

Remote Monitoring Improves Diabetes Control in Urban Indian Population within 3 Months



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Introduction

The aim of this study was to compare change in HbA1c and anthropometric measurement in subjects who have accepted remote monitoring for their diabetes management

Subject and methods

- Diabetes subjects who accepted remote monitoring
- Patients completing 3 months follow up and had paired data
- Comparison were made between initial HbA1c and that after 3 months using paired t test
- BMI and waist circumference

Results

- Total no of patients = 56
- Mean age 53.4 +/- 12.7 years
- Male: Female = 28:28
- All had paired observation 3 months apart
- Significant reduction in HbA1c from 9.5% to 8.4% [Figure 1]

- Statistically non-significant reduction in Waist circumference & BMI [Figure 2 & 3]

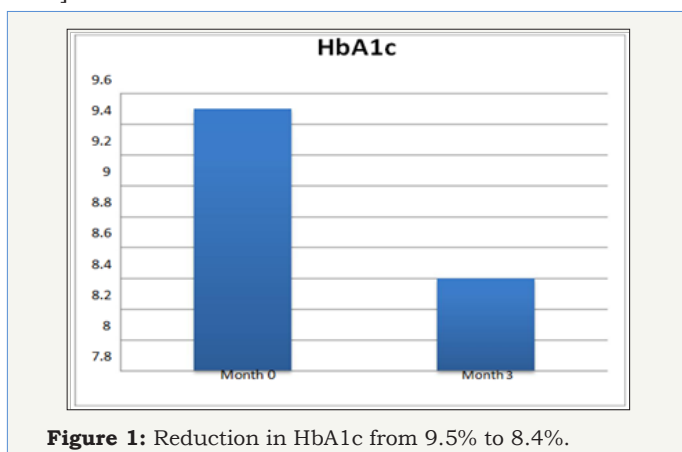
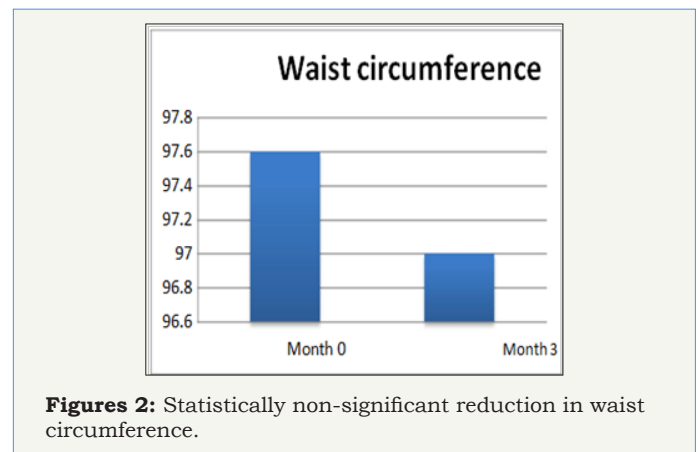
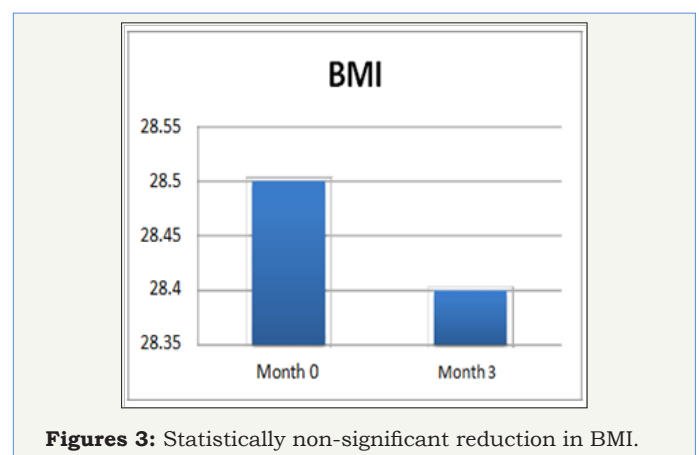


Figure 1: Reduction in HbA1c from 9.5% to 8.4%.



Figures 2: Statistically non-significant reduction in waist circumference.



Figures 3: Statistically non-significant reduction in BMI.

Discussion

Remote monitoring can be successfully used to improve diabetes control in patients with diabetes.

There was no effect on BMI or waist circumference possibly due to short duration

Long term data will be needed which we are collecting now

Conclusion

Advantages of remote monitoring for

Patients: Do not have to come to clinic, have friendly advice 24/7,

Doctors: Not disturbed during their busy hours at work or home, have access to all data at smart phone via App [Tables 1-3],

Total no of patients = 56

Mean age 53.4 +/- 12.7 years

Male: Female = 28:28

All had paired observation 3 months apart

Table 1

	BMI_1	BMI_2	P value
MEAN	28.5	28.4	0.73
SD	5.2	4.7	

Table 2

	Waist Circum_1	Waist Circum_2	P Value
MEAN	97.6	97	0.87
SD	14.7	10.8	

Table 3

	Hba1c_1	Hba1c_2	P value
MEAN	9.5	8.4	0.0002
SD	2.2	1.8	

Modern technology can be a useful tool for providing effective management of diabetes when used with appropriate clinical support. However, its use in Indian setting has not been established.

We have introduced telemedicine in our clinic in Bangalore, where patient's blood sugar, blood pressure and dietary intake can be monitored and appropriate advice can be given by clinicians by telephone. We wanted to study if such intervention can demonstrate objective difference.

Aim

The aim of this study was to compare change in HbA1c and anthropometric measurement in subjects who have accepted remote monitoring for their diabetes management.

Subjects & methods

Diabetes subjects who accepted remote monitoring were studied. Only those subjects who had completed 3 months follow up and had paired data were studied. Comparisons were made between initial HbA1c and that after 3 months using paired t test. Similar comparisons were also made in BMI and waist circumference. There were not enough data to compare lipid profiles so it was not analysed.

Results

56 subjects (28 males) with mean age of 53.4 (+/- 12.7) years had accepted remote monitoring and completed 3 months of follow up check up. There was a significant reduction in HbA1c at 3 months follow up (9.5 +/- 2.2% vs 8.4 +/- 1.8%; p = 0.0002) with remote monitoring. 41 subjects had reduction in HbA1c, however 15 in subjects it increased within 3 months. There was no difference in BMI or waist circumference during this time.

Discussion

Our results show that remote monitoring can be successfully used to improve diabetes control in subjects with diabetes. There was no effect on BMI or waist circumference as the duration might have been short. Long term data will be needed to demonstrate its efficacy in improving overall diabetes management.



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