

Title: The relationship between objectively measured physical activity and parameters of disease control in an African population of type 2 diabetes mellitus**M Abid Siddiqui**

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Received Date: April 09, 2023 Accepted Date: April 11, 2023 Published Date: May 17, 2023**Aim:** The primary objective of this study was to ascertain the level of activity using a pedometer.

The secondary objectives were:

To correlate the baseline level of activity with body mass index (BMI), HbA1c and blood pressure (BP),

To assess whether 7000 steps a day influence HbA1c and BP over a three-month period.

Method: A total of 110 patients were screened; 95 patients (n = 95) completed the study. At the first visit HbA1c, BMI and BP were measured. At the end of the first month baseline physical activity was recorded using pedometers. Patients were divided into: active (n = 50) and control (n = 45) groups. The active group was asked to walk a minimum of 7000 steps/day. The control group was asked to continue their usual activity. Patients were followed up monthly over a period of three months.**Result:** Activity levels increased significantly in the active group. Mean step-count for the control group at baseline was 2923.1 ± 1136.9 , which increased to 3431.2 ± 1251.7 by the end of the study. Mean step count for the active group at baseline was 4609.9 ± 1702.1 , which increased to 7244.8 ± 1419.4 by the end of the study. The difference between control and active group was statistically significant ($p < 0.001$). Systolic and diastolic BP decreased significantly in both groups ($p=0.017$) for systolic BP and ($p = 0.002$) for diastolic BP but no interaction was found between the groups as systolic and diastolic BP decreased at the same rate over time in both groups. HbA1c decreased by 1.04% in the active group; this difference was statistically highly significant ($p < 0.001$).**Conclusion:** Increase in activity levels decreases HbA1c by 1.04 percentage point over three months in T2DM ($p < 0.001$), which is statistically significant.**Table 1: Demography**

Factor			Study arms		p-value
			Control	Active	
Gender	Male	n	14	17	0.204
		n, %	11.1%	34.0%	
	Female	n	31	33	
		n, %	68.9%	66.0%	
Age	n		45	50	0.468
	Mean		54.1	55.2	
	Standard deviation		7.6	6.9	

Biography

Dr Muhammad Abid Siddiqui, MBBS, FCP (SA), M Med, has his expertise in Internal Medicine, particularly Diabetes Mellitus. He obtained his post graduate degree from The University of the Witwatersrand, Johannesburg, South Africa.