

Psychosocial screening for diabetes

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Abstract:

Background: Routine psychosocial screening and management of people with diabetes is recommended.

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Aims: To profile demographic, medical and psychosocial characteristics of young people with diabetes, and to develop a screening tool and care pathway for routine use.

Methods: Indices of diabetes control and recorded diabetes complications were complimented by psychosocial screening tools assessing psychological, diabetes specific, and perceived stress (K10, PAID, PSS), well-being (WHO-5), disordered eating ((EDI-3RC), compensatory behaviour questionnaire, social support (MSPSS), resilience (CD-2) and financial concerns. Service provision and demographic data was also collected. Diabetes and mental health clinicians then identified a subset of measures to use for routine screening along with care- pathways.

Results: Psychosocial screening was well accepted. Participants (151) had suboptimal glycaemic control (HbA1c 8.0 IQR 1.8%/64 IQR 22 mmol/mol). Severe diabetes related distress (PAID \geq 40) was found in 19.4% and 26.0% reported difficulties managing health care costs. A mental health disorder was likely in 9.7%, whilst 23.4% had high K10 scores. Low WHO-5 scores (\leq 13) were seen in 29.0%. Risk for an eating disorder (EDI-3RC) was 12.7%, whereas approximately 36.0% had disturbed eating behaviours.

Conclusion: Psychosocial screening of young adults with diabetes identified complex needs. A brief psychosocial screening tool and associated care-pathways were developed for routine use in a young adult tertiary referral diabetes clinic. The tool assesses constructs such as diabetes distress, depression, anxiety, well-being, hypoglycaemia-unawareness, fear of hypoglycaemia, social support, weight, shape and eating concerns and financial concerns. This will provide a longitudinal data source for further research to inform clinical practice.

KEYWORDS: Diabetes Mellitus Type 1, Young Adults, Psychology, Evidenced-based Practice

BACKGROUND:

Diabetes guidelines recommend routine psychosocial assessment and treatment through a collaborative team approach, with psychological well-being and quality of life now considered an important treatment

outcome of diabetes management in its own right (1, 2). For successful implementation and follow through, the screening process must be effective in detecting vulnerable people, and the care pathways, services and resources offered must be acceptable to patients. Services are usually limited by financial and staffing constraints, therefore maximising staff skills and targeting individuals likely to benefit the most should be a focus of service provision.

Young people with diabetes have specific needs, as it's a period of significant change and challenges with respect to emotional and physical growth, and chronic illness management. During this phase, young people explore their identity with respect to moral, political and sexual orientations (3), they transition from school to higher education and/or employment, and from family-centric relationships to peer- and employment-focused relationships. It can also be a period of risk taking with increased exposure to cigarettes, alcohol and illicit substances (4). Additionally, transition from paediatric to adult health services occurs and they can be lost to follow-up care. It is a time where glycaemic control can deteriorate and complications can result (5, 6), as well as increased rates of depression, anxiety and eating disorders (7-9). Optimal diabetes management is intensive, and regular medical checks and multiple daily self-management tasks are required.

Identifying the mental health burden of this population as well as individual case identification is required to provide a comprehensive health service to this patient group. A multidisciplinary team approach seems indicated with evidence this model is related to better glycaemic control (10), more support, lower diabetes-related distress, and higher satisfaction with their diabetes care than those seeing a private endocrinologist, general practitioner or other provider (11).

AIMS:

We aim to investigate a representative sample of young people aged 18-25 years attending a large tertiary multidisciplinary diabetes clinic in a metropolitan area to report physical and a comprehensive array of psychosocial characteristics of this group, and explore relationships between these variables. Our wider objectives are to inform the deployment of non-medical members of the multidisciplinary team

based on empirical evidence, and develop an abbreviated psychosocial screening tool for routine use along with a service model care-pathway.

METHODS:

The multidisciplinary diabetes clinic is located in a purpose built medical centre for young adults with chronic illness. The diabetes team includes endocrinologists, training registrars, diabetes nurse educators, dietitians and a clinical psychologist upskilled in type 1 diabetes management. The centre also provides a young adult support unit (YASU) (psychiatrist, mental health nurse and psychologist) to which the diabetes team can refer.

All patients aged 18-25 years who attended a routine clinic visit over a 20 week period, were invited to complete psychosocial screening measures. Exclusion criteria included those with a pre-existing mental health diagnosis or intellectual impairment and those who had difficulty reading or comprehending English. Ethics approval was obtained from Mater Health Services Human Research Ethics Committee.

Data collected from medical files included height, weight, most recent glycosylated haemoglobin, the type and duration of diabetes, insulin regimen, and associated complications including episodes of diabetes ketoacidosis (DKA) or severe hypoglycaemia (hypo) in the past 2 years. Utilisation of nursing and allied health services was documented. Regular clinic attendance was described as at least 6 clinic visits over a 2 year period. The young adult reported on ethnicity, living arrangements, marital status, employment, financial status and postcode (to determine metropolitan versus rural location).

Measures

Measures were completed by participants whilst waiting for the consultation, and took 20-30 minutes to complete. They included: The Problems Areas in Diabetes (PAID) (20 items) with scores ≥ 40 representing severe diabetes-related distress (12, 13), and a score ≥ 30 representing significant diabetes-related distress; The Kessler 10 (K10; 10 items) assessing psychological distress, focusing on depression and anxiety symptoms, low levels of distress (10-15), moderate (16-21), high level (22-29) and very high (30-50) are defined (14, 15); The WHO-5 Well-being Index (5 items) assessing quality of life, with scores ≤ 13 indicative of low well-being, and scores < 8 indicative of depression (16, 17); The Eating Disorder

Inventory Risk Composite (EDI-3RC) (25 items), assessing risk for an eating disorder with EDI-3RC scores \geq 46, and a score in the typical or elevated clinical range on any scale is indicative of disturbed eating behaviours (18, 19); and The Eating Disorder Compensatory Behaviour Questions (7 items) assessing the presence and frequency of binge eating, driven exercise, vomiting, laxative and diuretic use and insulin misuse. The Connor Davidson Resilience Scale (CD-2) (2 items) (20), the Multidimensional Scale of Social Support (MSPSS) (12 items) (21) and the Perceived Stress Scale (PSS) (10 items) (22), (23) were compared to USA normative data (non-diabetic), and 4 items assessed financial concerns.

Statistical Analysis

Participant characteristics are presented using mean and standard deviation (SD) for normally distributed data (as assessed by the Shapiro Wilk test) whilst median and interquartile range (IQR) presented for data not normally distributed. Percentages are used to describe categorical data. Student's t-test has been used to compare normally distributed data and the Kruskal Wallis and Mann Whitney for non-parametric tests. Correlation of continuous variables performed with the Spearman's rho test. Significance of association for categorical data was assessed using the Fisher's Exact Test. Analysis was done using IBM SPSS Statistics 22.0 for Windows and statistical significance was set at 0.05 for all analyses.

RESULTS:

Of the 172 eligible attendees, 164 (95.3%) participated, and 151 had attended clinic for more than a year (see Figure 1). Participants were predominantly Caucasian 93.4%, (Asian 4.6%, African 0.7%, Middle East 0.7%), aged 21 (IQR 3), and 55.6% were female. The majority of participants were single (68.7%; de facto 26.0%, married 5.3%), lived with their parents (66.0%; with a partner 20.0%, alone 9.3%), most were engaged in some employment and/or study (76.5%, 49.0% respectively); a minority (6.7%) were unemployed (Table I). Type 1 diabetes was predominant (98.7%), with a duration of 9 (IQR 8) years. Most were managed with intensive insulin therapy; 74.2% on multiple daily injections, and 22.5% insulin pump therapy. Body mass index (BMI) was 23.9 (IQR 4.2). Participants did not differ in age, body mass index (BMI), duration of diabetes, insulin regimen or number of clinic visits from non-participants, however non-participants had poorer glycaemic control (HbA1c 9.1% (IQR 2.2); 76.5 mmol/mol (IQR 24) versus 8.0

% (IQR 1.8); 64 mmol/mol (IQR 22) ($p = 0.007$)). Over the past 2 years the median clinic visits were 6.0 IQR 3.

Characterising Physical and Emotional Health Status

Glycaemic control was suboptimal with the average HbA1c 8.0% (IQR 1.8), 64 mmol/mol (IQR 22) with significantly worse control in male participants (see Table 1). Evidence of diabetes related complications were seen with retinopathy in 6.6% of patients, peripheral neuropathy 4.6%, micro-albuminuria 13.2%, autonomic neuropathy 2% and peripheral vascular disease 2%. DKA rates over the past 2 years were 9.3%, and rates of a severe hypo were 18.0%. There were no significant gender differences in rates of DKA or hypos. The presence of a DKA episode over the past 2 years was associated with poorer glycaemic control ($p = 0.004$), however there was no association with the occurrence of severe hypoglycaemia over the past 2 years.

Severe diabetes related distress (PAID ≥ 40) was found in 19.4% of participants, with 31.6% having a PAID score ≥ 30 . The K10 results indicated 9.7% had very high scores indicative of a mental health disorder, 23.4% had high scores and 29.0% had moderate scores. Of note, 11.3% of those with moderate or high K10 scores (≥ 22) did not exhibit significant diabetes distress (PAID score ≥ 30). WHO-5 scores indicating poor quality of life was reported in 29.0%.

Risk for an eating disorder (EDI-3RC) was 12.7%, whereas 35.8% had disturbed eating behaviours described as a high score on any of the EDI-3RC scales, and 38.7% reported an affirmative answer to at least one compensatory behaviour e.g. reducing or omitting insulin, binge eating or driven exercise. Of those with disturbed eating behaviours, 27.7% had PAID scores < 30 and/or Kessler scores < 22 .

Mean perceived stress scores (PSS) were 15.8 ± 7.6 , the median social support (MSPSS) score was 6.0 IQR 1.7, and resilience score was 6.0 (IQR 2) (Table 1).

There was no significant association with age and psychosocial variables however females had significantly higher psychological distress and perceived stress scores (K10 $p = 0.016$ and PSS $p = 0.025$). Females also reported being less resilient, reported more eating disorders symptoms and lower well-

being (CD-2 $p = 0.008$, EDI-3RC $p = 0.001$ and WHO-5 $p = 0.002$). There was a trend for female participants to feel more socially supported (MSPSS $p = 0.064$) (Table 1).

There was no association between the psychosocial measures with duration of diabetes, frequency of clinic attendance, presence of diabetes complications or a DKA episode within the past 2 years. However, poorer glycaemic control was associated with higher scores on the PAID ($p = 0.001$), K10 ($p = 0.024$) and PSS ($p = 0.044$). Higher BMI scores were associated with the EDI-3RC score ($p = 0.001$). A severe hypoglycaemic event within the past 2 years was associated with higher PAID scores ($p = 0.001$), higher perceived stress ($p = 0.001$), higher distress as measured by K10 ($p = 0.004$) and lower WHO-5 ($p = 0.001$). Additionally those who found it difficult to manage their finances (26%) also had poorer glycaemic control ($p = 0.026$), higher PAID ($p = 0.011$), K10 ($p = 0.011$), PSS ($p = 0.001$) and lower WHO-5 ($p = 0.018$).

DISCUSSION

Results of psychosocial screening

We report the most comprehensive response rate and report of psychosocial screening in a tertiary young adult diabetes clinic. Psychosocial screening was embraced by this population as evidenced by the very high participation rate (99% of those approached). The abbreviated screening tool and care plan developed is designed to improve patient care and satisfaction with the service. Glycaemic control was suboptimal with only 16 % meeting the target of $\leq 7\%$ / 53mmol/mol. The rates of severe hypoglycaemia in the past 2 years (18.0%) was similar to previous reports (24, 25), and along with a DKA rate of 9.3%, indicate further education is required to minimize such costly and preventable hospital admissions.

The lower rates of severe diabetes related distress (19.4% PAID ≥ 40), than young adults from socially disadvantaged backgrounds (40%) (11) or the MILES Study (28%) (25), could be due to socioeconomic advantage, the multidisciplinary team care, or other unidentified factors. Some results were aligned with previous findings. Approximately one third had poor quality of life or psychological well-being, and/or high to very high levels of psychological distress, higher than Australian norms for 18-24 year olds (K10 high or very high ratings of 11.8%) (11, 26). High rates of disordered eating persist from adolescent years to adulthood (27). Financial concerns are not routinely asked in clinic consultations, but can impact

significantly of glycaemic control, diabetes distress and psychological well-being (11). There is no comparative data for young adults with diabetes using the measures of resilience (CD- 2), social support (MSPSS) and perceived stress (PSS).

Following on from the data collection, the diabetes clinicians and YASU worked collaboratively to identify a subset of measures to use in routine screening and to develop care pathways (Figure 2). The results of screening, team consensus and current evidence of treatment strategies for diabetes distress, comorbid mental health problems and for optimising glycaemic control were considered. The need to include the most relevant constructs for clinical care, to identify those most in need and maximise the utility and expertise of current staff was considered. This brief comprehensive tool encompasses multiple constructs including diabetes distress, depression and anxiety, wellbeing, hypoglycaemia-unawareness, fear of hypoglycaemia, social support, weight, shape and eating concerns and financial concerns. It includes three validated measures, the PAID, the K10 and the WHO-5, of which the WHO-5 and PAID are found on a national diabetes database allowing comparison between centres. When scoring the psychosocial screening tool, diabetes distress is characterized by PAID scores ≥ 30 . A positive mental health screen is considered a K10 score ≥ 22 and/or WHO-5 score ≤ 13 . Usual care is considered at an annual review with each member of the multi-disciplinarian team.

The screening tool will be implemented prior to their consultation at the routine clinic in a staged process on an annual basis. The credentialed diabetes educator will address the results of the screening tool with the young person at their clinic visit, and they can elect to engage in the patient specific management plan.

There is a need to assess diabetes specific distress and depression concurrently, as although they are related they can be separate constructs requiring different treatment modalities (28, 29). Some young adults will have general distress not related to their diabetes, which could include dysfunctional family relationships, history of abuse, loss of autonomy or bereavement, financial concerns, or lack of social support, and even early stages of disordered eating (30). Our results indicate approximately one third (27.7%) of those with disordered eating and half (47%) of those with financial concerns had PAID scores

<30 and/or K10 scores < 22. These findings, as well as the identification of patients' positive for depression but not diabetes distress is highlighted in the care pathway (Figure 2) by the possibility of a mental health referral even if the PAID score is low.

Interventions to manage diabetes distress for adults with type 1 diabetes are just emerging, though few address young people specifically. Diabetes self-management education (DSME) appears to reduce diabetes distress in type 1 diabetes, with the most evidence available for the DAFNE program, a group based intervention (29). Allied health and diabetes nurse educators have been upskilled in motivational interviewing, motivational enhancement therapy and DAFNE principles. The service aim is to provide consistent education, and to refer as many participants as possible into the DAFNE program. Studies have shown attendance at a DAFNE course reduces diabetes distress, severe hypoglycaemia and DKA admissions, along with small but significant changes in HbA1c (31, 32). DAFNE is cost effective, evidenced by a 64% reduction in emergency health costs for DKA and severe hypoglycaemia (33). A service challenge is to make courses available to as many clinic attendees as possible.

We estimate 60% of attendees to our clinic require additional allied health support (diabetes educator, psychology, dietitian and/or social worker) over and above routine clinical care and education (34). The screening tool and care-pathway will assist in directing those with psychosocial concerns to the appropriate health care professionals, improving patient care, patient satisfaction and staff satisfaction with the service. Diabetes distress scores, depression and anxiety, quality of life, HbA1c, attendance rates and occasions of service will be monitored. Those who score positively on the weight, shape control of eating questions will be given a validated eating disorder screening tool and directed to a disordered eating management plan where needed. Social support and financial concerns will be discussed and referrals can be made to a social worker. Fear of hypoglycaemia and hypoglycaemia-unawareness will be addressed by the credentialed diabetes educators all of who have observed the DAFNE course. As a result of the care-pathway more young people will be made aware of the availability of the DAFNE course.

This screening tool and care pathway has been established for a tertiary referral diabetes clinic in a purpose built young adult centre. Most attendees at the clinic are Caucasian (93.4%), and living in a

metropolitan region (94.7%). Additionally, it is a multidisciplinary service with significant staff resources and skills which needs to be considered if applying the model to other services. For services with less multidisciplinary resources, incorporating other allied health providers (e.g. child and adolescent mental health services, private practitioners or the medicare-funded 'Better Access Service', is possible. The K10 is a generic measure, used to allow comparison with other young people with and without other chronic health conditions. In the future we plan to assess the concurrent validity of the Patient Health Questionnaire (PHQ-4) against the K10.

Similar studies to report on psychosocial profiles, screening tools and care-pathways are underway for young people with other chronic conditions such as inflammatory bowel disease, cystic fibrosis, chronic rheumatic conditions, phenylketonuria, craniomaxillofacial deformities and cancer survivors. The burden of illness will be compared across these medical conditions.

CONCLUSION:

Following psychosocial screening, an abbreviated tool and associated care-pathways were developed for routine use in a young adult tertiary referral diabetes clinic. This will provide a longitudinal data source for research, to inform clinical practice and service requirements (care management needs, staffing needs) and enable screening and management protocols to be reviewed. Future research will assess the benefits of this intervention in terms of changes in access to allied health, including the DAFNE intervention, glycaemic control and short and longer term complication rates.

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ABBREVIATIONS:

CD-2: Connor Davidson Resilience Scale – 2 item

DAFNE: Dose Adjustment for Normal Eating

DKA: Diabetes Ketoacidosis

DSME: Diabetes self-management education

EDI-3RC: Eating Disorder Risk Inventory -3 Risk Composite

HbA1c: Glycated Haemoglobin

IQR: Interquartile Range

K10: Kessler 10

MILES: Management and Impact for Long –term Empowerment and Success

MSPSS: Multidimensional Scale of Perceived Social Support

PAID: Problem Area in Diabetes

PSS: Perceived Stress Scale

SD: Standard Deviation

USA: United States of America

WHO-5: World Health Organisation Well Being Index

YASU: Young Adult Support Unit

Table 1 Demographic, clinical and psychosocial characteristics of participants (n=151)

	All	Male	Female	statistic	p value
Age (yrs)	21.0 (3.0)	21 (3.0)	21 (4.0)	2444.0 ^a	0.162
Diabetes duration (yrs)	9.0 (8.0)	9 (8.0)	10 (9.0)	2653.0 ^a	0.546
Insulin therapy: MDI	74.7%	79.1%	71.1%		
BD	2.7%	0%	4.8%	0.007 ^c	0.932
Pump	22.7%	20.9%	24.1%		
BMI	23.9 (4.2)	24.1 (4.7)	23.5 (4.4)	2621.5 ^a	0.471
HbA1c %	8.0 (1.8)	8.4 (2.1)	7.9 (1.4)	2242.5 ^a	0.042
HbA1c mmol/mol	64.0 (22.0)	68 (22)	63 (1.6)	2241.0 ^a	0.041
DKA past 2 years	9.3%	7.5%	10.7%	2722.5 ^a	0.495
Serious hypo past 2yrs	17.9%	15.1%	20.2%	2361.0 ^a	0.422
PAID (n = 144)	25.1 ± 19.4	22.5 ± 18.9	27.1 ± 19.6	-1.432 ^b	0.154
Kessler 10 (n = 145)	19.5 ± 7.6	17.9 ± 6.9	20.8 ± 7.4	-2.345 ^b	0.016
WHO-5 (n = 145)	60.8 ± 19.4	66.1 ± 18.1	56.5 ± 19.5	3.038 ^b	0.003
EDI-3RC (n = 134)	31.6 ± 9.8	27.7 ± 7.1	34.7 ± 10.6	-4.555 ^b	<0.001
Eating Disorder CBQ	38.7%	30.6%	45.0%	2124.0 ^a	0.083
Resilience scale (n=148)	6.1 ± 1.5	6.5 ± 1.3	5.8 ± 1.6	2.805 ^b	0.006
MDSSS (n=144)	6.0 ± 1.7	5.8 ± 1.8	6.0 ± 1.6	-1.081 ^b	0.282
PSS (n=142)	15.8 ± 7.6	14.2 ± 7.4	17.1 ± 7.5	-2.259 ^b	0.025

Median (IQR)

Means ± SD

MannWhitney U^aIndependent samples t test^bKruskal Wallis-H Test^c

Figure 1: Clinic attendees and recruitment during the study period

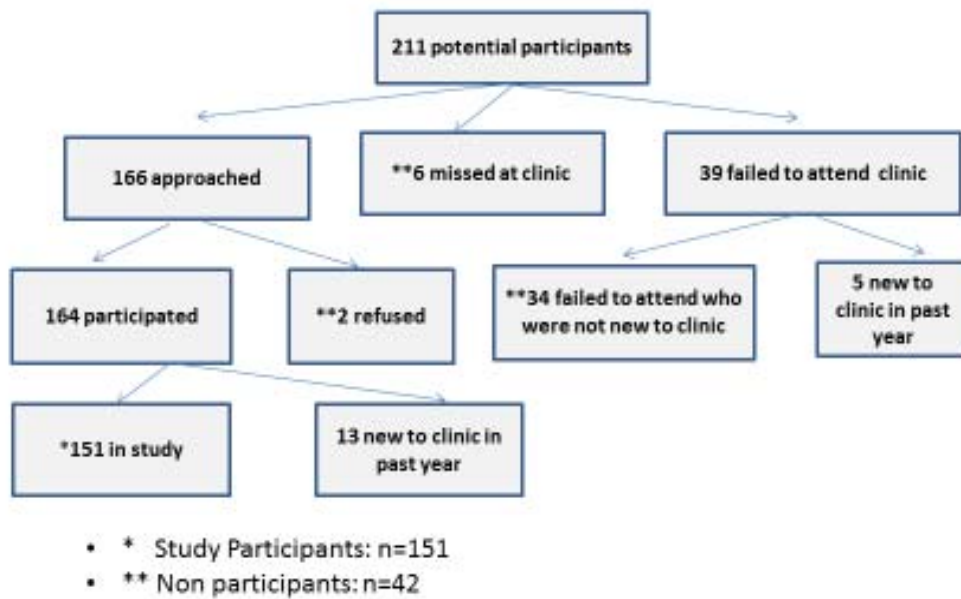


Figure 2: Psychosocial screening tool and care-pathways for young people with type 1 diabetes

Problem Areas in Diabetes (PAID) Questionnaire Patient No/.....

INSTRUCTIONS: Which of the following diabetes issues are currently a problem for you? Circle the number that gives the best answer for you. Please provide an answer for each question.

	Not a problem	Minor problem	Moderate problem	Somewhat serious problem	Serious problem
Not having clear and concrete goals for your diabetes care?	0	1	2	3	4
Feeling discouraged with your diabetes treatment plan?	0	1	2	3	4
Feeling scared when you think about living with diabetes?	0	1	2	3	4
Uncomfortable social situations related to your diabetes care (eg people telling you what to eat)?	0	1	2	3	4
Feelings of deprivation regarding food and meals?	0	1	2	3	4
Feeling depressed when you think about living with diabetes?	0	1	2	3	4
Not knowing if your mood or feelings are related to your diabetes?	0	1	2	3	4
Feeling overwhelmed by your diabetes?	0	1	2	3	4
Worrying about low blood sugar reactions?	0	1	2	3	4
Feeling angry when you think about living with diabetes?	0	1	2	3	4
Feeling constantly concerned about food and eating?	0	1	2	3	4
Worrying about the future and the possibility of serious complications?	0	1	2	3	4
Feelings of guilt or anxiety when you get off track with your diabetes management?	0	1	2	3	4
Not "accepting" your diabetes?	0	1	2	3	4
Feeling unsatisfied with your diabetes physician?	0	1	2	3	4
Feeling that diabetes is taking up too much of your mental and physical energy every day?	0	1	2	3	4
Feeling alone with your diabetes?	0	1	2	3	4
Feeling that your friends and family are not supportive of your diabetes management efforts?	0	1	2	3	4
Coping with complications of diabetes?	0	1	2	3	4
Feeling "burned out" by the constant effort needed to manage diabetes?	0	1	2	3	4

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Kessler 10

	None of the time	A little of the time	Some of the time	Most of the time	All of the time
In the past four weeks, how often did you feel worn out for no real reason?	1	2	3	4	5
In the past 4 weeks, how often did you feel nervous?	1	2	3	4	5
In the past 4 weeks, how often did you feel so nervous that nothing could calm you down?	1	2	3	4	5
In the past 4 weeks, how often did you feel hopeless?	1	2	3	4	5
In the past 4 weeks, how often did you feel restless or fidgety?	1	2	3	4	5
In the past 4 weeks, how often did you feel so restless you could not sit still?	1	2	3	4	5
In the past 4 weeks, how often did you feel depressed?	1	2	3	4	5
In the past 4 weeks, how often did you feel that everything was an effort?	1	2	3	4	5
In the past 4 weeks, how often did you feel so sad that nothing could cheer you up?	1	2	3	4	5
In the past 4 weeks, how often did you feel worthless?	1	2	3	4	5

References

1. Kessler, R.C., Barker, P.R., Colpe, L.J., Epstein, J.F., Gfroerer, J.C., Hiripi, E., Howes, M.J., Normand, S.-L.T., Manderscheid, R.W., Walters, E.E., and Zaslavsky, A.M., Screening for serious mental illness in the general population. *Archives of General Psychiatry*, 2003. 60(2): p. 184-189.
2. Department of Human Services, Victorian population health surveys. 2001-2007, State Government of Victoria.

The Mater Young Adult Health Centre Diabetes team are a multidisciplinary health service focusing on providing exceptional patient centred care. The following questions will assist us in determining which allied health service you may benefit from. Completion of this form is optional.

Do you have particular concerns or questions that you would like to be addressed today?

1.

2.

3.

Social Support for life in general

1	I can count on someone when things go wrong	Strongly Disagree	Disagree	Agree	Strongly agree
2	I can talk about my problems with someone	Strongly Disagree	Disagree	Agree	Strongly agree

Your weight, shape and eating

On a scale of 1 to 5 where 5 is the best outcome:

1	I am comfortable with my current weight	1	2	3	4	5
2	I am comfortable with my body shape	1	2	3	4	5
3	I am comfortable with my eating pattern	1	2	3	4	5

Financial concerns

1	Do you have a Medicare Card?	Yes	No
2	Do you have a NDSS Card?	Yes	No
3	Do you have a Health Care Card?	Yes	No
4	Do you have difficulty managing your living costs on your current income?	Yes	No
5	Do you have difficulty managing your healthcare costs on your current income?	Yes	No
6	Do you have private health insurance (independently or with your parent's scheme)?	Yes	No

Hypoglycaemia (hypo or low blood glucose)

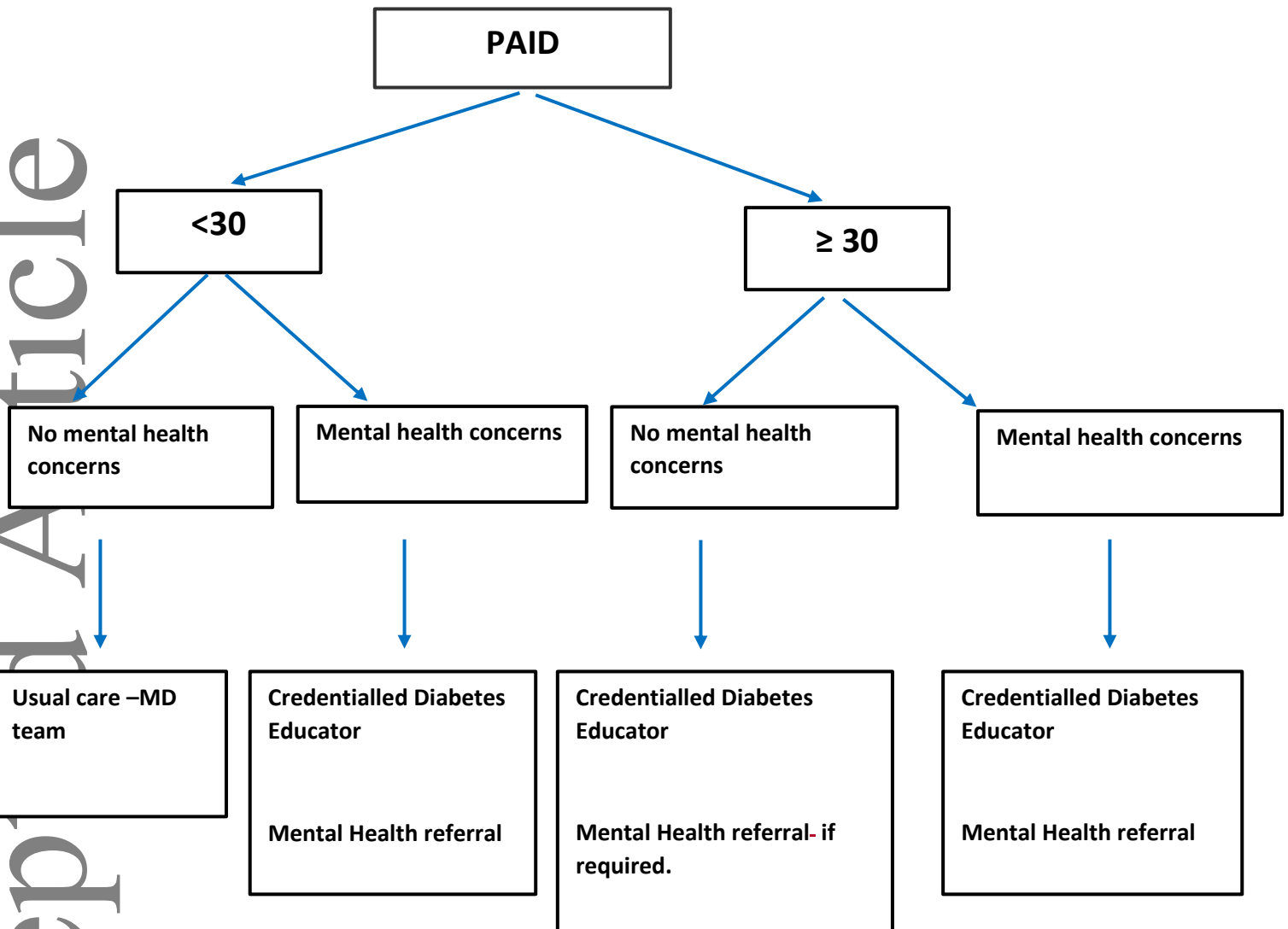
1	I feel that I can't ever be safe from hypoglycaemia	Not a problem	Slight problem	Moderate problem	Somewhat serious problem	Serious problem	Very serious problem
2	Do your hypo symptoms usually occur at a blood glucose level of:	3 or more mmol/L	Between 2.0-2.9 mmol/L	less than 2mmol/L	I do not feel symptoms		

Your well-being

WHO-5

	Over the past 2 weeks	All of the time	Most of the time	More than half the time	Less than half of the time	Some of the time	None of the time
1	I have felt cheerful and in good spirits	5	4	3	2	1	0
2	I have felt calm and relaxed	5	4	3	2	1	0
3	I have felt active and vigorous	5	4	3	2	1	0
4	I woke up feeling fresh and rested	5	4	3	2	1	0
5	My daily life has been filled with things that interest me	5	4	3	2	1	0

Care-pathway



Other considerations for all – refer to multidisciplinary team as appropriate and document results in chart:

- Social Support: if disagree, strongly disagree
- Weight, Shape and Eating: if score 1 or 2 (refer to dietitian/disordered eating protocol)
- Financial Concerns: No to Q 1,2 3 (if eligible) and 6, or Yes to Q 4 and 5
- Hypoglycaemia: slight problem or if 2.0-2.9mmol/L, <2mmol/L or do not feel symptoms

Refer to DAFNE program where appropriate