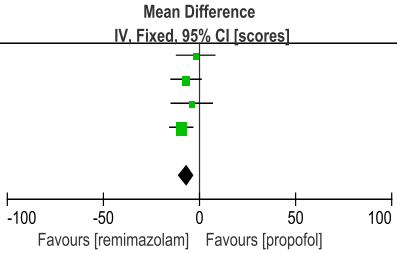
Primary outcomes

QoR-15

Study or Subgroup	remimazolam Mean [scores]	SD [scores]	Total	propofol Mean [scores]	SD [scores]	Total	Weight	Mean Difference IV, Fixed, 95% CI [scores]
Jiwon Lee et al.2024	112	23.1	36	114	20.1	36	16.0%	-2.00 [-12.00, 8.00]
Seohee et al.2024	137	20	26	144	4.44	27	25.9%	-7.00 [-14.87, 0.87]
Taichi Kotani et al.2024	127	18.7	17	131	12.7	17	13.9%	-4.00 [-14.75, 6.75]
Y.Y.Mao et al.2022	114.5	15.2	64	124	19.3	64	44.2%	-9.50 [-15.52, -3.48]
Total (95% CI)			**143**			**144**	**100.0%**	**-6.89 [-10.89, -2.89]**

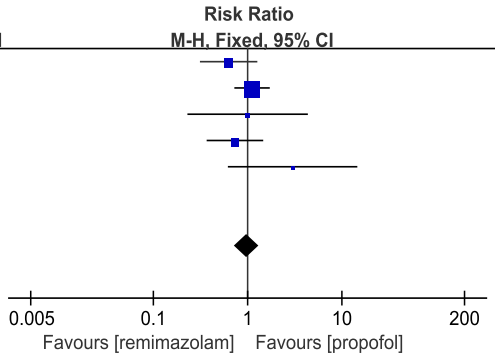
Heterogeneity: Chi² = 1.92, df = 3 (P = 0.59); I² = 0%
Test for overall effect: Z = 3.37 (P = 0.0007)



Delirium

Study or Subgroup	remimazolam Events	Total	propofol Events	Total	Weight	Risk Ratio M-H, Fixed, 95% CI
Junbao Zhang et al（2）.2024	11	71	17	69	23.0%	0.63 [0.32, 1.24]
Pan-Pan Fang et al.2024	42	359	38	362	50.4%	1.11 [0.74, 1.69]
Taichi Kotani et al.2024	3	17	3	17	4.0%	1.00 [0.23, 4.27]
Tianlin Liu et al.2024	11	50	15	50	20.0%	0.73 [0.37, 1.44]
Y.Y.Mao et al.2022	6	64	2	64	2.7%	3.00 [0.63, 14.31]
Yaqi Huang et al.2023	0	60	0	60		Not estimable
Total (95% CI)		**621**		**622**	**100.0%**	**0.97 [0.72, 1.31]**
Total events	73		75			

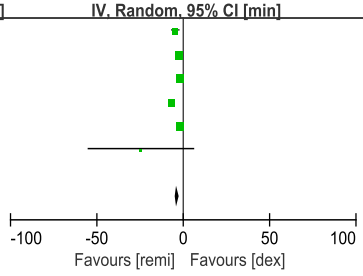
Heterogeneity: Chi² = 4.66, df = 4 (P = 0.32); I² = 14%
Test for overall effect: Z = 0.18 (P = 0.85)



Time to achieve sedation

Study or Subgroup	remimazolam Mean [min]	SD [min]	Total	dexmedetomidine Mean [min]	SD [min]	Total	Weight	Mean Difference IV, Random, 95% CI [min]
Hansol Kim et al.2023	5.1	2.2	52	9.7	7.26	51	14.1%	-4.60 [-6.68, -2.52]
Huiying Xu et al.2024	6.6	1.9	60	9	1.2	60	21.8%	-2.40 [-2.97, -1.83]
Laiying Zhou et al.2024	5	0.37	182	7	0.74	181	22.7%	-2.00 [-2.12, -1.88]
Seung-Wan Hong et al.2024	4	1	35	11	3	35	19.7%	-7.00 [-8.05, -5.95]
Xingfang Chen et al.2022	13.22	1.7	73	15.12	2.07	73	21.6%	-1.90 [-2.51, -1.29]
Yang Deng et al.2022	19	15.93	37	43.5	94.44	38	0.2%	-24.50 [-54.96, 5.96]
Total (95% CI)			**439**			**438**	**100.0%**	**-3.45 [-4.72, -2.19]**

Heterogeneity: Tau² = 1.83; Chi² = 95.68, df = 5 (P < 0.00001); I² = 95%
Test for overall effect: Z = 5.36 (P < 0.00001)



Time to achieve sedation excluding Seung-Wan Hong

Study or Subgroup	remimazolam Mean [min]	SD [min]	Total	dexmedetomidine Mean [min]	SD [min]	Total	Weight	Mean Difference IV, Random, 95% CI [min]
Hansol Kim et al.2023	5.1	2.2	52	9.7	7.26	51	4.8%	-4.60 [-6.68, -2.52]
Huiying Xu et al.2024	6.6	1.9	60	9	1.2	60	27.1%	-2.40 [-2.97, -1.83]
Laiying Zhou et al.2024	5	0.37	182	7	0.74	181	42.5%	-2.00 [-2.12, -1.88]
Seung-Wan Hong et al.2024	4	1	35	11	3	35	0.0%	-7.00 [-8.05, -5.95]
Xingfang Chen et al.2022	13.22	1.7	73	15.12	2.07	73	25.5%	-1.90 [-2.51, -1.29]
Yang Deng et al.2022	19	15.93	37	43.5	94.44	38	0.0%	-24.50 [-54.96, 5.96]
Total (95% CI)			**404**			**403**	**100.0%**	**-2.21 [-2.69, -1.73]**

Heterogeneity: Tau² = 0.14; Chi² = 9.97, df = 4 (P = 0.04); I² = 60%
Test for overall effect: Z = 9.01 (P < 0.00001)

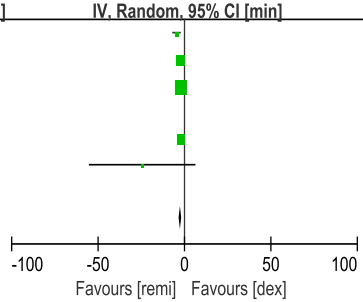


Figure 4, primary outcomes.