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ALL=(("sodium-glucose cotransporter-2 inhibitors" OR "SGLT-2 inhibitors" OR "SGLT2 inhibitors" OR empagliflozin OR dapagliflozin OR canagliflozin OR ertugliflozin OR bexagliflozin OR sotagliflozin) AND ("Ramadan fasting" OR "religious fasting") AND ("type 2 diabetes mellitus" OR "type 2 diabetes" OR "type II diabetes" OR T2DM OR T2D))

Cochrane Central Register of Controlled Trials (CENTRAL)

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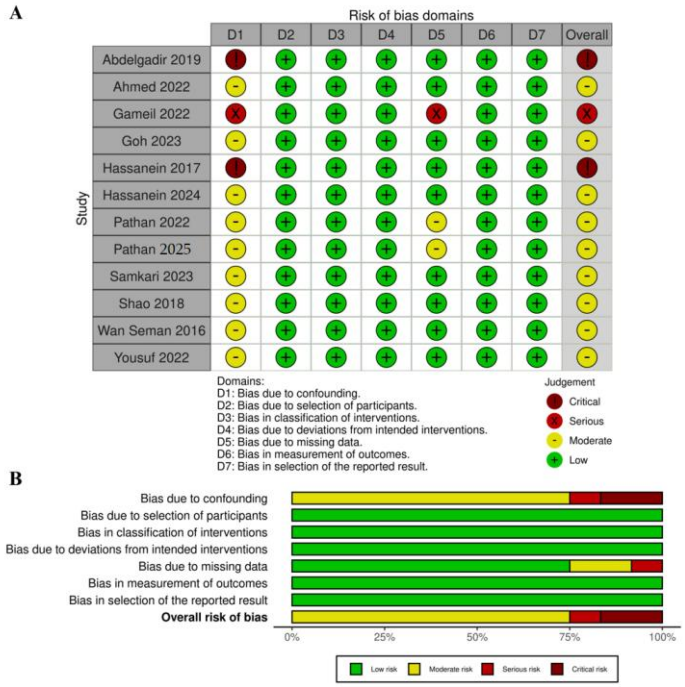
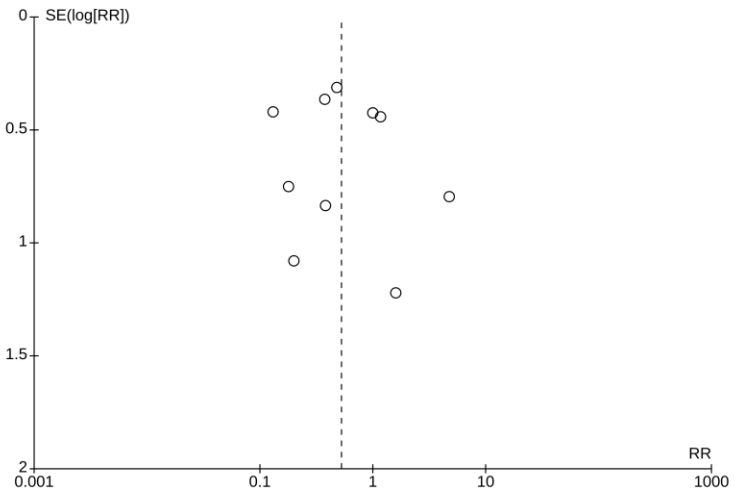


Supplementary Figure 1 Risk of bias summary and risk of bias graph. A: Risk of bias summary: Review authors' judgments about each risk of bias item for each included study; B: Risk of bias graph: Review authors' judgments about each risk of bias item presented as percentages across all included studies.



Supplementary Figure 2 Funnel plot for the studies included in the meta-analysis of proportions of subjects with symptomatic hypoglycemia in the sodium-glucose cotransporter-2 inhibitors group *vs* the non-sodium-glucose cotransporter-2 inhibitors group.

Supplementary Table 1 Characteristics of the excluded cross-sectional studies and study participants

Ref.	Type of study	Reason of exclusion	Study subjects	*n*	Main results
Alsuwaidan *et al*[28], 2023, KSA	Retrospective study	No non-SGLT2i control group	Patients with any type of DM aged 18-79 years who fasted during Ramadan and utilizing SGLT2i	99	- 31 patients broke their fast for 1-5 days, only two broke fasting for more than 6 days. None showed signs and symptoms of diabetic ketoacidosis
Bashier *et al*[29], 2018, UAE	Prospective trial	No non-SGLT2i control group	Adults with T2DM treated with SGLT2i (canagliflozin 100 mg or dapagliflozin 10 mg) along with other GLDs, eGFR ≥60 ml/min/1.73m^2	417	- Significant reduction of HbA1c and body weight after Ramadan, no effect on lipid profile and creatinine levels. Dehydration in 9.3%. Use of insulin in combination with SGLT2i increased the risk of hypoglycemia
Sheikh *et al*[30], 2023, Pakistan	Prospective, observational, controlled cohort study	No non-SGLT2i control group	Age 21-70 years, doses of SGLT2i were stable for at least 8 weeks before Ramadan, eGFR ≥45 ml/min/1.73m^2	82	7.3% documented symptoms of hypoglycemia, no episode of severe hypoglycemia, hyperglycemia, dehydration, DKA, hospitalization or discontinuation of SGLT2i was reported. No significant changes in HbA1c and

		body weight. Significant reduction in eGFR (87.8±27.9 from 94.3±37.6, P <0.001)

Supplementary Table 2 Leave-one-out sensitivity analysis for the main outcomes with moderate and high heterogeneity in the meta-analysis

Variable	Study omitted	RR or MD [95%CI]	*P*	I^2 (%)
Dehydration	Ahmed *et al*[17], 2022	1.86 [0.70, 4.90]	0.21	66
	Hassanein *et al*[20], 2017	1.22 [0.66, 2.25]	0.53	0
	Pathan *et al*[23], 2025	2.32 [1.15, 4.68]	0.02	42
	Samkari *et al*[24], 2023	1.90 [0.72, 5.01]	0.19	64
	Yousuf *et al*[27], 2022	1.67 [0.70, 3.96]	0.24	68
Dizziness	Goh *et al*[19], 2023	0.42 [0.04, 4.10]	0.45	72
	Hassanein *et al*[20], 2017	1.31 [0.24, 7.13]	0.76	61
	Pathan *et al*[23], 2025	0.37 [0.05, 2.98]	0.35	85
	Yousuf *et al*[27], 2022	0.96 [0.10, 9.59]	0.97	86
Volume depletion	Hassanein *et al*[20], 2017	0.91 [0.48, 1.76]	0.79	18
	Pathan *et al*[22], 2022	1.41 [0.48, 4.08]	0.53	68
	Samkari *et al*[24], 2023	2.08 [1.04, 4.18]	0.04	0
	Shao *et al*[25], 2018	1.24 [0.53, 2.90]	0.62	64

HbA1c	Abdelgadir *et al*[16], 2019	-0.14 [-0.36, 0.08]	0.20	85
	Ahmed *et al*[17], 2022	-0.16 [-0.38, 0.05]	0.14	84
	Hassanein *et al*[20], 2017	-0.14 [-0.41, 0.13]	0.31	84
	Hassanein *et al*[21], 2024	-0.20 [-0.40, 0.00]	0.05	77
	Pathan *et al*[22], 2022	-0.12 [-0.35, 0.11]	0.31	85
	Pathan *et al*[23], 2025	-0.09 [-0.27, 0.10]	0.36	55
	Wan Seman *et al*[26], 2016	-0.22 [-0.41, -0.03]	0.02	75
	Yousuf *et al*[27], 2022	-0.14 [-0.37, 0.08]	0.22	85
Body weight	Abdelgadir *et al*[16], 2019	-0.73 [-1.61, 0.15]	0.11	85
	Ahmed *et al*[17], 2022	-0.56 [-1.42, 0.31]	0.21	85
	Gameil *et al*[18], 2022	-0.64 [-1.55, 0.26]	0.16	87
	Goh *et al*[19], 2023	-0.90 [-1.87, 0.08]	0.07	85
	Hassanein *et al*[20], 2017	-0.42 [-1.33, 0.49]	0.36	80
	Hassanein *et al*[21], 2024	-0.96 [-1.64, -0.28]	0.005	56
	Pathan *et al*[22], 2022	-0.65 [-1.57, 0.27]	0.17	85
	Pathan *et al*[23], 2025	-0.74 [-1.92, 0.44]	0.22	83
	Shao *et al*[25], 2018	-0.71 [-1.71, 0.29]	0.16	85