

Supplementary File 1. Search Strings Used for Identification of Randomized Controlled Trials Dedicated to Older Adults with Type 2 Diabetes

PubMed

("Diabetes Mellitus"[Mesh] OR diabetes[tiab] OR diabetic[tiab]) AND (elder*[tiab] OR older[tiab] OR "Frail Elderly"[Mesh]) AND ("randomized controlled trial"[pt] OR "clinical trial"[pt] OR "controlled clinical trial"[pt] OR "clinical trial, phase II"[pt] OR "clinical trial, phase III"[pt] OR "clinical trial, phase IV"[pt]) AND 1994:2023 [dp] NOT ("animals"[mesh] NOT "humans"[mesh])

Embase

('diabetes mellitus'/exp OR diabetes:ti,ab,kw OR diabetic:ti,ab,kw) AND (elder*:ti,ab,kw OR older:ti,ab,kw OR 'frail elderly'/exp) AND ('randomized controlled trial'/de OR 'controlled clinical trial'/de OR 'clinical trial'/de OR 'phase 2 clinical trial'/de OR 'phase 3 clinical trial'/de OR 'phase 4 clinical trial'/de) AND [1994-2023]/py AND ([article]/lim OR [article in press]/lim) NOT ('animal'/exp NOT 'human'/exp)

Cochrane

- #1 MeSH descriptor: [Diabetes Mellitus] explode all trees
 - #2 diabetes:ti,ab,kw
 - #3 diabetic:ti,ab,kw
 - #4 #1 OR #2 OR #3
 - #5 elder*:ti,ab,kw
 - #6 older:ti,ab,kw
 - #7 MeSH descriptor: [Frail Elderly] explode all trees
 - #8 #5 OR #6 OR #7
 - #9 #4 AND #8
 - #10 MeSH descriptor: [Humans] explode all trees
 - #11 MeSH descriptor: [Animals] explode all trees
 - #12 #11 NOT #10
 - #13 #9 NOT #12
- Limits: 1) Study type: Trials; 2) Publication year: 1994-2023

World Health Organization International Clinical Trials Registry Platform (WHO ICTRP)

'Advanced search' engine

Search terms: 'diabetes' (field 'Condition') and 'old OR older OR elder OR elderly' (field 'Title')

Limits: 1) Phase 2-4 trials; 2) Recruitment status: All; 3) Trials with available results.

Supplementary File 2. List of Included Trials

- Araki A, Iimuro S, Sakurai T, et al. Japanese Elderly Diabetes Intervention Trial Study Group. Long-term multiple risk factor interventions in Japanese elderly diabetic patients: the Japanese Elderly Diabetes Intervention Trial--study design, baseline characteristics and effects of intervention. *Geriatr Gerontol Int*. 2012; 12 Suppl 1: 7–17, doi: [10.1111/j.1447-0594.2011.00808.x](https://doi.org/10.1111/j.1447-0594.2011.00808.x), indexed in Pubmed: [22435936](https://pubmed.ncbi.nlm.nih.gov/22435936/).
- Bae JiC, Kwak SH, Kim HJ, et al. Effects of Tenzinogliptin on HbA1c levels, Continuous Glucose Monitoring-Derived Time in Range and Glycemic Variability in Elderly Patients with T2DM (TEDDY Study). *Diabetes Metab J*. 2022; 46(1): 81–92, doi: [10.4093/dmj.2021.0016](https://doi.org/10.4093/dmj.2021.0016), indexed in Pubmed: [34130378](https://pubmed.ncbi.nlm.nih.gov/34130378/).
- Barnett AH, Huisman H, Jones R, et al. Linagliptin for patients aged 70 years or older with type 2 diabetes inadequately controlled with common antidiabetes treatments: a randomised, double-blind, placebo-controlled trial. *Lancet*. 2013; 382(9902): 1413–1423, doi: [10.1016/S0140-6736\(13\)61500-7](https://doi.org/10.1016/S0140-6736(13)61500-7), indexed in Pubmed: [23948125](https://pubmed.ncbi.nlm.nih.gov/23948125/).
- Barzilai N, Guo H, Mahoney EM, et al. Efficacy and tolerability of sitagliptin monotherapy in elderly patients with type 2 diabetes: a randomized, double-blind, placebo-controlled trial. *Curr Med Res Opin*. 2011; 27(5): 1049–1058, doi: [10.1185/03007995.2011.568059](https://doi.org/10.1185/03007995.2011.568059), indexed in Pubmed: [21428727](https://pubmed.ncbi.nlm.nih.gov/21428727/).
- Chien MN, Lee CC, Chen WC, et al. Effect of Sitagliptin as Add-on Therapy in Elderly Type 2 Diabetes Patients With Inadequate Glycemic Control in Taiwan. *International Journal of Gerontology*. 2011; 5(2): 103–106, doi: [10.1016/j.ijge.2011.04.015](https://doi.org/10.1016/j.ijge.2011.04.015).
- Coscilli C, Lostia S, Lunetta M, et al. Safety, efficacy, acceptability of a pre-filled insulin pen in diabetic patients over 60 years old. *Diabetes Res Clin Pract*. 1995; 28(3): 173–177, doi: [10.1016/0168-8227\(95\)01092-r](https://doi.org/10.1016/0168-8227(95)01092-r), indexed in Pubmed: [8529495](https://pubmed.ncbi.nlm.nih.gov/8529495/).
- Gao Y, Gao L, Peng Y, et al. Therapeutic effects of the combination of linagliptin and metformin on the treatment of elderly type 2 diabetes mellitus and influences on serum uric acid, insulin resistance and insulin β cell functions. *Acta Medica Mediterranea*. 2020; 36(1): 421–425, doi: [10.19193/0393-6384_2020_1_66](https://doi.org/10.19193/0393-6384_2020_1_66).
- Hartley P, Shentu Y, Betz-Schiff P, et al. Efficacy and Tolerability of Sitagliptin Compared with Glimepiride in Elderly Patients with Type 2 Diabetes Mellitus and Inadequate Glycemic Control: A Randomized, Double-Blind, Non-Inferiority Trial. *Drugs Aging*. 2015; 32(6): 469–476, doi: [10.1007/s40266-015-0271-z](https://doi.org/10.1007/s40266-015-0271-z), indexed in Pubmed: [26041585](https://pubmed.ncbi.nlm.nih.gov/26041585/).
- Heller SR, Pratley RE, Sinclair A, et al. Glycaemic outcomes of an Individualized treatment approach for older vulnerable patients: A randomized, controlled study in type 2 diabetes Mellitus (IMPERIUM). *Diabetes Obes Metab*. 2018; 20(1): 148–156, doi: [10.1111/dom.13051](https://doi.org/10.1111/dom.13051), indexed in Pubmed: [28671753](https://pubmed.ncbi.nlm.nih.gov/28671753/).
- Herman WH, Ilag LL, Johnson SL, et al. A clinical trial of continuous subcutaneous insulin infusion versus multiple daily injections in older adults with type 2 diabetes. *Diabetes Care*. 2005; 28(7): 1568–1573, doi: [10.2337/diacare.28.7.1568](https://doi.org/10.2337/diacare.28.7.1568), indexed in Pubmed: [15983302](https://pubmed.ncbi.nlm.nih.gov/15983302/).
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- Liu F, Li W, Zhang J, et al. Effect of repaglinide combined with metformin in the treatment of elderly patients with type 2 diabetes mellitus. *Acta Medica Mediterranea*. 2022; 38: 1137–1142, doi: [10.19193/0393-6384_2022_2_174](https://doi.org/10.19193/0393-6384_2022_2_174).
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- Scherthaner G, Durán-García S, Hanefeld M, et al. Efficacy and tolerability of saxagliptin compared with glimepiride in elderly patients with type 2 diabetes: a randomized, controlled study (GENERATION). *Diabetes Obes Metab*. 2015; 17(7): 630–638, doi: [10.1111/dom.12461](https://doi.org/10.1111/dom.12461), indexed in Pubmed: [25761977](https://pubmed.ncbi.nlm.nih.gov/25761977/).

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