

“UP IN THE AIR” FOR PATIENTS WITH DIABETES MELLITUS DURING A FLIGHT

Elissavet Lykoudi¹, Eleni Dokoutsidou², Eugenia Vlachou³,
Nikoletta Margari⁴

1. PhD(c) Department of Nursing, University of West Attica, Athens, Greece

2. Professor Department of Nursing, University of West Attica, Athens, Greece

3. Associate Professor, Department of Nursing, University of West Attica, Athens, Greece

4. Assistant Professor, Department of Nursing, University of West Attica, Athens, Greece

Background

Traveling is an integral part of life and with the increasing prevalence of diabetes mellitus, many travelers will have to deal with the chronic disease or cancel their trip. Air travel can be impact diet, sleep, physical activity, and climate. Cabin pressure can affect diabetes, hormones and cause changes in glucose control, glucose metabolism, hydration status and other complications.

Aim: The purpose of this study is to present the management of an air travel for patients with diabetes during the flight.

Method

International bibliography was reviewed using electronic database such as PubMed, Scopus, Google Scholar. Keywords such as “diabetes mellitus”, “airplane”, “air travel”, “patients with diabetes” were use in English and Greek language to search for studies conducted in the past 10 years.

Results

Patients with diabetes should carry a medical ID card specifying the type of diabetes, medication/dosages and rescue medications bag. Additionally, their carry-on luggage should include glucagon pen, oral antidiabetics medications and insulin, two glucometers, batteries, insulin pump reservoir, insulin pump infusion set, insulin wallets for insulin users, sharps container and ketone strips for use during the flight.

Results

Insulin pumps and continuous glucose monitoring (CGM) devices should not pass through an X-ray machines as they may be affected by the safety systems. Patients should frequently monitor their glucose levels. If the plasma glucose is >250 mg/dL, a ketone test in the urine should be conducted. They need to be mindful of times zones changes when traveling north or south/ west or east. Furthermore, they should not inject insulin during takeoff or landing. Patients should wear comfortable shoes, carry carbohydrate snacks to prevent hypoglycemia and stay well hydrated during the flight.

Conclusions

Patients with diabetes need to ensure safe air travel. This involves packing and carrying a significant amount of supplies in their carry-on luggage to manage their diabetes during the flight and to minimize the risk of hypoglycemia or hyperglycemia. Pre-travel education and preparation should be scheduled about the challenges they may deal with. Also, complications and emergencies can be prevented to ensure their travel safety.

References

- Ghosh, S., Bajaj, S., Chatterjee, P., Agarwal, S., Aravind, S. R., Chawla, R., Gupta, S., Jayaprakashsai, J., Kalra, S., Kumar, C. V., Maheshwari, A., Makkar, B. M., Moses, C. R. A., Panda, J., Panikar, V., Rao, P. V., Saboo, B., Sahay, R., Setty, K. R. N., & Viswanathan, V. (2018). Diabetes and travel. *International Journal of Diabetes in Developing Countries*, 38(1), 4–10. <https://doi.org/10.1007/s13410-018-0605-6>
- Nassar, A. A., Cook, C. B., & Edelman, S. (2012). Diabetes management during travel. *Diabetes Management*, 2(3), 205–212. <https://doi.org/10.2217/dmt.12.23>
- Priya, G. (2020). Up In The Air With Diabetes: a Systematic Review of Literature and A Pragmatic Approach to Diabetes Management During Long-Distance Travel. *Diabetes & Metabolic Disorders*, 7(1), 1–10. <https://doi.org/10.24966/DMD-201X/100031>
- Rajkumar, V. (2022). Travel with Diabetes: A Comprehensive Review for Clinicians. *Dubai Diabetes and Endocrinology Journal*, 28(4), 121–130. <https://doi.org/10.1159/000527144>
- Trikudanathan, S., & Hirsch, I. B. (2018). Diabetes Management “Up in the Air”: It’s Time for Consensus. *Endocrine Practice*, 24(6), 599–601. <https://doi.org/10.4158/EP-2017-0258>
- Ugurlu, M. (2021). Flight and diabetes. *Anatolian Journal of Cardiology*, 25, S20–S23. <https://doi.org/10.5152/AnatolJCardiol.2021.S108>