Diabetes and Depression

Select Abstracts from ADA 2003
Dave Joffe, Editor in Chief

Diabetes Increases The Risk For Depression. Little is known about rates of depression in multicultural diabetes samples. This study evaluated rates of depression in a multicultural sample of Diabetes Expo attendees in New York City. A total of 104 people with type 1 and type 2 diabetes participated. Depression was measured using the CESD. The sample was 58% female, with a mean age of 51 ± 12 years, and 67% multicultural (46% African-American, 17% Hispanic, 4% Asian). Annual income was normally distributed (mode: $21,000-40,000; 33%). Seventy-five percent reported type 2 diabetes, with oral agents as the modal diabetes treatment type (53%; insulin: 22%; diet only 14%; combination therapy 12%). Mean BMI was 31 ± 7. Most reported current health (92%) and mental health (66%) insurance coverage.

Mean CESD score was 18 ± 13 (response range: 0-50). Using conservative thresholds (CESD ³ 22), 31% of participants reported clinically significant levels of depression. Thirty-one percent of African-Americans met or exceeded this threshold, as did 31% of Whites, 29% of Hispanics, and 44% of other ethnic groups. Depression rates did not differ by ethnic group or diabetes type. Forty-eight percent reported use of at least one depression treatment modality. Twenty-four percent of participants endorsed the use of 1 or more antidepressant medications, with 79% appraising these medications as satisfactory. Other treatments used: 9% herbal remedies (50% satisfied), 37% mental health providers (73% satisfied), and 15% other healers (e.g. ministers, faith healers; 81% satisfied). Only 20% reported consistent mood screening by primary care providers (PCP; 20% at every visit) or diabetologists (23% at every visit). Twenty percent reported no known depression screening by their PCP or diabetologist.

Clinically significant depression was reported by 1 in 3 multicultural urban participants with type 1 or type 2 diabetes. Rates did not differ by diabetes type or ethnic group. One in 5 participants reported no known depression screening by their medical providers. **Increased depression screening by health care providers is needed for all patients with diabetes.**

[1782-P] Depression in a Multicultural Sample of Diabetes Expo Attendees
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Effect of Major Depression on Functional Disability
Background: Major depression (MD) and diabetes (DM) are highly prevalent diseases, and both are major contributors to functional disability in the United States. Data from the 1999 National Health Interview Survey (NHIS) was analyzed to determine the incremental effect of MD on functional disability in adults with diabetes.

Methods: 30,022 adults were surveyed in 1999. Diabetes was based on self-report. MD was assessed with the Composite International Diagnostic Interview Short Form (CIDI-SF), which is a valid and reliable diagnostic interview with classification accuracy of 93% for DSM IV MD. Four comorbidity groups were created: 1 (DM alone), 2 (MD alone), 3 (DM plus MD), and 4 (Neither DM nor MD). Functional disability was defined as difficulty performing at least 1 of the following 12 tasks without special equipment: walk 3 city blocks, walk up 10 steps, stand on feet for 2 hours, sit for 2 hours, stoop, bend, or kneel, reach over head, grasp small objects, and lift 10 pounds, push/pull heavy objects, go out shopping, visit friends, and watch TV or listen to music to relax at home. Perceived health status was categorized as good (same/better) or poor (worse) compared to 12 months ago. Multiple logistic regression was used to determine the odds of functional disability across comorbidity groups, while controlling for health status, age, sex, ethnicity, education, income, and geographic location. STATA was used for statistical analyses to account for the complex sampling design of the NHIS.

Results: Sample sizes were group 1=1,852, group 2=1,624, group 3=170, and group 4=26,376. Weighted estimates of functional disability were group 1=58%, group 2=51%, group 3=78%, and group 4=25%. Using group 4 as reference and controlling for covariates, odds of functional disability were 3.0 (95% CI 2.6, 3.5) for group 1, 3.0 (95% CI 2.6, 3.4) for group 2, and 8.1 (95% CI 5.5, 12.0) for group 3.

Conclusions: DM and MD are independently associated with functional disability, but having both conditions is associated with even greater odds of functional disability than any one condition alone. Further research is needed to determine the existence of a causal relationship.
[1786-P] Effect of Major Depression on Functional Disability in a National Sample of Adults with DiabetesLEONARD E. EGEDE. Charleston, SC.

Psychosocial difficulties have been documented in adolescents newly-diagnosed with diabetes. Peers have the potential to be an asset to adolescents' diabetes care, yet many adolescents do not discuss diabetes with their friends.

As part of a randomized controlled intervention study measuring the effects of a peer intervention, 52 adolescents aged 10-18 years (M=13.70, SD=2.02) completed a baseline packet of psychosocial measures during their initial hospitalization. Fifty percent of subjects indicated that they had told at least one friend about their diagnosis of diabetes, with an average of 2.54 friends (SD=4.54) being notified. Subjects planned to tell an average of 5.35 additional friends (SD=6.63) and to withhold information about their diagnosis from an average of .78 friends (SD=1.50). At baseline, the number of friends subjects would tell about their diagnosis of diabetes was associated with more frequent peer interaction (PIR; r=.37, p<.01), lower levels of depression (CDI; r=-.32, p<.05), better self-perception (SPP; r=.31, p<.05), and less loneliness (PNDLS; r=-.25, p<.05). The number of friends subjects would not tell about their diagnosis was associated with higher levels of depression (CDI; r=.44, p<.01) and poorer self-perception (SPP; r=-.31, p<.05).

Preliminary analyses of three-month follow-up data (N=25) indicate that planning to tell friends or planning to withhold this information at baseline is longitudinally predictive of self-perception, peer interaction, and self-care of diabetes. Telling or not telling friends is a construct separate from existing peer network; the number of friends subjects reported having was not associated with psychosocial variables such as depression (CDI; r=-.14, NS), or peer interaction (PIR: r=.10, NS).

Sharing information about the diagnosis of diabetes with peers appears to be an important process associated with psychosocial adjustment at diagnosis and shortly therafter; long-term associations and implications for diabetes care should continue to be investigated.
1797-P] Revealing the Diagnosis of Diabetes to Friends: The Beginnings of Social Support
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The purpose of this study was to examine relationships between glycemic control, symptoms of depression, and diabetes self-care in a large sample of patients with type 2 diabetes.

Patients were recruited from a local health maintenance organization (n=795, mean age±SD=58±11, 47%male). Based on previous research, we hypothesized that depressive symptoms would be negatively related to self-care, but that self-care would show little or no relationship to glycemic control in type 2 patients. Therefore, we expected that depressive symptoms would not be associated with poor glycemic control in our sample. HbA_{1c}% was used to assess glycemic control, the Beck Depression Inventory was used to assess symptoms of depression, and the Schedule of Diabetes Self-Care Activities, a self-report scale of 5 behavior areas, was used to assess self-care. Depressive symptoms were associated with reduced self-care with respect to diet-calories (r=-.23, p<.01), diet-fiber intake (r=-.11, p<.01), diet-fat intake (r=-.14, p<.01), diet-intake of sweets (r=-.13, p<.01), and exercise (r=-.15, p<.01). As hypothesized, controlling for age, sex, race, and other factors, self-care accounted for a very small portion of the variance in glycemic control (adj. R^2=.02, p=.008). Also, as expected, depression score was not a significant predictor of glycemic control (adj. R^2=.01, p=.16).

In conclusion, this study confirms our previous finding of a lack of relationship between symptoms of depression and glycemic control in type 2 diabetes. These results call into question the notion that treating depression in patients with type 2 diabetes will result in improved glycemic control.
[1807-P] Depressive Symptoms Are Not Related to Glycemic Control in Patients with Type 2 Diabetes PRITI I. PAREKH, CYNTHIA MCCASKILL, CHRISTOPHER L. EDWARDS, JAMES D. LANE, MARK FEINGLOS, RICHARD S. SURWIT. Durham, NC.

Women with type 2 diabetes (T2DM) have worse outcomes and greater risks for developing DM complications than men.

The purpose of this study was to examine factors that influence metabolic control (HbA1c) and psychosocial adjustment (diabetes-related distress, integration, and depression) in women with T2DM.

In the sample of 53 women [mean age 58yrs(SD11), mean duration 3yrs(SD3), mean BMI 36kg/m2(SD8)], 89% were Caucasian, 11% Hispanic, 70% married, and 96% were overweight/obese. Twenty-nine percent had a yearly income <$19,999, and 32% were taking an anti-depressant. Data included: HbA1c, diabetes-related distress (PAID), integration (TDQ), depression (on anti-depressant), age, BMI, support, confidence, and feelings about living with DM (DSMART subscales), and functional health (SF-36 subscales).

Stepwise multiple regression analyses indicated that women with better metabolic control had lower BMI (beta=.30, p=.03) and greater social support and confidence in living with DM (beta=-.39; R2=.24, p<.01). Women who reported less diabetes-related distress also had better general health (beta=-.24, p=.05) and less negative feelings (overwhelmed or fearful) (beta=-.45, p<.01) (R2=.52, p<.01). Women who reported greater integration of DM into their lives were more likely to be older (beta=.43, p<.01) and had greater social support and confidence in living with diabetes (beta=.33,p<.01;R2=.57, p<.01).Women on anti-depressants demonstrated no significant differences in HbA1c, diabetes-related distress, or integration compared with women not on anti-depressants. Women on anti-depressant medication had significantly less physical functioning (F=6.5,p=.01), less vitality (F=5.8,p=.02), and worse general health (F=4.2, p=.05).

Women with T2DM are disproportionately at risk for psychosocial distress and depression. While further research is indicated, additional supportive interventions may be beneficial for women with T2DM who have diminished general health, limited social support, decreased self-confidence, and women who are overwhelmed with the demands of DM.

[1828-P] Factors Associated with Physiological and Psychosocial Adjustment in Women with Type 2 Diabetes ROBIN WHITTEMORE, GAIL MELKUS, MARGARET GREY. New Haven, CT; New Haven, CT; New Haven, CT.