

A Study of the Effect of Early and Late Meal Time on Anthropometric and Biochemical Parameters in Patients of Type 2 Diabetes

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Abstract : Background: A vast body of research exists on the use of oral hypoglycaemic drugs, insulin injections and the like in managing diabetes but no such research exists that has taken into consideration the parameter of time restricted meal intake and its positive effects in managing diabetes. The utility of this project is immense as it offers a solution to the woes of diabetics based on circadian rhythm and normal physiology of the human body. Method: 80 Diabetics, enrolled from the Out Patient Department of Endocrinology, KGMU (King George's Medical University) were randomly divided based on consent to early dinner TRM(time restricted meal) group or not (control group). Follow up was done at six months and 12 months for anthropometric measurement, height, weight, waist-hip ratio, neck size, fasting, postprandial blood sugar, HbA1c, serum urea, serum creatinine, and lipid profile. The patient was given a clear understanding of chronomedicine and how it affects their health. A single intervention was done - the timing of dinner was at or around 7 pm for TRM group. Result: 65% of TRM group and 40 %(non- TRM) had normal HbA1c after 12 months. HbA1c in TRM Group (first visit to second follow up) had a significant p value=0.017. A p value of <0.0001 was observed on comparing the values of blood sugar (fasting) in TRM Group from the first visit and second follow up. The values of blood sugar (postprandial) in TRM Group (first visit and second follow up) showed a p-value <0.0001 (highly significant). Values of the three parameters were non- significant in the control group. Hip size(First Visit to Second Follow Up) TRM Group showed a p-value = 0.0344 (Significant) (Difference between means=2.762 ± 1.261)Detailed results of the above parameters and a few newer ones will be presented at the conference. Conclusion: Time restricted meal intake in diabetics shows promise and is worth exploring further. Time Restricted Meal intake in Type 2 diabetics has a significant effect in controlling and maintaining HbA1c as the reduction in HbA1c value was very significant in the TRM group vs. the control group. Similar highly significant results were obtained in the case of fasting and postprandial values of blood sugar in the TRM group when compared to the control group. The effects of time restricted meal intake in diabetics show promise and are worth exploring further. It is one of the first studies which have been undertaken in Indian diabetics, although the initial data obtained is encouraging yet further research and study are required to corroborate results.

Keywords : chronomedicine, diabetes, endocrinology, time restricted meal intake

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