

The Influence of Diabetes Distress on a Clinician-Rated Assessment of Depression in Adults with Type 1 Diabetes

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Two patients

Background

- Diagnosis of Major Depressive Disorder (MDD) is context-free
- In diabetes, depression associated with worse disease progression and complications
de Groot et al., 2001, Zhang et al., 2005, Lustman et al., 2000
- MDD treatment efficacy for glycemic control
Markowitz et al., 2011
- Measurement challenges
 - Symptom overlap
 - Subclinical depression vs. MDD vs. diabetes-specific distress
 - Risk of overpathologizing distress
Gonzalez et al., 2011

Qualitative Methods

- Benefits to behavioral diabetes research
 - Context of living with chronic illness
 - Complexity of emotional experience
 - Complements self-report measures

Folkman & Moskowitz, 2004; Anderson & Robins, 1998; Ritholz, Beverly, & Weinger, 2011; Castro, Kellison, Boyd, & Kopak, 2010; Yoshikawa, 2008

Purpose

- Aim 1: Analyze clinician-rated depression interviews for diabetes-related content
- Aim 2: Assess relationships between interview-based diabetes distress rating and self-report measures of depression and diabetes distress; assess differences in diabetes distress by MDD diagnosis

Research Design

- Adults (18-70) with type 1 diabetes recruited through Montefiore Clinical Diabetes Program (Bronx, NY)
- Baseline assessment for pilot intervention to improve depression and treatment adherence
 - Invited to participate regardless of distress level

Measures

- Clinical Interviews (audio-recorded)
 - Montgomery-Asberg Depression Rating Scale (MADRS)
 - Assesses depressive symptoms in past week
 - Mini-International Neuropsychiatric Interview
- Self-report Questionnaires
 - Diabetes Distress Scale (DDS)
 - Center for Epidemiological Studies – Depression (CES-D)
- HbA1c

Montgomery-Asberg Depression Rating Scale

1. How's your mood been the past week? Have you been feeling down or depressed?

- In the last week, how often have you felt this way? Every day?
- Do you feel better when pleasant things happen?
- Can a good joke brighten your mood?
- Is there anything that can make you feel better, even briefly?

*rated on scale of 0-6; each question has additional probes

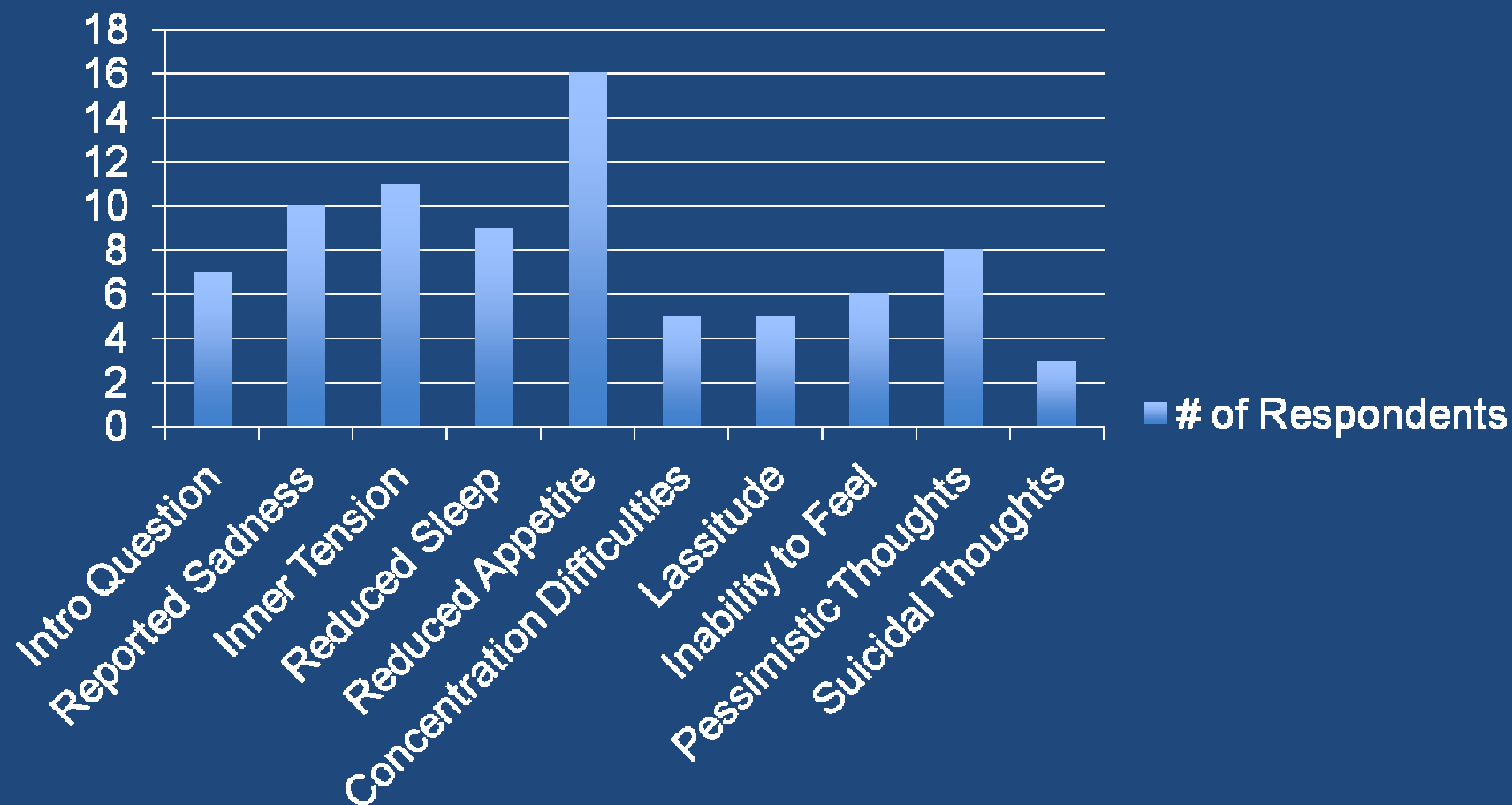
Data Analysis

- Qualitative
 - Transcribed diabetes-related content of MADRS
 - Analyzed data with coding group
 - Generated key themes
 - Assigned MADRS Diabetes Score (0 – 9)
- Quantitative
 - Descriptives
 - Pearson correlations and t-tests

Demographics

Characteristic	
N	34
Age, mean (SD)	43.55 (12.81)
Female	67%
Race	
White	55.9%
Black	38.2%
Native American	2.9%
Asian	2.9%
Ethnicity	
Non-Hispanic	73.5%
Hispanic	26.5%
MDD Diagnosis	44.1%
MADRS, mean (SD)	9.76 (9.95)
A1c, mean (SD)	7.96 (1.45)

Diabetes Responses for each MADRS Question



*Total participants with diabetes responses = 22

Key Themes

1) *Distress about Diabetes*

2) *Symptom Overlap*

3) *Mood <---> Blood Glucose Levels*

Theme 1: Distress about Diabetes

“I check my blood and it's high and I check my blood and it's low and I go back to eat something and it gets high again and it's just tiresome. Sometimes I get like, whatever, it just doesn't matter.”

- 46-year-old African American male

“The insulin makes me gain weight...Since I've been on insulin, I'm grossly obese now, and when I look in the mirror it's depressing.”

- 53-year-old Hispanic female

Theme 2: Symptom Overlap

Appetite: “[I only forced myself to eat] *when I was low and I had to eat something, so I guess probably two or three times this week where I thought I really don't want to eat something but I have to.*”

- 24-year-old White female

Sleep: “*Until my sugars drop, I don't really go to sleep very much...it's just very restless sort of sleeping and then I'm up and I can't just go to sleep. It's very uncomfortable.*”

- 24-year-old Hispanic female

Theme 3: Mood <---> Blood Glucose Levels

“I've made an effort to be more aware of my moods simply because of my blood sugar levels, because I know when my blood sugar is out of whack I can really take people's heads off.”

- 44-year-old Hispanic female

“Whatever goes on with me...one of my immediate responses in my head is ‘Oh my god...don't get nervous, your sugar is gonna go high.’”

- 56-year-old White female

Quantitative Analyses

	MADRS Total Score (r)	p value
CES-D	.77	< .001
DDS	.62	< .001
	MADRS Diabetes Score (r)	p value
DDS	.35	.05

*N = 34

Quantitative Analyses

	DDS Mean	SD
MDD	2.56	1.10
No MDD	1.57	.72
$t(32)=3.17, p = .003$		
	MADRS Diabetes Score Mean	SD
MDD	3.00	2.39
No MDD	1.53	1.98
$t(32)=1.97, p = .058$		

*N = 34

Conclusions

- Diabetes may influence depression assessment
- MDD diagnosis may not account for living with chronic illness
- Limitations
 - Sample size
 - MADRS as qualitative interview

Future Directions

- Clinical implications
 - What about participants who didn't mention diabetes?
- Question:
 - “Does your experience living with diabetes contribute to or cause the symptoms of depression we just spoke about?”
- Type 2

Thank you!

Questions?

Study Variables

	Mean	(SD)	Range
1. MADRS Total	9.76	(9.95)	0 - 44
2. MADRS Diabetes Score	2.18	(2.26)	0 - 9
3. CES-D	13.97	(12.59)	0 - 59
4. DDS	2.07	(.93)	1 - 4.71

Correlations among Study Variables

	1	2	3	4
1. MADRS Total	--	.31	.77***	.61***
2. MADRS Diabetes Score		--	.30	.34*
3. CES-D			--	.74***
4. DDS				--
* $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$				

Another Theme: Social burden

“I can be frustrated...really bummed that if I'm with someone or my partner or a friend and I feel like I'm low or I'm crashing or I feel like I'm high or whatever, I feel bad that I have to subject him, them, to the fact that I feel bad. And I always feel bad.”

- 32-year-old African American female

“[My daughter] worries about me and she's only 8 years old. She's been through so much with me. I had the kidney transplant, the eyes, the diabetes. She sees me take my shots and I had to teach her like, 'God forbid Mommy doesn't feel good, you need to call 9-1-1.' ...She needs to know these things, and I always feel guilty about that she's not having a normal life like other 8-year-olds”

- 41-year-old White female

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