EATING DISORDERS ARE FREQUENT AMONG TYPE 2 DIABETIC PATIENTS AND ARE ASSOCIATED WITH WORSE METABOLIC AND PSYCHOLOGICAL OUTCOMES: RESULTS FROM A CROSS SECTIONAL STUDY IN PRIMARY AND SECONDARY CARE SETTINGS

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Background

- Data regarding the prevalence of eating disorders (ED) and their influence on clinical outcomes among patients with type 2 diabetes (T2DM) are scarce.
- Binge eating disorder (BED) is the most studied ED in T2DM. It is characterized by eating an objectively large amount of food with a perceived loss of control in a 2-hour period and it is not followed by compensatory behaviors.
- Reported prevalence rates of BED among T2DM range from 2.5% to 25.6%.

Aims

- To investigate the frequency of positive screening for ED and, specifically BED in a T2DM sample.
- To analyze whether there are any differences among T2DM subjects with a positive screening for ED or BED.

Materials and Methods

- 320 subjects with T2DM were recruited randomly using serial selection from 14 Primary Care settings and the Endocrine Department of a tertiary center in Palma de Mallorca (Spain).
- All participants were evaluated for the presence of ED by completing the "Eating Attitudes Test-26" (EAT26). In addition, the "Questionnaire of Eating and Weight Patterns Revised" (QEWP-R) for the screening of BED was also implemented.
- Sociodemographic, clinical and biochemical parameters were also recorded.

Results

- With **EAT26** 45 out of 320 scored ≥30, in other words, **14%** of the sample was indicative of **ED**.
- According to the **QEWP-R 16%** (51/320) had an **abnormal eating pattern**. The frequency of **BED** was **12.2%.**

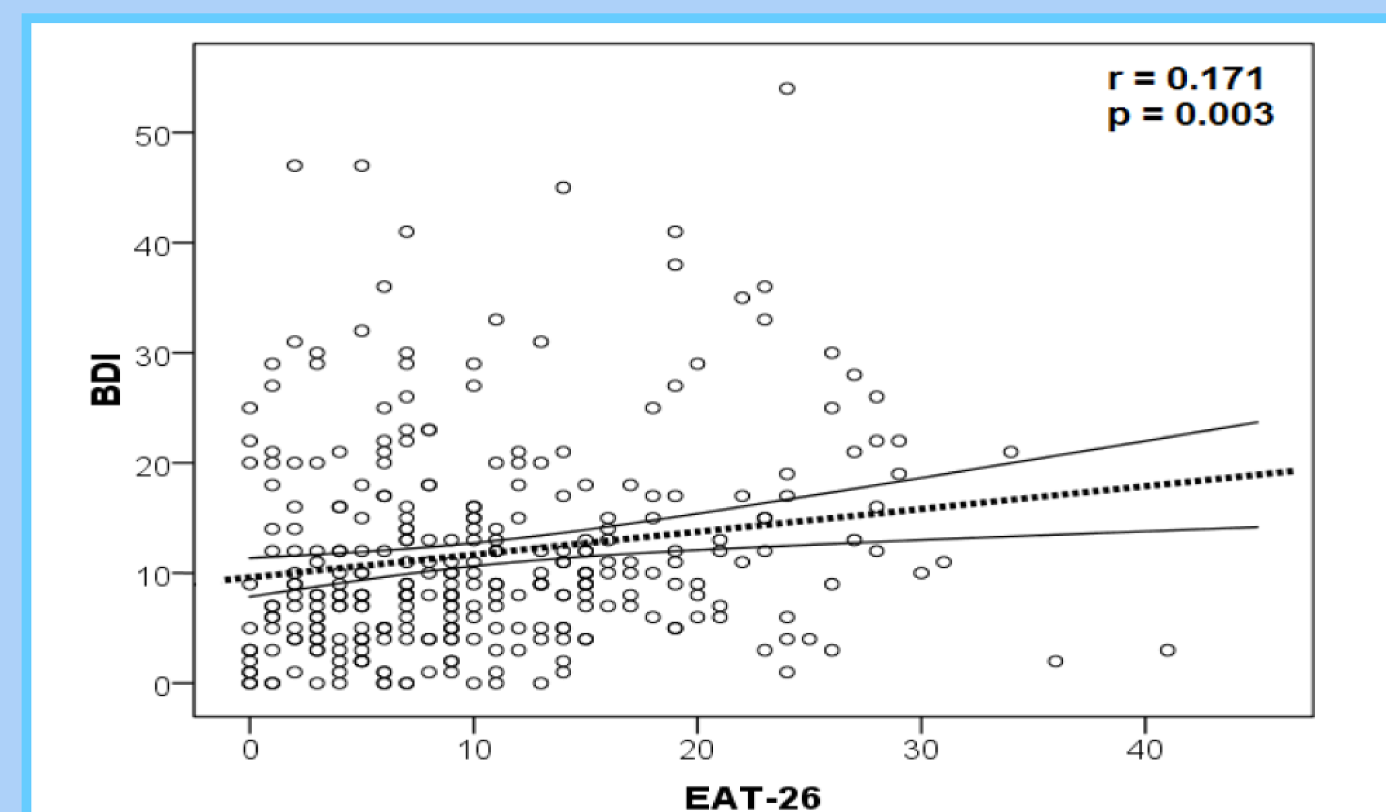
- **Subjects with a pathological EAT26** had **higher tryglicerides levels** compared with T2DM patients without criteria for an ED (177 39.1mg/dl vs 126.3 41 mg/dl; p=0.006)..
- **A pathological Beck Depression Inventory test** (BDI) was also **more frequent** among subjects with a **positive screening for an ED** with the EAT26 compared with subjects with a normal test (p=0.00039).
- No significant differences were seen in any other of the parameters assessed.

	No ED (n=267)	BED (n=39)	*p*
Gender (male/female) (%)	55/45	49/51	NS
Age (years)	63.3± 10.3	57.5± 11.1	p=0.004
Employment situation (active/ non active)	39/61	36/64	NS
Marital status (single/ couple)	24/76	28/72	NS
T2DM duration (years)	12.1± 9.6	8.5± 6.1	p= 0.002
Weight (kg)	82.4± 16.7	89.1± 1.3	p= 0.04
BMI (kg/m²)	30.7± 5.5	39.4± 10.3	p= 0.01
Waist circumference (cm)	105.4± 20.9	104.7± 23.1	NS

	No ED (n=267)	BED (n=39)	*p*
HbA1c (%)	7.5± 1.4	7.8± 2.3	NS
Fasting plasma glucose (mg/dl)	149.5± 46.5	157.9± 86.6	NS
Triglycerides (mg/dl)	174.7± 141.7	181.3± 118.9	NS
Total cholesterol (mg/dl)	185.4± 42	195.3± 42.9	NS
LDLc (mg/dl)	105.5± 32.5	113.7± 38	NS
HDLc (mg/dl)	46.4± 14.5	44.2± 10.6	NS
TSH (µUI/mL)	3.1± 4.5	2.7± 2.2	NS
fT4 (ng/dL)	1.3± 1.1	1.8± 2.8	NS
Plasma Creatinine (mg/dL)	0.9± 0.3	0.8± 0.2	NS
Albumin-to-creatinine ratio (mg/dL)	30.4± 90.9	39.3± 74.2	NS

	No ED (n=267)	BED (n=39)	*p*
Hypertension (%)	72	77	NS
Dyslipidemia (%)	64	69	NS
Coronary disease (%)	17	13	NS
Tobacco use (%)	14	13	NS
Cerebrovascular disease (%)	5	0	NS
Obesity (%)	49	56	NS
Vasculopathy (%)	5	0	NS
Chronic kidney disease (%)	5	3	NS
Heart failure (%)	4	0	NS
Family history of coronary disease (%)	2	8	NS
Monthly hypoglicaemia (%)	13	7	NS
Nephropathy (%)	9	8	NS
Retinopathy (%)	9	9	NS
Neuropathy (%)	11	3	NS
Diabetic foot (%)	2	3	NS
Admissions directly related to T2DM (%) during the previous year	3	10	p=0.04
Admissions for any other disease during the previous year (%)	21	33	p=0.01
Subjects with monthly visits (%)	21	26	NS

When we assessed for significant clinical symptoms for depressive disorder, there was a positive correlation between the scores obtained with the EAT26 and the ones obtained with the BDI (p=0.0014):



Conclusions

- ED among T2DM are frequent. Due to its deleterious effect on different metabolic and psychological outcomes, they should be diagnosed promptly, especially BED.

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