

Sweet Sadness...Identifying Depression in Diabetes

Marie Byrd, MSN, RN, CCRN, CDE; Crissy Dodson, MSN, PhD, RN; Jenny Simpson, MSN, RN, BC-ADM; Jeannine Fishel, MSN, RN, CDE; Gina Davis, BSN, RN, CDE; Ann Clark, MSN, RN, CNS, CDE; ReGina Ingle, MSW, LCSWA

Cone Health Inpatient Glycemic Control Team

Abstract

The perpetual stress of dealing with Diabetes Mellitus (DM) management can leave patients feeling overwhelmed, alone and withdrawn, which can lead to depression. When depression is present in patients with DM, they have an increased complication rate, an increased risk of mortality, and a lack of interest in managing self-care and control of DM.

A review of the literature confirms there is a high prevalence of depression among patients with diabetes. Further findings bring to light that diabetes doubles the risk of depression.

Significant issues found in the literature include recognizing, diagnosing, and treating depression in the diabetes population. It is estimated that depression goes undiagnosed in 45% of patients with diabetes.

This project was formulated to determine the prevalence of depression in patients with diabetes, through screening and history, at a 450 bed urban campus in a multi-hospital system.

Methods

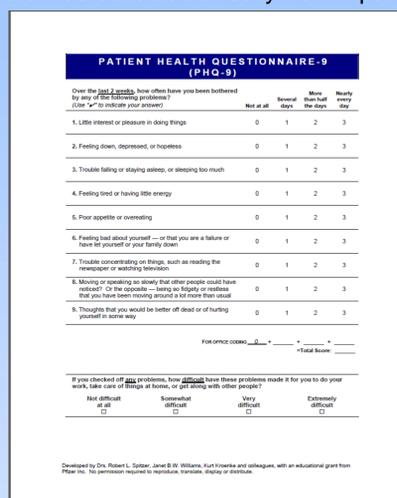
- A cross-sectional design with a random process for sampling was used for the research study. Identified patients were screened for depression using the PHQ-9 screening tool. Screenings were conducted by registered nurses from a team of six inpatient diabetes coordinators. Data was collected directly from inpatients that met the criteria from April 6, 2015 to December 21, 2015.

□ Inclusion Criteria

- ❖ Inpatients at 450 bed urban hospital
- ❖ 18 years of age or older
- ❖ History of DM (>6 months)
- ❖ Hemoglobin A1C value obtained during current hospitalization

□ Exclusion Criteria

- ❖ Non-English speaking patients
- ❖ Mentally incompetent patients
- ❖ Patients with cognitive or speech impairments that prevent interviews
- ❖ Prisoners or parolees
- ❖ Pregnant Subjects
- ❖ ICU/Stepdown patients
- ❖ Rehab patients
- ❖ New-Onset Diabetes



PATIENT HEALTH QUESTIONNAIRE-9 (PHQ-9)

Over the last 2 weeks, how often have you been bothered by any of the following problems? (Check one for each problem)

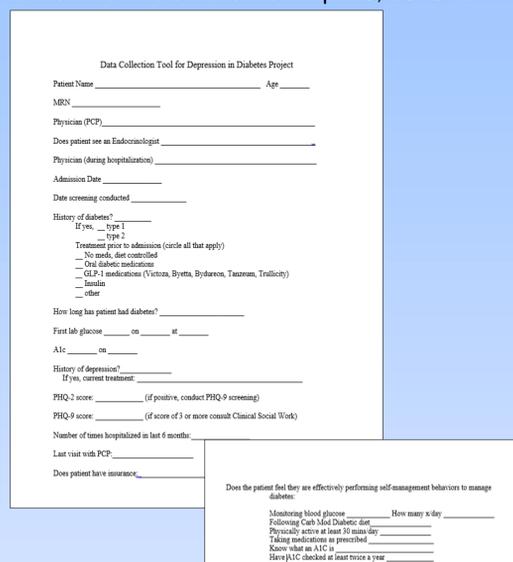
	Not at all	Seldom	Some days	Most or nearly every day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed, or hopeless	0	1	2	3
3. Trouble falling or staying asleep, or sleeping too much	0	1	2	3
4. Feeling tired or having little energy	0	1	2	3
5. Poor appetite or overeating	0	1	2	3
6. Feeling bad about yourself — or that you are a failure or have let yourself or your family down	0	1	2	3
7. Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed? Or the opposite — being so fidgety or restless that you have been moving around a lot more than usual	0	1	2	3
9. Thoughts that you would be better off dead or of hurting yourself in some way	0	1	2	3

For clinician use only: Total Score: _____

If you checked off **any** problems, how **difficult** have these problems made it for you to do your work, take care of things at home, or get along with other people?

	Not difficult at all	Somewhat difficult	Very difficult	Extremely difficult
	0	1	2	3

Developed by Dr. Robert L. Spitzer, Janet B.W. Williams, Kurt Kroenke and colleagues, with an educational grant from Pfizer Inc. No permission required to reproduce, translate, adapt or distribute.



Data Collection Tool for Depression in Diabetes Project

Patient Name: _____ Age: _____

MRN: _____

Physician (PCP): _____

Does patient see an Endocrinologist: _____

Physician (during hospitalization): _____

Admission Date: _____

Date screening conducted: _____

History of diabetes? _____

If yes, type 1 _____ type 2 _____

Treatment prior to admission (circle all that apply)

- ___ No meds, diet controlled
- ___ Oral diabetes medications
- ___ GLP-1 medications (Victrola, Byetta, Bydureon, Tanzeum, Trulicity)
- ___ Insulin
- ___ Other _____

How long has patient had diabetes? _____

First lab glucose on _____ at _____

A1c on _____

History of depression? _____

If yes, current treatment: _____

PHQ-2 score: _____ (if positive, conduct PHQ-9 screening)

PHQ-9 score: _____ (if score of 3 or more consult Clinical Social Work)

Number of times hospitalized in last 6 months: _____

Last visit with PCP: _____

Does patient have insurance: _____

Does the patient feel they are effectively performing self-management behaviors to manage diabetes?

	Monitoring blood glucose	How many x/day
Monitoring blood glucose	_____	_____
Following Cash Meal Diabetes diet	_____	_____
Physically active at least 30 mins/day	_____	_____
Taking medications as prescribed	_____	_____
Know what an A1C is	_____	_____
Have A1C checked at least twice a year	_____	_____

- Data collected was documented on an audit tool and entered into a secure Excel spreadsheet
- If the participant scored 3 or greater on the PHQ-9 screening tool, a consult was placed for inpatient social worker
- A 95% confidence interval on estimated prevalence analysis was used to determine the prevalence of depression

Conclusion

- Inpatient hospitalization is an opportunity for routine depression screening. The screening could affect long term management and general well-being of patients, which could potentially:
 - ❖ Reduce readmission rates and
 - ❖ Decrease health care costs
- Results from this study confirmed previous findings that have shown a high prevalence of depression in patients with diabetes.
- The increased prevalence of depression symptoms in patients with diabetes and an A1C greater than 8.0% indicates a need for further research, investigating whether the depression symptoms are inhibiting patients to properly care for themselves.
- Results also indicated that the length of time a patient has had diabetes (6-10 years) along with the use of insulin may lead to increased prevalence of depression symptoms.
- Further research is needed to measure whether there are cost savings to hospital systems associated with identification and treatment of depression symptoms in patients with diabetes.
- Integration of the psychological assessment and a plan of care is necessary in hospitalized patients who have diabetes, potentially leading to improved outcomes and quality of life, benefiting both the individuals and society.

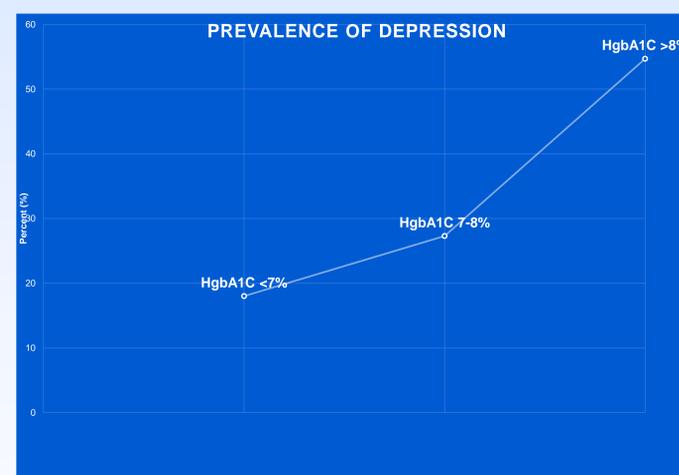
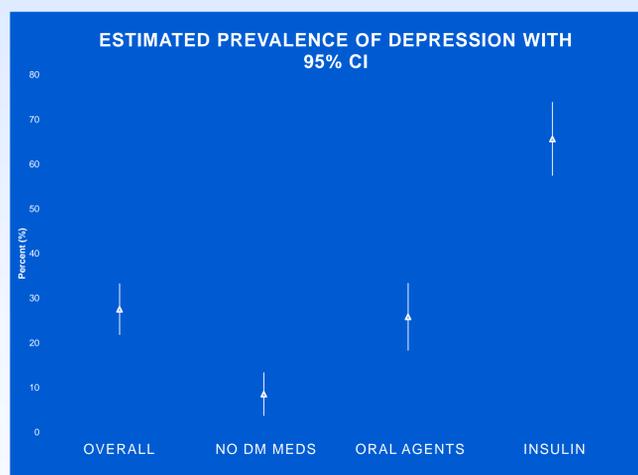
Burning Question

Would routine depression screening in hospitalized patients with diabetes have the potential to identify depression symptoms?

Triggers

- ❖ Problem Focused: Lack of depression screening in patients with diabetes admitted to the hospital
- ❖ Knowledge Focused: ADA Standards of Care and literature review confirm the importance of integrating the psychological assessment and the plan of care in patients with diabetes

Results



- **48.8% to 61.6 % of participants were positive for depression ranging from mild to severe**
- **29.7% of participants that had no documented history of depression and screened positive for depression symptoms**
- **In examining depression and length of time diagnosed with diabetes:**
 - 25% of participants that had diabetes for 6-10 years had the highest percentage of depression
- **54.7% of patients with a Hemoglobin A1c over 8% screened positive for depression**
 - The higher the A1C, the higher the prevalence was for depression

References

- Al-Amer, R. M., Sobeh, M. M., Zayed, A. A., & Al-domi, H. A. (2011). Depression among adults with diabetes in Jordan: Risk factors and relationship to blood sugar control. *Journal of Diabetes and Its Complications*, 25, 247-252. <http://dx.doi.org/10.1016/j.jdiacomp.2011.03.001>
- American Diabetes Association. (2016b). Standards of medical care in diabetes. Retrieved from http://care.diabetesjournals.org/content/39/Supplement_1/S1.full
- Ducat, L., Philipson, L.H., & Anderson, B.J. (2014). The mental health comorbidities of diabetes. *JAMA*, 312 (7), 691-692. Retrieved from <http://jama.jamanetwork.com/article.aspx?articleid=1888681>
- Golden, S. H., Laxo, M., Carnethon, M., Bertoni, A. G., Schreiner, P. J., Diez Roux, A. V., ... Lyketsos, C. (2008). Examining a bidirectional association between depressive symptoms and diabetes. *JAMA*, 299(23), 2751-2759. Retrieved from <http://jama.jamanetwork.com.ezproxy.undmedlibrary.org/article.aspx?articleid=182095>
- Jin, H., Wu, S., & Di Capua, P. (2015). Development of a clinical forecasting model to predict comorbid depression among diabetes patients and an application in depression screening policy making. *Preventing Chronic Disease*, 12:150047. <http://dx.doi.org/10.5888/pcd12.150047>
- Katon, W. J., Rutter, C., Simon, G., Lin, E. H., Ludman, E., Ciechanowski, P., ... Von Korff, M. (2005). The association of comorbid depression with mortality in patients with type 2 diabetes. *Diabetes Care*, 28(11), 2668-2672. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/16249537>
- Lustman, P. J., & Clouse, R. E. (2005). Depression in diabetic patients: The relationship between mood and glycemic control. *Journal of Diabetes and Its Complications*, 19, 113-122.

Cone Health Magnet Facilities

Annie Penn Hospital
Behavioral Health Hospital
Moses Cone Hospital
Wesley Long Hospital
Women's Hospital