

COMPLICATIONS AND COMORBIDITIES IN PEOPLE LIVING WITH DIABETES (PWD)



Diabetes can affect every organ system in the human body. The extent of potential organ damage depends largely on its duration and successful management.

MENTAL HEALTH

- PwD are **2-3X** more likely to experience **DEPRESSION** than people without diabetes

EYES

- **1/3** of PwD develop **DIABETIC RETINOPATHY (DR)**
- DR can develop into **DIABETIC MACULAR EDEMA**, leading to **vision impairment** and **blindness**

BRAIN

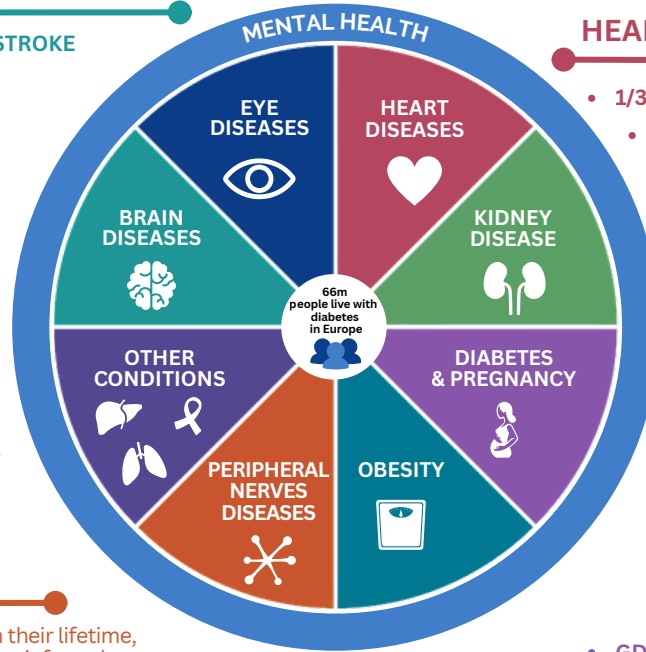
- PwD are **1.5-2X** more likely to have a **STROKE** than people without diabetes
- T2D has been associated with **neuropsychological dysfunctions, dementia, Alzheimer's disease and Parkinson's disease**

OTHER CONDITIONS

- **1/5** of people living with cancer have diabetes
- PwD are at **heightened risk** of developing **serious and more deadly forms of infections**, including COVID-19
- Diabetes is also associated with **hearing loss, lung diseases, non-alcoholic fatty liver disease, sexual dysfunctions and infections**

PERIPHERAL NERVES

- **About 1/3** of PwD develop a **foot ulcer** in their lifetime, and about half of those ulcers will become infected
- **Up to 1/2** of PwD develop **PERIPHERAL NEUROPATHY**
- **Lower-extremity amputations** are **10 times more common** in PwD than in people without diabetes



HEART

- **1/3** of PwD develop **CARDIOVASCULAR DISEASES**
- PwD are at **increased risk** of having a **HEART ATTACK** and **>2X** more likely to develop **HEART FAILURE** than people without diabetes
- **HYPERTENSION** is **twice as frequent** in PwD than in people without diabetes

KIDNEYS

- More than **1/3** of PwD develop **KIDNEY DISEASE**
- **Diabetes/+ hypertension** cause **80%** of **END-STAGE RENAL DISEASE**

DIABETES AND PREGNANCY

- **GESTATIONAL DIABETES (GDM)** is associated with multiple **adverse pregnancy outcomes**
- **GDM** increases the risk for the mother and the child to develop **T2D** in later life

OBESITY

- **OBESITY** drives insulin resistance, which can lead to **type 2 diabetes**

SOURCES

Mental health:

1. The association between Diabetes mellitus and Depression

Brain:

2. Prevalence of diabetes and its effects on stroke outcomes: A meta-analysis and literature review
3. The link between type 2 diabetes and dementia: from biomarkers to treatment
4. Regional Brain Gray Matter Changes in Patients with Type 2 Diabetes Mellitus
5. The Impact of Type 2 Diabetes in Parkinson's Disease

Eyes:

6. Screening for diabetic retinopathy: new perspectives and challenges
7. Diabetic retinopathy and diabetic macular oedema pathways and management: UK Consensus Working Group
8. Diabetic macular edema

Heart:

9. Prevalence of cardiovascular disease in type 2 diabetes: a systematic literature review of scientific evidence from across the world in 2007-2017
10. Heart Failure in Type 2 Diabetes Mellitus
11. Heart Failure in Patients with Diabetes Mellitus
12. Diabetes, Hypertension, and Cardiovascular Disease: Clinical Insights and Vascular Mechanisms

Kidneys:

13. Diabetic Kidney Disease Challenges, Progress, and Possibilities
14. The Global Epidemiology of Diabetes and Kidney Disease
15. IDF Europe: Factsheet on Diabetes and Chronic Kidney Disease

Obesity:

16. Mechanism linking diabetes mellitus and obesity

Peripheral nerves:

17. Epidemiology of Peripheral Neuropathy and Lower Extremity Disease in Diabetes
18. Global Disability Burdens of Diabetes-Related Lower-Extremity Complications in 1990 and 2016
19. Diabetes, Lower-extremity Amputation, and Death

Diabetes and pregnancy:

20. Gestational Diabetes Mellitus in Europe: A Systematic Review and Meta Analysis of Prevalence Studies
21. Gestational Diabetes Mellitus

Other conditions:

22. Diabetes Mellitus in People with Cancer
23. Diabetes UK: Diabetes and Cancer
24. Latest insights into the risk of cancer in diabetes
25. Diabetes and Cancer
26. Diabetes in COVID-19: Prevalence, pathophysiology, prognosis and practical considerations
27. Diabetes mellitus and hearing loss: A review
28. Increased risk of respiratory diseases in adults with Type 1 and Type 2 diabetes
29. Type 2 diabetes is associated with an increased prevalence of respiratory symptoms as compared to the general population
30. Non-alcoholic fatty liver disease and diabetes
31. Diabetes and sexual dysfunction: current perspectives
32. The association between diabetes mellitus and incident infections: a systematic review and meta-analysis of observational studies

