

A Meta-Analysis Based Study of Curcumin Intake on Glucose Metabolism in Diabetic Mellitus

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SUMMARY. Diabetes mellitus (DM) is a metabolic disorder. Curcumin is an organic component extracted from *Curcuma longa*. It exhibits several physiological and pharmacological properties including anti-diabetic activity. The aim of this study was to evaluate the effects of curcumin consumption on diabetes mellitus (DM). An electronic databases (MEDLINE/PubMed, EMBASE & COCHRANE databases) and randomized controlled trials were used for collecting DATA. Data from DM patients, individuals with metabolic syndrome and obese individuals were collected. The findings suggest that curcumin shows anti-diabetic effects while improving oxidative and inflammatory status, insulin resistance, insulin sensitivity, and glycemic parameters. It is also concluded that curcumin is a natural anti-inflammatory and anti-diabetic agent representing a safe and low-cost alternative for DM therapeutic approach. It is also important to conclude that statistical analyses of the included studies did not show significant improvement in primary and secondary outcomes. Although curcumin is safe, it is still necessary to know its effective dose.

RESUMEN. La diabetes mellitus (DM) es un trastorno metabólico. La curcumina es un componente orgánico extraído de *Curcuma longa*. Exhibe varias propiedades fisiológicas y farmacológicas, incluida la actividad antidiabética. El objetivo de este estudio fue evaluar los efectos del consumo de curcumina sobre la diabetes mellitus (DM). Para recopilar DATOS se utilizaron bases de datos electrónicas (MEDLINE/PubMed, EMBASE y COCHRANE) y ensayos controlados aleatorios. Se recogieron datos de pacientes con DM, personas con síndrome metabólico y personas obesas. Los hallazgos sugieren que la curcumina muestra efectos antidiabéticos al tiempo que mejora el estado oxidativo e inflamatorio, la resistencia a la insulina, la sensibilidad a la insulina y los parámetros glucémicos. También se concluye que la curcumina es un agente antiinflamatorio y antidiabético natural que representa una alternativa segura y de bajo costo para el abordaje terapéutico de la DM. También es importante concluir que los análisis estadísticos de los estudios incluidos no mostraron mejoras significativas en los resultados primarios y secundarios. Aunque la curcumina es segura, aún es necesario conocer su dosis efectiva.

KEY WORDS: *Curcuma longa*, curcumin, DM, metabolic syndrome.

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