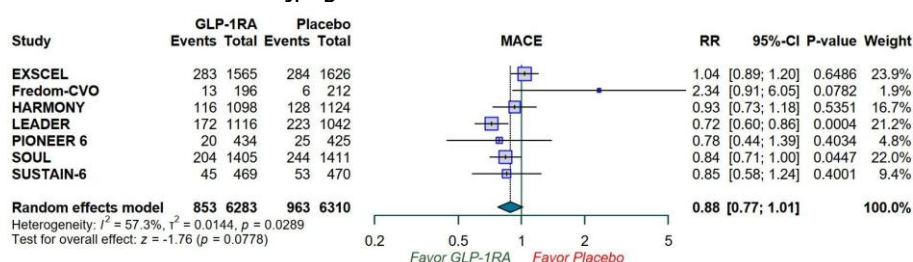


**Abstract Type : Oral presentation****Abstract Submission No.: A-0130****Abstract Topic : Diabetic Kidney Disease + Metabolic Abnormality-related
Kidney Disease****Disparities in Cardiovascular Outcomes of GLP-1 Receptor Agonists by Sex,
BMI, and Renal Function in Type 2 Diabetes: A Meta-Analysis**

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Egypt, Egypt**Objectives :** Glucagon-like peptide-1 receptor agonists (GLP-1RAs) reduce cardiovascular risk in patients with type 2 diabetes (T2D). However, whether these benefits vary by sex, body mass index (BMI), or renal function remains unclear.**Methods :** This meta-analysis followed PRISMA and Cochrane Handbook guidelines. PubMed, Web of Science, Scopus, and Cochrane CENTRAL were searched through November 2025 for placebo-controlled randomized controlled trials evaluating GLP-1RAs in adults with T2D. Eligible studies reported major adverse cardiovascular events (MACE) stratified by sex, BMI, and/or estimated glomerular filtration rate (eGFR). Risk ratios (RRs) with 95% confidence intervals (CIs) were pooled using a random-effects model. Subgroup analyses were conducted by sex, BMI (>30 vs ≤ 30 kg/m²), and renal function (eGFR ≥ 60 vs < 60 mL/min/1.73 m²).**Results :** Nine RCTs including 67,718 participants (34,560 GLP-1RA; 33,158 placebo) with follow-up ranging from 1.3 to 5.4 years were analyzed. The mean age was 64.3 ± 7.9 years. GLP-1RAs significantly reduced MACE in both males (RR 0.89, 95% CI 0.85–0.95) and females (RR 0.84, 95% CI 0.87–0.91), with a greater relative reduction observed in women. Significant benefit was also seen in patients with BMI >30 kg/m² (RR 0.87, 95% CI 0.82–0.92) and BMI ≤ 30 kg/m² (RR 0.86, 95% CI 0.75–0.98). By renal function, GLP-1RAs reduced MACE in patients with eGFR ≥ 60 mL/min/1.73 m² (RR 0.87, 95% CI 0.89–0.94), whereas the effect was not statistically significant in those with eGFR < 60 mL/min/1.73 m² (RR 0.88, 95% CI 0.77–1.01).**Conclusions :** GLP-1RAs significantly reduce cardiovascular events in T2D, with consistent benefits across sex and BMI subgroups. However, cardiovascular protection may be attenuated in patients with impaired renal function, underscoring the need for individualized risk assessment.

MACE eGFR LESS THAN 60.jpeg



MACE eGFR LESS THAN 60.jpeg



Shaping Tomorrow's Nephrology: **Insight-Driven Kidney Care**

KSN SEOUL, KOREA
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Forest Plot: MACE Pooled Analysis Across Subgroups

Primary Endpoint	Subgroup	Studies (n)	GLP-1RA	Placebo	RR (95% CI)	P-value	I ²
MACE	Males	9	11.0%	12.5%	0.89 [0.85; 0.94]	<0.001	42.1%
	Females	9	7.8%	9.4%	0.84 [0.78; 0.91]	<0.001	0.0%
	BMI > 30	9	9.7%	11.3%	0.87 [0.82; 0.92]	<0.001	0.0%
	BMI ≤ 30	7	9.8%	11.1%	0.86 [0.75; 0.98]	0.0233	54.8%
	eGFR ≥ 60	8	8.4%	9.8%	0.87 [0.80; 0.94]	<0.001	38.6%
	eGFR < 60	7	13.6%	15.3%	0.88 [0.77; 1.01]	0.0778	57.3%

MACE Outcomes by Subgroups - GLP-1RA vs Placebo

