Comparative effectiveness of oral diabetes drug combinations in reducing glycosylated hemoglobin

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Aims: To provide evidence on the comparative effectiveness of oral diabetes drug combinations.
Methods: We performed a retrospective, observational cohort study of glycosylated hemoglobin change in outpatients newly exposed to dual- or triple-drug oral diabetes treatment. Results: Adjusted response to a second drug added to metformin ranged from 0.85 to 1.21% glycosylated hemoglobin decline. Response to a third drug was smaller (0.53–0.91%). Higher baseline glycosylated hemoglobin was associated with larger response; sulfonylurea effectiveness declined over time; and thiazolidinediones were more effective in obese patients and women. Conclusion: Observational data provide results qualitatively consistent with the limited available randomized data on diabetes drug effectiveness, and extend these findings into common clinical scenarios where randomized data are unavailable. Sex and BMI influence the comparative effectiveness of diabetes drug combinations.