

Incorporating Emotional Distress Screening to Appropriately Increase Intensity of Diabetes Self-management Interventions

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Background

Emotional distress is common among individuals with diabetes and is associated with nonadherence to diabetes treatment and poor A1C control.¹ An earlier study demonstrated that a tiered telephonic self-management support (tele-SMS) improved A1C control primarily for those with A1C \geq 9 who received intensified support (more calls).² The study also revealed significant emotional distress among participants that was not addressed by tele-SMS. Researchers concluded it may be beneficial to integrate mental health or emotional support needs in future tele-SMS to achieve A1C control for more people.

With this in mind, the NYC Health Department (DOHMH) adapted the tele-SMS protocol to tailor intervention intensity and content using the Patient Health Questionnaire Depression Scale (PHQ-8) and the Diabetes Distress Scale (DDS) in addition to A1C level.

Project Aim

To evaluate the impact of using the Diabetes Distress Scale (DDS) and the Patient Health Questionnaire Depression Scale (PHQ-8) in the identification of patients in need of intensified telephonic self-management support (tele-SMS).

Project Design/Strategy

DOHMH recruited patients for tele-SMS from small primary care practices (PCPs) treating a high volume of patients with uncontrolled diabetes. The target population was English or Spanish speaking patients with type 2 diabetes and an A1C \geq 7.5.

During the telephone-based enrollment process, individuals completed a baseline evaluation that included screening for depressive symptoms using the PHQ-8 and for diabetes specific distress using the 17 item DDS Scale. A score of ≥ 10 was considered a positive score for the PHQ-8. The DDS was adapted with a 4 point response scale. A mean score of ≥ 2 was considered positive for the DDS.

Bachelor's level health educators were trained to conduct telephone enrollments and to implement a tele-SMS curriculum that addressed treatment adherence, healthy eating, physical activity, and coping with distress. Patients enrolled in tele-SMS were assigned one of three intervention levels for tele-SMS: 1.) All patients were offered at least 6 calls, 2.) those with an A1C \geq 9 were offered 8 calls, 3.) those with a positive PHQ-8 and/or DDS score were offered 12 calls, regardless of A1C level. Additional content was added to the 12-call curriculum to address distress management. See table 1 for description of the tele-SMS intervention.

Description of Tele SMS Intervention

Intervention Intensity	6 calls spaced every 4-8 weeks	8 calls spaced every 4-8 weeks	12 calls spaced every 4 weeks
A1C Criteria:	A1C \geq 7.5 and <9	A1C \geq 9	A1C \geq 7.5
Distress Criteria:	Negative PHQ-8 and Negative DDS	Negative PHQ-8 and Negative DDS	Positive PHQ-8 and/or Positive DDS
Core Curriculum	Know your A1C Medication adherence Healthy Eating Physical Activity	Know your A1C Medication adherence Healthy Eating Physical Activity	Know your A1C Medication adherence Healthy Eating Physical Activity
Additional components		2 additional calls for goal setting and to address concerns	6 additional calls focused on: *Distress management *Cognitive reappraisal *Behavioral activation *Problem-solving *Relaxation techniques

Table.1 Description of the key elements of levels of intensity for the tele-SMS intervention

Distribution of Patients in the Tele-SMS Groups

Tele SMS Groups	A1C	PHQ-8/DDS	N=408	(%)
6 call	\geq 7.5 and <9	(-) score	144	35%
8 call	C \geq 9	(-) score	105	26%
12 call	\geq 7.5 and <9	(+) score	82	20%
12 call	\geq 9	(+) score	77	19%

Table.2 Distribution of patients in the tele-SMS groups

Comparison of Tele-SMS Groups Demographic Characteristics

	6 Tele-SMS Group (N=144)		8 Tele-SMS Group (N=105)		12 Tele-SMS Group (N=159)	
	N	(%)	N	(%)	N	(%)
Gender						
Female	76	52.8	50	47.6	103	64.8
Male	68	47.2	55	52.4	56	35.2
Age						
21-44	4	2.8	12	11.4	10	6.3
45-64	78	54.2	64	61.0	111	69.8
65+	60	41.7	27	25.7	37	23.3
Language						
English	35	24.3	25	23.8	30	18.9
Spanish	109	75.7	80	76.2	129	81.1
Years with DM						
1 or less	9	6.3	15	14.3	12	7.5
>1 to 5	25	17.4	21	20.0	29	18.2
>5 to 10	42	29.2	24	22.9	29	18.2
>10 to 20	43	29.9	28	26.7	57	35.8
>20	24	16.6	16	15.2	29	18.2
Unknown	1	0.7	1	1.0	3	1.8

Table.3 Comparison of tele-SMS groups demographic characteristics

Results

Of the 480 individuals enrolled in tele-SMS, 65% of individuals (n=264) were identified as requiring more support than the six calls. Of those needing intensified support, 60% (n=159) were identified as requiring the maximum level of support (12-calls) based on the PHQ-8 and/or DDS. Overall, use of the PHQ-8 and DDS resulted in a 45% increase of those receiving increase intervention intensity.

Female, patients ages 45 to 64 and patients who have lived with diabetes for 10 to 20 years were more likely identified as requiring the maximum level of support (12-calls). In general each group was similar with regard to language, though Spanish speakers were slightly more likely to be eligible to receive 12 calls.

Lessons Learned

The DDS and the PHQ-8 were able to be administered through phone calls. They were acceptable tools for both educators and patients that identified patients in need for intensified support.

PCPs were offered the opportunity to review lists of their patients who screened positive for depression. None of the PCPs did this with consistency and some providers were unfamiliar with the PHQ. All of the PCPs felt they lacked resources to use the list for follow-up. This highlights the potential for tele-SMS to support patients and providers through screening and targeted interventions.

Integrating distress-management in diabetes self-management interventions could maximize the scalability of tele-SMS and may result in enhanced treatment benefits.

Next Steps

We are conducting a full evaluation of tele-SMS's impact on A1C control. We will additionally assess engagement (calls completed) for each call group and assess the impact of tele-SMS on PHQ-8 and DDS scores.

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