ISSN: 2639-4553

Madridge Journal of Case Reports and Studies

Case Report

Open Access

Review and Case Study of the Diabetes Distress Scale-2

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Article Info

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Received: June 7, 2018
Accepted: July 17, 2018
Published: July 24, 2018

Citation: Scemons D. Review and Case Study of the Diabetes Distress Scale-2. *Madridge J Case Rep Stud.* 2018; 2(1): 50-52. doi: 10.18689/mjcrs-1000112

Published by Madridge Publishers

Abstract

Diabetes and depression are often co-morbidities; however, in a busy clinic practice there are often time limits and no tools to increase efficiency while supporting the effectiveness for the Advanced Practice Nurse (APN). Depression may be misdiagnosed when the patient is actually experiencing diabetic distress. The Diabetic Distress Scale-2 (DDS-2) is a 2 question self-administered tool available in several languages and a valuable screening tool for APNs to assist in determining whether the diabetic patient is depressed or distressed. The following is a case report of how the use of the DDS-2 assisted in caring for 63 year-old Latina woman with DM2.

Keywords: Diabetes; Depression; Advanced Practice Nurse.

Overview

Diabetes has become an increasing health management problem with national and worldwide implications. The Centers for Disease Control (CDC) reports 30.3 million or 9.4% of the population in the United States (US) had diabetes in 2015 [1,2]. According to the World Health Organization (WHO) 422 million or 8.5% of adults in the world had diabetes in 2014 [3]. The CDC report indicates that diabetes is the seventh cause of death in 2015; costing 245 billion dollars in 2012 [2]. This compares to the statistics from WHO which estimates 1.6 million deaths in 2015 [3].

The complicated and demanding self-management requirements of this chronic condition often results in diabetic distress (DD) which impacts self-management success and care outcomes. Diabetes distress is considered the somewhat unique, commonly stressful, bothersome, or emotional aspects of living with a chronic disease such as diabetes [4]. It is distinct from depression [5,6] and requires a different primary care strategy for patient care management.

The Diabetic Distress Scale-2 (DDS-2) is a 2 question scale using a 6 point Likert scale for scoring with 1 indicating not a problem to 6 indicating a severe problem [6], [7]. If the patient scores an average of the 2 screening items as ≥ 3 or the sum as ≥ 6, the Diabetic Distress Scale-17 (DDS), a self-administered questionnaire of 17 potential problem areas is suggested to be administered before establishing a specific plan of care [7]. Both scales are available in a number of languages and found to be valid and reliable [8-11]. However, the determination to administers decided by the licensed healthcare provider. The DDS 17 contains four subscales: emotional distress, physician distress, regimen distress, and interpersonal distress [7]. Both the DDS-17 and the DDS-2 scales recommend a provider discuss with the patient if his or her mean score is ≥ 3 or the sum is ≥ 6 for either tool. The following will describe a case study of a 63-year-old female with Diabetes Mellitus Type 2 (DM2) who benefitted from the administration of the Diabetes Distress Scale-2(DDS-2) in a primary care setting.

Mrs. R, a 63-year-old Latina female was seen in the primary clinic with chief complaint of suboptimal management of her DM2 and concern over a recent suggestion that she was experiencing depression due to a chronic condition. Mrs. R., a registered nurse, adamantly

denied being depressed and did not want this diagnosis in her medical record nor did she want to have any treatment for depression including medications or counseling.

As part of the clinic protocol she was asked to complete the Diabetes Distress Scale-2 prior to seeing the APN. Using the DDS-2, a 2 question scale, takes less than one minute and assists in determining if completion of the DDS, a 17 question scale, is recommended for the individual patient [7]. The 2 questions in the DDS-2 are:

"Feeling overwhelmed by the demands of living with diabetes.

Feeling that I am often failing with my diabetes regimen [7]".

Mrs. R. scored the first question as a 2 and the second as a 1. Once either of these scales is completed the healthcare provider may determine an outcome directed, specific, individualized plan of care for each patient that meets current clinical standards and distinguishes between diabetes distress and depression. The APN who was treating Mrs. R. determined the development of a specific plan of care regarding these scores was appropriate as recommended by the DDS-2 and DDS-17 authors at this time and did not administer the DDS-17 [7].

During the APN interview at the beginning of the clinic encounter Mrs. R disclosed that she felt that having DM2 was difficult as she had to plan her meals and watch her food intake and weight all the time which interfered with family and work celebrations. She did not feel that her previous provider had offered counseling concerning how to better manage her diagnosis. She also mentioned that although she was a nurse "it isn't the same when you are the patient." Mrs. R. had not been referred to dietitian services, diabetes education, or diabetes support groups.

Mrs. R. had recently moved to a new area and was interested in changing providers.

According to the medical records she brought to the clinic, the initial diagnosis of DM2 was made 10 years ago and her HgA1c had ranged from 7.9-8.9%. Mrs. R. has been taking Metformin 500 mg. two times per day for the past 5 years. Her daily FBS ranges from 118-210 mg/dL on her home blood monitor. She reveals that the higher numbers are generally after she has eaten higher carbohydrate meals or after she has consumed desserts such as cake and ice cream.

She was diagnosed 15 years ago with hypertension and hypercholesterolemia. Mrs. R. has been taking Atenolol 10 mg daily and Simvastatin 20 mg daily since these diagnoses. She states that she has no side effects and prefers to remain on these medications because she is used to them and has a medication schedule.

Physical Exam reveals the following:

Weight: 180 lbs. 81.6 kg. Height: 5' ½" (BMI): 33.6 kg/m^2

Blood pressure: lying, right arm 130/66 mmHg; sitting, right arm 128/60 mmHg

Pulse: 78 bpm, RRR; respirations 20 per minute

Temperature: 97.6

Eyes: corrective lenses, pupils equal and reactive to light and accommodation, Fundi-clear, no arteriovenous nicking, no retinopathy

Neck: no lymphadenopathy, FROM

Thyroid: nonpalpable

Lungs: clear to auscultation all lobes bilaterally

Heart: Rate and rhythm regular, no murmurs or gallops

Vascular assessment: no carotid bruits; femoral, popliteal, and dorsalis pedis pulses 2+ bilaterally

Neurological assessment: vibratory positive, sense equal bilaterally to the forefoot, + ankle reflexes, monofilament (5.07 Semmes-Weinstein) felt all aspects of foot and ankle

Psych: oriented x 4, denies depression, anxiety

Lab Results:

Results of laboratory tests (drawn 2 days before the clinic visit):

Glucose (fasting): 156 mg/dl (normal range: 65–109 mg/dl)

Creatinine: 0.8 mg/dl (normal range: 0.5–1.4 mg/dl)

Blood urea nitrogen: 15 mg/dl (normal range: 7–30 mg/dl)

Sodium: 139 mg/dl (normal range: 135–146 mg/dl)

Potassium: 4.0 mg/dl (normal range: 3.5–5.3 mg/dl)

Lipid panel

Total cholesterol: 150 mg/dl (normal: <200 mg/dl)

HDL cholesterol: 47 mg/dl (normal: ≥40 mg/dl)

LDL cholesterol (calculated): 67 mg/dl (normal: <100 mg/dl)

Triglycerides: 167 mg/dl (normal: <150 mg/dl)

AST: 15 IU/l (normal: 0–40 IU/l)

ALT: 21 IU/l (normal: 5–40 IU/l)

Alkaline phosphatase: 54 IU/l (normal: 35–125 IU/l)

A1C: 8.1% (normal: 4–6%)

Urine micro albumin: 40 mg (normal: <30 mg)

Assessment

Uncontrolled DM2

Obesity (BMI): 33.6 kg/m^2

Hypertension controlled with Atenolol

Hyperlipidemia controlled with Simvastatin

Elevated urine albumin

Diabetes Distress

Plan

Titrate Metformin to 1000 mg twice a day over next 14 days. Take with food to avoid possible side effects.

Mrs. R. will:

- refrain from drinking any alcohol and will discuss this with the APN at follow-up encounter,
- increase her daily water intake to 6-8 8 ounce glasses over 24 hours,
- begin a walking program 10 minutes per day for at least 6 days a week and increase the walking time as she is able with a goal of 150 minutes per week before her follow up encounter, and
- continue current blood glucose managing regimen until next APN appointment
- continue current Atenolol and Simvastatin regimen until next APN appointment

Referral to dietitian for medical nutrition therapy evaluation with emphasis on weight loss and diabetes management. Appointment arranged by APN in 5 days. In preparation, Mrs. R. will:

- Note all food and beverages for next 5 days and take with her to the dietitian appointment. At the meeting, ask the dietitian about purchasing a scale and frequency of measuring her weight and proteins in food other than from animal products.

Referral to diabetes support group with next meeting in 7 days.

Mrs. R. will attend the support group a minimum of 3 times before next clinic appointment

Mrs. R. will return to APN clinic in 4 weeks; and call with questions or concerns as needed prior to next appointment.

Based on the DDS-2 score the APN determined not to make many changes in Mrs. R's plan of care. In concert with Mrs. R. the APN did include the goal of exploring strategies to help reduce her feelings of being overwhelmed with managing her condition. In addition, the APN prioritized the resources Mrs. R. needed and referred her to the dietitian and a support group. Mrs. R. was also informed that the APN was available and willing to work with her over time rather than at one appointment only. Although one case, it demonstrates how using the DDS-2 serves as a valuable screening tool to distinguish between depression and diabetes distress.

Follow up encounter 4 weeks later

When Mrs. R. arrived at her appointment she was smiling and reports feeling improved and less anxious. She:

- Began walking and for the last 7 days, walks approximately 150 minutes each7-day period.
- saw the dietitian and has decreased animal protein and alcohol in her diet while increasing daily water intake to 8-8 ounce glasses each 24-hour time period.
- Increased Metformin to 1000 mg twice a day without side effects and improved blood glucose.
- Attended the diabetes support group and states that she did not feel it was that helpful to her.

Physical Exam reveals the following:

Weight: 171 lbs. 77.6 kg.

Glucose (fasting): 120 mg/dl in clinic

Blood pressure: right arm 126/60 sitting

Pulse: 76 bpm RRR; respirations: 20 per minute

Assessment

DM2more in control

Diabetic Distress improved per statements

Plan

Continue current medication, exercise, and dietary changes

Follow up with dietitian

Will discontinue diabetes support group.

Repeat all blood panels 1 week before next encounter

Return to APN clinic in 8-12 weeks. Call with questions or concerns as needed prior to next appointment.

Discussion

The utilization of the DDS-2 identified that this individual was not depressed and did not require psychotherapy or psychotherapeutics. The patient centered [12]. Approach suggested by the ANP recognized that this patient was capable of improving the management of her DM2 with support from the APN and the dietitian.

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