

# Policy brief template

## Title

Investigating the association between diabetes and carpal tunnel syndrome: A systematic review and meta-analysis approach

## Key messages

- ✓ Carpal Tunnel Syndrome (CTS) is the most common focal mononeuropathy caused by median nerve compression, with a global prevalence of 2.7–5.8%.
- ✓ Diabetes is a chronic multisystem disease characterized by high blood and urine glucose levels due to insufficient insulin production or use.
- ✓ The results of this study suggest that diabetic patients have 90% higher odds of developing CTS compared to non-diabetic individuals, which is statistically significant.

## Background and context

Due to the inconsistencies in determining whether diabetes increases the risk of CTS or not, systematic review and meta-analysis studies are one of the best ways to draw a definite conclusion and answer the scientific question. This study aims to investigate the association between diabetes and CTS by means of the systematic review and meta-analysis method, using the results of research studies conducted in this field.

## Details of the research

This investigation analyzed data from 42 studies conducted between 1985 and 2022, with a total of 3,377,816 participants. The meta-analysis demonstrated that the odds ratio (OR) of CTS in participants with a history of diabetes compared to those without was 1.90 (95% CI: 1.64–2.21; P-value < 0.001). Given that publication bias was observed in this study (Begg's test P-value = 0.01), the modified OR was calculated with consideration of missed studies, which was 1.68 (95% CI: 1.45–1.94; P-value < 0.001).

## Implications of the research

This research can be used for early diagnosis of this disease and timely interventions to prevent the progression of the disease and its complications.

## Recommendations

- ✓ Health policies and recommendations should pay special attention to the risk of CTS in diabetic people.
- ✓ Periodic evaluations should also be considered for diabetic patients to prevent the occurrence of this disorder and its related disabilities.

## References and further reading

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## About your organisation

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