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RAPID REDUCTION IN HBA1C FOLLOWING DIXIT LIFESTYLE® INTERVENTION: A CASE REPORT

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ABSTRACT

Background: Type 2 diabetes mellitus (T2DM) is a major public health concern in India, affecting approximately 11.5% of adults. As a lifestyle-related disorder, non-pharmacological interventions play a critical role in its management. The Dixit Lifestyle®, a structured regimen emphasizing reduced meal frequency and physical activity has been proposed to improve glycemic control. This case report evaluates its short-term impact. **Methodology:** A 50-year-old male from Hyderabad with newly diagnosed T2DM (HbA1c: 14.8%) adopted the Dixit Lifestyle® from 7th October. The intervention included consumption of two meals per day with fixed timing and daily walking of 6–8 km. The patient self-monitored fasting, post-lunch, and pre-dinner blood glucose levels over 31 days, with repeat HbA1c assessment after one month. **Results:** Baseline fasting, post-lunch, and pre-dinner glucose levels were 347 mg/dL, 232 mg/dL, and 182 mg/dL, respectively. Progressive improvement was observed over 31 days. By day 31, fasting glucose reduced to 133 mg/dL, with corresponding improvements in postprandial and pre-dinner values. HbA1c decreased from 14.8% to 9.8% after one month. The patient also experienced a weight reduction of 4 kg and a decrease of 1 inch in abdominal circumference. **Conclusion:** This case demonstrates substantial improvement in glycemic parameters following structured lifestyle modification. Clinical adoption of this lifestyle modification in newly diagnosed patients is recommended before initiation of medications.

KEYWORDS : Type 2 diabetes mellitus, HbA1c, lifestyle modification, meal frequency, physical activity

INTRODUCTION

Diabetes mellitus is a major and escalating public health problem globally, with an estimated 463 million adults affected in 2019, projected to rise to 700 million by 2045 (1). Over 90% of cases are type 2 diabetes mellitus (T2DM), contributing substantially to morbidity, mortality, and healthcare costs (2). India is among the most affected countries, with recent ICMR-INDIAB data estimating over 100 million individuals living with diabetes and a large proportion with prediabetes (3). NFHS-5 data further highlight increasing prevalence of elevated blood glucose across both urban and rural populations (4).

Asia accounts for a disproportionate share of the global T2DM burden, with nearly 60% of individuals with diabetes residing in this region (6) Compared to Caucasian populations, Asians exhibit distinct pathophysiological characteristics, including higher insulin resistance at lower body mass indices and a more rapid progression to complications (7,8). These differences underscore the need for context-specific management strategies. Current guidelines recommend a combination of lifestyle modification and pharmacotherapy; however, real-world effectiveness is often influenced by adherence and behavioral factors (7). Therefore, structured lifestyle interventions may play a critical role in improving glycemic control. This case report evaluates the short-term impact of a structured lifestyle approach (Dixit Lifestyle®) in a patient with uncontrolled T2DM.

CASE STUDY

A 50-year-old male presented with newly diagnosed type 2 diabetes mellitus. His initial glycated hemoglobin (HbA1c) level was 14.8%, indicating poorly controlled diabetes.

The patient voluntarily adopted the two-only meals and exercise lifestyle modification (Dixit Lifestyle®).

Baseline blood glucose values:

- Fasting blood sugar: 347 mg/dL
- Post-lunch blood sugar: 232 mg/dL
- Pre-dinner blood sugar: 182 mg/dL

The patient maintained daily records of fasting, post-lunch, and pre-dinner blood glucose levels for 31 days.

Lifestyle Intervention

The patient followed the Dixit Lifestyle® protocol consisting of dietary regulation and physical activity.

Dietary pattern

The patient consumed two meals per day at fixed timings and completed each meal within approximately 55 minutes. Each meal followed a specific sequence:

1. Four almonds and four walnuts or soaked groundnuts
2. A bowl of salad (excluding carrot and beetroot)
3. A bowl of sprouts or two boiled eggs
4. Regular vegetarian or non-vegetarian food

The patient avoided sweets and fruits during the intervention period.

Physical activity

The patient performed daily walking of approximately 6–8 km.

RESULTS

Over the 31-day observation period, progressive improvement in blood glucose values was observed. (Figure 1)

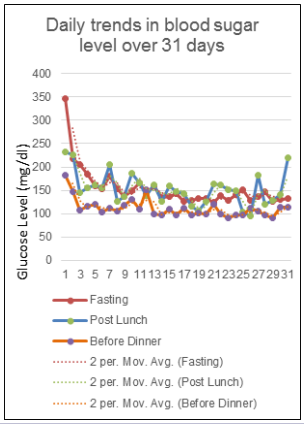

Figure 1: Daily trends in blood sugar level over 31 days after following Dixit Lifestyle

Figure 1 shows the daily trends in blood glucose levels over 31 days. Baseline fasting, post-lunch, and pre-dinner values were 347 mg/dL, 232 mg/dL, and 182 mg/dL, respectively. A rapid decline in fasting glucose was observed within the first week, followed by stabilization around 125–150 mg/dL. Post-lunch values showed moderate variability but an overall decreasing trend. Pre-dinner glucose demonstrated the most consistent control, with most readings within the target range (80–140 mg/dL) after the first week. Moving averages indicate a sustained overall reduction in glycemic levels.

Table 1: Changes in HbA1c after following Dixit Lifestyle

Time Point	HbA1c (%)	Absolute Change (%)	% Change from Baseline
Baseline	14.8	—	—
1 month	9.8	−5.0	−33.8%
2 months	7.3	−7.5	−50.7%
3 months	6.1	−8.7	−58.8%

A substantial improvement in glycemic control was observed following the lifestyle intervention. The patient's baseline HbA1c of 14.8% decreased to 9.8% after one month, representing an absolute reduction of 5.0 percentage points (33.8% reduction from baseline). Subsequent follow-up measurements demonstrated continued improvement, with HbA1c levels of 7.3% in 2nd month and 6.1% in 3rd month following Dixit Lifestyle®, corresponding to overall reductions of 50.7% and 58.8%, respectively, from baseline.

In addition to glycemic improvement, favorable anthropometric changes were noted. The patient experienced a weight reduction of 4 kg and a decrease of 1 inch in abdominal circumference within one month of initiating the intervention. Overall, the findings indicate a marked and progressive improvement in both glycemic and anthropometric parameters over the follow-up period.

DISCUSSION

Lifestyle modification remains the cornerstone in the management of type 2 diabetes mellitus (T2DM). Interventions targeting dietary patterns, caloric intake, meal timing, and physical activity have demonstrated significant improvements in glycemic control and metabolic parameters. (4)

Current clinical guidelines, including those from the National Institute for Health and Care Excellence (NICE), recommend a comprehensive approach to T2DM management involving lifestyle modification and pharmacotherapy (9). Although oral antidiabetic drugs (OADs) such as metformin, sulfonylureas, DPP-4 inhibitors, and SGLT-2 inhibitors are widely used, their effectiveness in real-world settings may be influenced by adherence, lifestyle factors, and patient behavior. (10)

Recent evidence suggests that T2DM remission is achievable through intensive lifestyle interventions. The DiRECT trial demonstrated that substantial weight loss through structured dietary interventions resulted in remission of diabetes in a significant proportion of patients managed in primary care settings. (11) Similarly, studies exploring intermittent fasting and time-restricted feeding have reported improvements in insulin sensitivity, glycemic variability, and body weight. (12)

The present case demonstrates a rapid improvement in glycemic parameters following strict adherence to the "two-only meals and exercise" lifestyle approach. The intervention emphasizes reduced meal frequency, structured meal sequencing, and regular physical activity. Reduced meal frequency may lead to prolonged periods of low insulin levels, facilitating improved insulin sensitivity and metabolic flexibility. Additionally, regular physical activity enhances peripheral glucose uptake and improves overall metabolic health.

The significant reduction in HbA1c observed in this case from 14.8% to 9.8% within one month may be attributed to multiple mechanisms including reduction in caloric intake, improved insulin sensitivity, increased physical activity, and early correction of severe hyperglycemia. Similar improvements in glycemic control have been observed in lifestyle-based diabetes remission studies, where weight reduction and dietary changes played a central role in metabolic improvement.

However, it is important to note that this report represents a single case observation. HbA1c reflects average glycemia over approximately 8–12 weeks, and rapid changes in glycemic control may influence measured values in individuals with very high baseline levels. Therefore, larger prospective studies are required to evaluate the long-term sustainability, safety, and generalizability of this lifestyle approach.

Despite these limitations, the findings highlight the potential role of structured lifestyle interventions in improving glycemic control and emphasize the importance of patient engagement and adherence in achieving favorable metabolic outcomes.

CONCLUSIONS

This case demonstrates that structured lifestyle modification involving reduced meal frequency and regular physical activity can result in substantial short-term improvement in glycemic control in a patient with uncontrolled type 2 diabetes mellitus. Significant reductions in HbA1c and blood glucose levels, along with favorable anthropometric changes, were observed. These findings highlight the potential role of lifestyle-based interventions as a preliminary mode in diabetes management before initiation of medications for glycemic control.

REFERENCES:

1. International Diabetes Federation. IDF Diabetes Atlas. 9th ed. Brussels: International Diabetes Federation; 2019.
2. Bommer C, Heesemann E, Sagalova V, et al. The global economic burden of diabetes in adults aged 20–79 years: a cost-of-illness study. Lancet Diabetes Endocrinol. 2017;5(6):423–430.
3. Saeedi P, Petersohn I, Salpea P, et al. Global and regional diabetes prevalence estimates for 2019 and projections for 2030 and 2045. Diabetes Res Clin Pract. 2019;157:107843.
4. Zimmet P, Alberti KGMM, Shaw J. Global and societal implications of the diabetes epidemic. Nature. 2001;414:782–787.
5. Hu FB. Globalization of diabetes: the role of diet, lifestyle, and genes. Diabetes Care. 2011;34(6):1249–1257.
6. Chan JCN, Malik V, Jia W, et al. Diabetes in Asia: epidemiology, risk factors, and pathophysiology. JAMA. 2009;301(20):2129–2140.
7. Yoon KH, Lee JH, Kim JW, et al. Epidemic obesity and type 2 diabetes in Asia. Lancet. 2006;368(9548):1681–1688.
8. Ramachandran A, Snehalatha C, Shetty AS, Nanditha A. Trends in prevalence of diabetes in Asian countries. World J Diabetes. 2012;3(6):110–117.
9. National Institute for Health and Care Excellence (NICE). Type 2 diabetes in adults: management (NG28). London: NICE; 2022.
10. Khunti K, Gomes MB, Pocock S, et al. Therapeutic inertia in the treatment of hyperglycaemia in patients with type 2 diabetes. Diabetes Obes Metab. 2018;20(2):427–437.
11. Lean MEJ, Leslie WS, Barnes AC, et al. Primary care-led weight management for remission of type 2 diabetes (DiRECT). Lancet. 2018;391(10120):541–551.
12. Patterson RE, Laughlin GA, LaCroix AZ, et al. Intermittent fasting and human metabolic health. Annu Rev Nutr. 2015;35:291–318.