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A Primary Care Digital Therapeutic For Diabetes

Author Block: Dr Gitte Wienecke, Family Med, Co Cork, Ireland; **Niall S Colwell**, SOUTH TIPPERARY GENERAL HOSPITAL, Clonmel, County Tipperary, Ireland; Jack Egan, Mícheál O'Croinin, Andrew Sheppard, Redicare, Co Cork, Ireland

Abstract:

Introduction: While lifestyle change is a Class I Recommendation for Metabolic Syndrome components and Type II Diabetes, implementation of such change is often not achieved in primary care. **Hypothesis:** Test RediCare ControlDTx, a digital therapeutic which is designed to scale the delivery of lifestyle therapy, in Obese and Type 2 Diabetic subjects.

Methods: 43 subjects, 32 (75%) female and 11 (25%) male were enrolled within a primary care practice. Weight, BMI, Blood Pressure, HbA1c and lipids were analyzed pre and post intervention using a student t-test. The 16-week program combines personalized condition specific video-based health education, health coach support via unlimited one to one online consultations, peer to peer support and asynchronous messaging to optimize compliance. A prescribed dietary protocol based on consuming whole foods while emphasizing the reduction of refined carbohydrates and sugar intake, while exercising resulted in significant reductions in HbA1c, Weight, BMI, Systolic Blood Pressure and Triglycerides.

Results: are presented in Fig 1 with standard deviations shown in brackets.

In type 2 diabetic subjects, mean triglycerides were 216.4 mg/dL at baseline and 105.0 mg/dL at follow up, a reduction of -111.3 mg/dL (51.56%). Prediabetic subjects mean triglycerides were 137.6 mg/dL at baseline and 99.5 mg/dL at follow up, a reduction of -38.2 mg/dL (-27.72%). The average number of health coach consultations was 1.3 per participant.

Conclusion: A prescribed primary care digital therapeutic confers statistically and clinically significant reductions in metabolic syndrome and diabetic parameters and is seamlessly integrated into the primary care setting. The digital intervention at <\$75 per participant was cost effective in both the health benefits and savings achieved in reduced medication costs.

Fig 1

		HbA1c (%)				
	Number	Baseline	Follow Up	Decrease	% Δ	P
Type 2 Diabetic	7	8.07(2.12)	6.27(0.6)	-1.8(1.76)	-6.92%	0.01754
Pre Diabetic	14	6.01(0.26)	5.77(0.22)	-0.24(0.28)	-3.92%	0.00399

		BMI (kg/M2)				
	Number	Baseline	Follow Up	Decrease	% Δ	P
Morbidly Obese	10	40.18(5.6)	37.4(5.67)	-2.78(1.92)	-6.92%	0.00067
Obese	12	32.58(1.6)	30.74(1.94)	-1.84(92)	-5.65%	0.00001
Overweight	13	27.32(1.55)	26.21(1.31)	-1.32(95)	-4.80%	0.00015

		Systolic Blood Pressure (mm hg)				
	Number	Baseline	Follow Up	Decrease	% Δ	P
Stage I HTN	11	140.5(4.2)	130.7(6.7)	-9.7(5.90)	-6.90%	0.00014
Pre HTN	9	132.2(2.6)	126.7(6.3)	-5.6(6.8)	-4.20%	0.06726

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