed with depression.[11] Distress may be contributed to by general issues surrounding the client's quality of life (QOL):

- The emotional burden of diabetes self-management
- Interactions the client may have with clinicians in the health care system and/or family, friends

Working collaboratively with the client to identify factors that may cause distress and supporting the client with behavioural change, may reduce and/or prevent further health complications associated with combined diabetes and mental health issues. One may suspect diabetes distress if the client has sub-optimal diabetes self-care behaviour including:[12]

- Unexplained elevated HbA1C
- Decrease in Blood Glucose Level (BGL) monitoring
- Increased health care use or poor attendance to appointments
- Decreased medication adherence
- Decline in physical activity or not following healthy eating guidelines
- Increased risk of complications
- Poor health behaviours acquired to cope with stress including self-medication, e.g. alcohol or recreational drugs
- Ongoing fear of hypoglycaemic events

Biological links between diabetes and mental illness

There is some evidence of biological links between diabetes and mental illness, particularly in glycaemic control.[13,14]

Hyperinsulinemia and impaired glucose tolerance has been hypothesised to enhance the progression of neurodegeneration, synaptic loss and brain atrophy, and could be responsible for the cognitive decline observed in dementia.[14,15]

Mental illness such as schizophrenia is associated with an increase in metabolic abnormalities and clients should be regularly assessed due to the developmental risk of cardiovascular and metabolic syndromes.[16] Hence, it is important to identify and assess genetic and lifestyle factors that can play a part in the development of diabetes among mental health clients.[16]

Diabetes and Antipsychotics

Medications commonly used by mental health clients can increase the risk of developing diabetes over time. A number of mechanisms by which these medications work are associated with the onset of secondary diabetes, including the impairment of insulin action on muscle, or side effects such as dramatic weight gain.[20] Some of these antipsychotics include clozapine, olanzapine, risperidone and quetiapine.[21] Individuals at high risk, including those on antipsychotic medications should be screened with fasting blood glucose or Glycated Haemoglobin (HbA1c).[22]

For clients already diagnosed with T2DM, Aalders and Pouwer[23] suggest that, antipsychotics are not suitable for mild cases of depression. Instead psycho-education, psychosocial interventions, and collaborative care[24] are suitable alternatives to improve quality of life and functioning.

Diabetes and Eating Disorders

Young people with diabetes are more likely to suffer from eating disorders.[17-19] Anorexia nervosa and bulimia nervosa (or diabulimia –a restriction of insulin injections to cause weight loss) are more common in T1DM and binge eating disorders are more common in T2DM clients.[19] Signs that an individual with diabetes may have an undiagnosed eating disorder can include: weight loss related to poor glycaemic control, low self-esteem, recurrent diabetic ketoacidosis and hypoglycaemic episodes.[19]

Practical Strategies for Dietitians

The American Diabetes Association (ADA) 2014 position statement for Nutrition therapy management of adults with diabetes recommends at least 2-3 visits at 4-6 weekly intervals for 60-90 minutes initially, followed by shorter reviews of 30-45 mins.[25] When the patient has achieved their Medical Nutrition Therapy (MNT) goals then review is recommended on an annual basis. Australia's National Evidence Based Guideline for Patient Education in Type 2 Diabetes & General Practice Management of Type 2 Diabetes 2016-18 also has similar recommendations.[26] Some clients living with a mental health concern may need a considerable number of additional sessions to fully comprehend the essential nutrition information and achieve lifestyle change related to T2DM management.

Strategies such as enquiring about a client's psychological health during consultations, may improve quality of care for clients with diabetes. As a person with diabetes is likely to have been in the health care system for long periods of time and are more likely to be seen annually by care providers, they may be more likely to develop mental illness.[27]

Thus, it may be important to assess and screen a client's risk of distress, and identify the client's ability to manage their chronic condition. Screening is more important to anticipate future distress and allows the clinician to focus their management on supporting the client in reducing such distress. The following questionnaires are validated tools, which may be useful for assessment:

- PAID Questionnaire: a 20-item screen that identifies negative emotions related to diabetes and diabetes distress[28]
- DDS: a 17-item screen for four aspects of distress[29]
- HADS Questionnaire: can identify anxiety and
- depression, however this is NOT a formal diagnostic tool[30]
- Patient Health Questionnaire-2: a screening tool for depression and can identify if the client is not coping[31]
- Patient Health Questionnaire-9: a tool to monitor the severity of depression and response to treatment[32]

When a mental health concern may be suspected, it is important to refer clients onto appropriate services for follow up, such as contacting client's GP/psychologist, or referring client to mental health agencies.[34]

It is also important to screen clients diagnosed with a mental health concern for risk of developing T2DM Annual reviews of OGTT should be conducted for clients who have risk factors for T2DM and/or the Australian Type 2 Diabetes risk assessment tool (AUSDRISK) should also be utilised.[33]

As a dietitian, some simple strategies may include a review of the:

- **Client's diabetes education**
  - Detailed nutrition education may need to be postponed if the client is acutely unwell with mental illness and can be revisited after the client has had further support and treatment with their mental illness
  - Prioritise education and nutritional management on the acute risks of diabetes common to mental health clients; including hypoglycaemia, severe hyperglycaemia (BGL >15) and risky behaviours such as excessive alcohol intake

- **Client's motivation and confidence in managing diabetes**
  - Prepare nutritional action plans with clients and carers for times of distress and relapses in mental illness. For example: convenient meal ideas as back up options and hypoglycaemia kits available at all times
  - Break down everyday tasks to manageable activities
- **Client's current existing behaviours**
  - If a client's diabetes management is being affected by distress or mental illness ensure referrals to supportive services appropriate to mental health management are offered
  - Suggest decreased BGL monitoring after identifying other safe principles to monitor glucose levels
  - Provide stress management strategies such as meditation, incorporating exercise and encourage good sleeping patterns
  - Prepare and develop a sick day management plan
  - Assess whether the client's aggression may be the symptom of low blood glucose or whether it is a sign that the client is not coping. Remember complications for diabetes may be ignored and may be assumed as part of the mental illness
  - Assess the client's current BGL management: are they still injecting insulin but currently experiencing loss of/poor appetite and skipping meals, or distracted by their mental illness that they forget to take medications or eat
  - Assess whether medications are taken as prescribed and are not self-adjusted without the appropriate education. Prepare and develop a sick day management plan
  - Assess whether the client's aggression may be the symptom of low blood glucose or whether it is a sign that the client is not coping. Remember complications for diabetes may be ignored and may be assumed as part of the mental illness
  - Assess the client's current BGL management: are they still injecting insulin but currently experiencing loss of/poor appetite and skipping meals, or distracted by their mental illness that they forget to take medications or eat
  - Assess whether medications are taken as prescribed and are not self-adjusted without the appropriate education

For more helpful tips please refer to the 10 Helpful Tips MHANDi resource on practical strategies for nutrition management of clients with mental illnesses.

Conclusion

It is important for dietitians to identify, manage, and refer on clients with mental health issues (such as depression and anxiety).1,34 A multi-disciplinary team approach is best for clients who suffer from mental illness and/or diabetes. It is important to continue to assess and review their psychological and metabolic health to reduce future complications and improve QOL.

Further Reading

- Practice-based Evidence in Nutrition® [PEN] Knowledge Pathways: Diabetes/Glucose Intolerance. Last updated 2016. Available from: http://www.pennutrition.com. Access only by subscription. Free trials available. Click Sign Up on PEN login page.
- Diabetes Australia https://www.diabetesaustralia.com.au/
- Mental Health Professionals Network: Collaborative Care in Mental Health and Diabetes http://www.mhpn.org.au/WebinarRecording/37/Mental-Health-and-Diabetes-#.U2i1y14xFFI
- Diabetes Counselling online http://www.diabetescounselling.com.au/
- NDSS Diabetes and emotional health. A copy of this resource can be found at this link: https://static.diabetesaustralia.com.au/s/fileassets/diabetes-australia/e8a3bd1a-d785-43c2-804a-b9e27b76f488.pdf
- NDSS Enhancing your consulting skills: supporting selfmanagement and optimising mental health in people with Type 1 Diabetes. A copy of the resource can be found at this link: https://diabetessociety.com.au/download-request.asp
- Behavioural Diabetes Institute: https://behavioraldiabetes.org/
- AIHW Diabetes and poor mental health and wellbeing: an exploratory analysis. A copy of the report can be downloaded here: https://www.aihw.gov.au/reports/diabetes/diabetes-poor-mental-health-wellbeinganalysis/contents/table-of-contents
- Psycho social care for people with diabetes: A position statement of the American Diabetes Association: Deborah Young– Hyman, Mary de Groot, Felicia Hill – Briggs, Jeffrey S.Gonzalez, Korey Hood and Mark Peyrot Psycho social care for people with diabetes: A position statement of the American Diabetes Association, Diabetes Care 2016 Dec:39(12):2126-2140
- Canadian Diabetes Association Clinical Practice Guidelines Expert Committee. Canadian Diabetes Association 2013 Clinical Practice Guidelines for the Prevention and Management of Diabetes in Canada. Can J Diabetes. 2013; 37: S1-S212
- The Royal Australian College of General Practitioners. General practice management of type 2 diabetes: 2016–18. East Melbourne, Vic: RACGP, 2016

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