



**Keywords:** Type 2 diabetes mellitus; Low-Carbohydrate Diet; Low-fat diet; Glycemic control; Weight Loss

## Introduction

Type 2 diabetes mellitus (T2DM) is a prevalent chronic metabolic disorder characterized by impaired insulin function and elevated blood glucose levels. Lifestyle interventions, including dietary modifications, play a crucial role in the management of T2DM. Traditionally, low-fat diets have been recommended as part of the dietary approach for T2DM management. However, emerging evidence suggests that low-carbohydrate diets may offer additional benefits in glycemic control and weight management [1]. This study aims to compare the impact of randomization to a low-carbohydrate diet or a low-fat diet on health-related quality of life (HRQoL) in individuals with T2DM, while achieving similar weight loss outcomes.

T2DM not only poses physiological challenges but also has a significant impact on individuals' quality of life. HRQoL encompasses various dimensions, including physical, mental, and social well-being, and plays a crucial role in assessing the overall impact of a disease and its management on a person's life. Understanding the influence of different dietary interventions on HRQoL in T2DM can provide valuable insights into the comprehensive effects of these interventions beyond clinical outcomes [2].

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findings of this study contribute to the growing body of evidence on the benefits of low-carbohydrate diets in T2DM management. Beyond the traditional focus on glycemic control and weight loss, the results highlight the potential advantages of low-carbohydrate dietary interventions in improving the overall well-being and satisfaction of individuals with T2DM [13]. Understanding the impact of different dietary approaches on HRQoL can help healthcare professionals tailor interventions to individual needs and preferences, ultimately improving patient outcomes and their overall experience of living with T2DM.

However, this study has some limitations that should be considered. First, the study duration may not capture long-term effects, and the sustainability of these dietary interventions in terms of HRQoL benefits should be explored further. Additionally, the study sample and duration may not fully represent the diverse population of individuals with T2DM [14]. Future studies with larger sample sizes and longer follow-up periods are needed to confirm and generalize these findings.

### Conclusion

This comparative study suggests that randomization to a low-carbohydrate diet in individuals with T2DM can lead to improved HRQoL compared to a low-fat diet, while achieving similar weight loss outcomes. The low-carbohydrate diet demonstrated benefits in terms of overall well-being, diabetes-related distress, and physical and mental health components of HRQoL. These findings highlight the potential advantages of low-carbohydrate dietary interventions in optimizing the management of T2DM. Further research is needed to explore the long-term effects and sustainability of these dietary approaches and their impact on clinical outcomes in individuals with T2DM.

### Acknowledgement

None

### Conflict of Interest

None

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