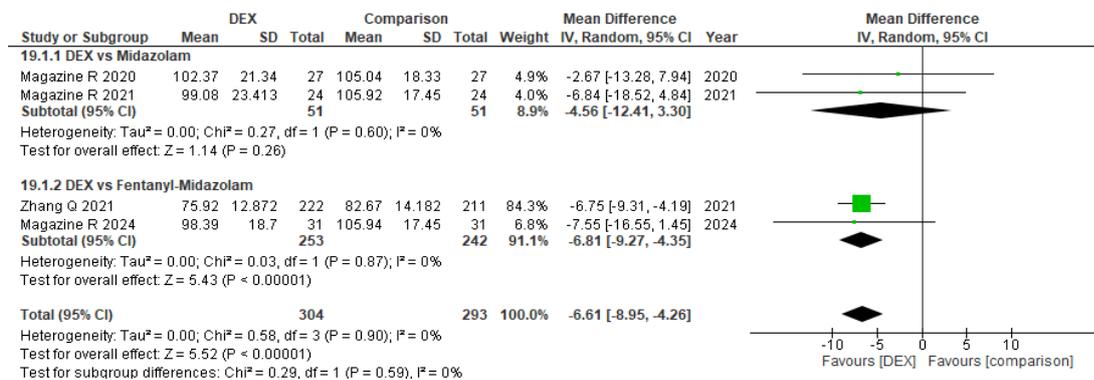
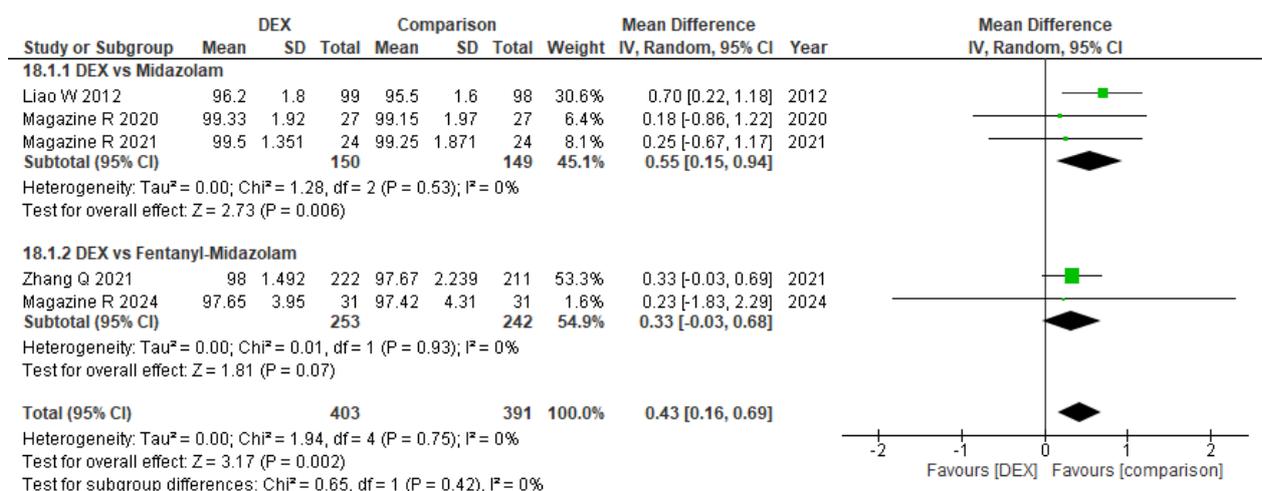


Name	Intervention	Control	Weight	D1	D2	D3	D4	D5	Overall	
Magazine R 2024	Dexmedetomidine	Midazolam-Fentanyl	1	+	+	+	+	+	+	Low risk
Magazine R 2021	Dexmedetomidine	Midazolam	1	+	+	+	+	+	+	Some concerns
Kim J 2021	Dexmedetomidine	Midazolam	1	+	+	+	+	+	+	High risk
Zhang Q 2021	Dexmedetomidine and m Fentanyl and midazolam		1	+	+	+	+	+	+	
Magazine R 2020	Dexmedetomidine	Midazolam	1	+	+	+	+	+	+	D1 Randomisation process
Goneppanavar U 2l	Dexmedetomidine	Midazolam	1	+	+	+	+	+	+	D2 Deviations from the intended interventions
Liao W 2012	Dexmedetomidine	Midazolam	1	+	+	+	+	+	+	D3 Missing outcome data
Kumari R 2021	Dexmedetomidine	Midazolam	1	+	+	+	+	+	+	D4 Measurement of the outcome
Zhou L 2024	Dexmedetomidine and re Remimazolam and Remifentanyl		1	+	+	+	+	+	+	D5 Selection of the reported result
Riachy 2017	Dexmedetomidine	Alfentanil	1	+	+	+	+	+	+	
Yuan F 2016	Dexmedetomidine and fe Propofol and Fentanyl		1	+	+	+	+	+	+	
Shoukry 2016	Dexmedetomidine and fe Propofol and fentanyl		1	+	+	+	+	+	+	
Mani 2015	Dexmedetomidine	Propofol	1	+	+	+	+	+	+	
Ryu JH 2012	Dexmedetomidine and pr Propofol and remifentanyl		1	+	+	+	+	+	+	

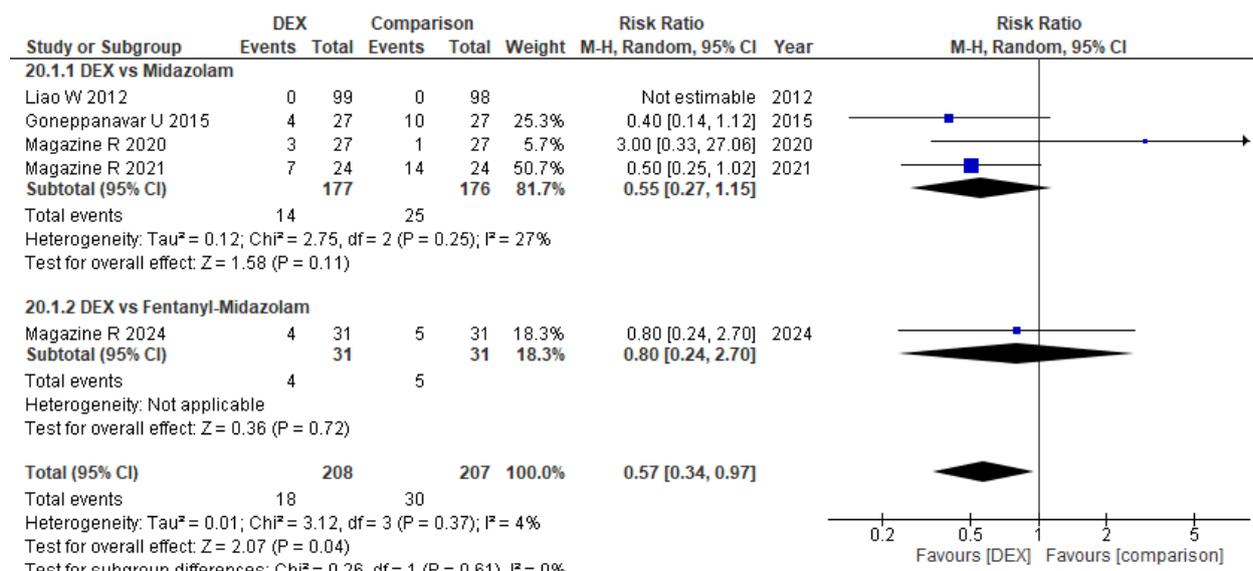
Supplementary Figure 1 Risk of bias, quality assessment of randomized controlled trials.



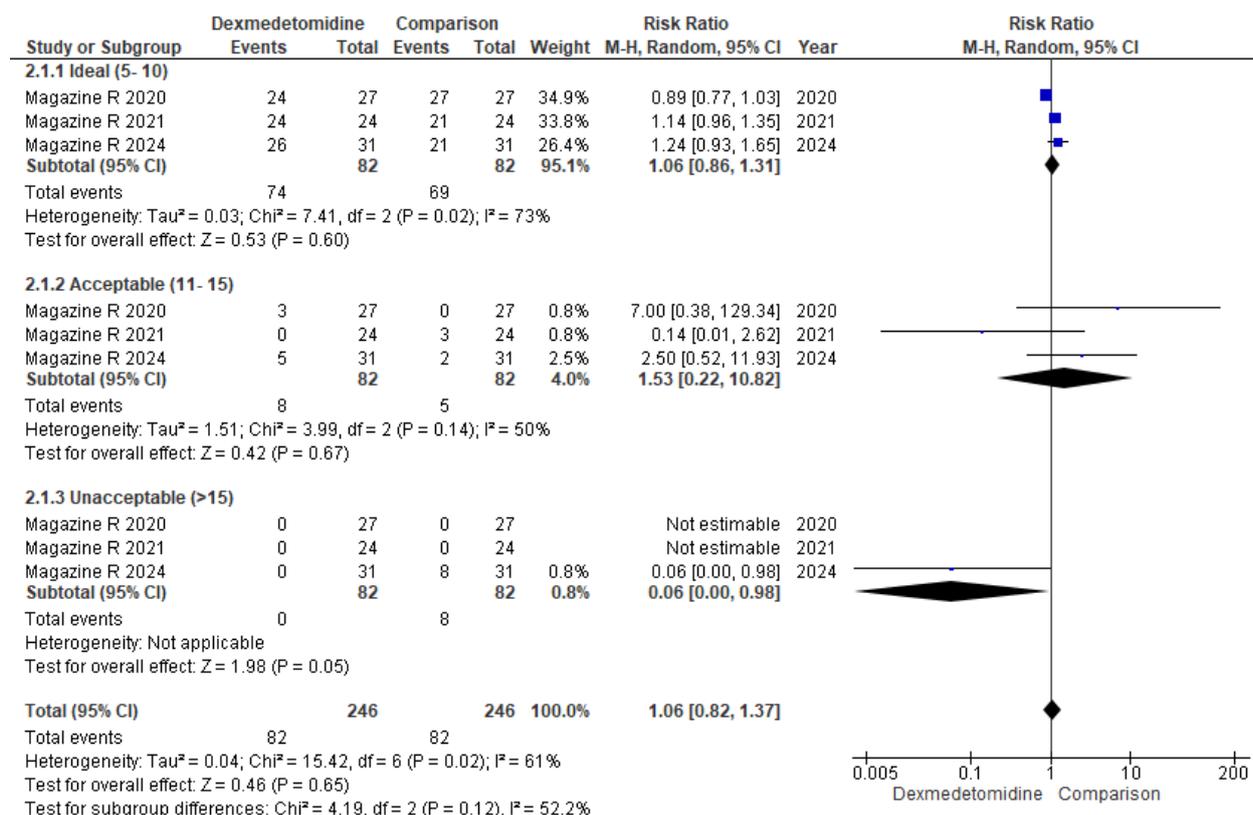
Supplementary Figure 2 Forest plot of subgroup analysis comparing heart rate in dexmedetomidine and control groups.



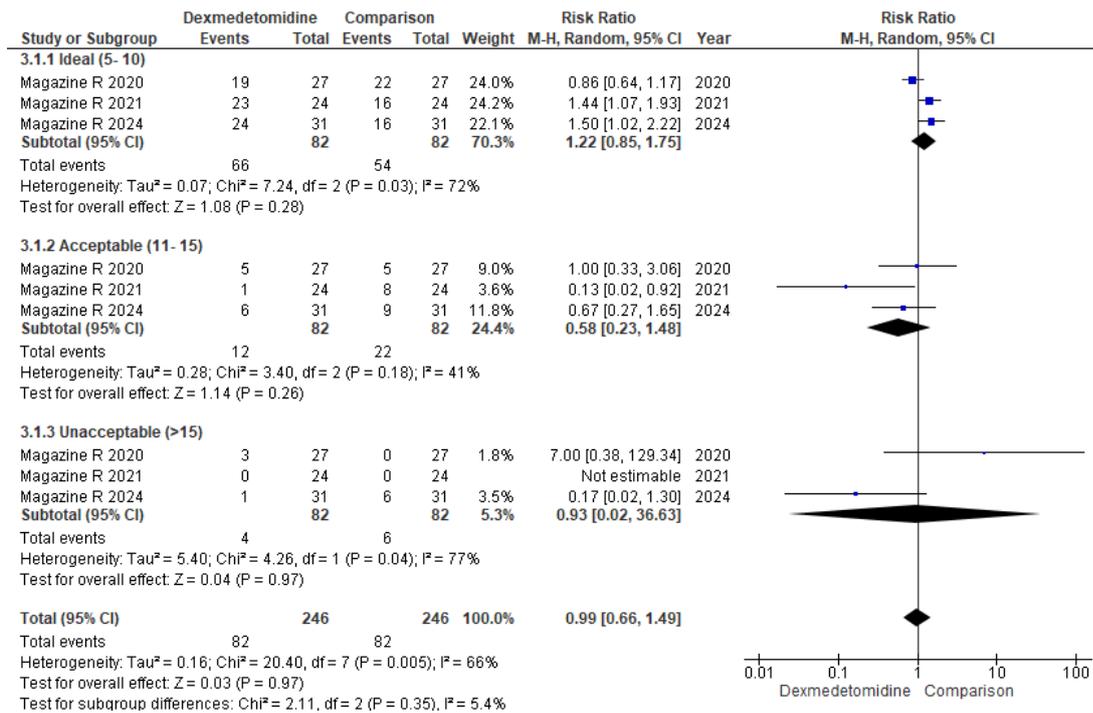
Supplementary Figure 3 Forest plot of subgroup analysis comparing mean oxygen saturation in dexmedetomidine and control groups.



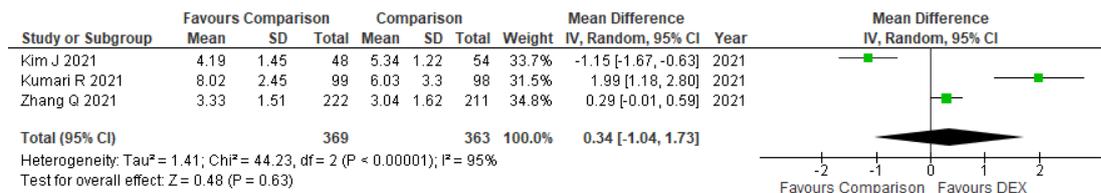
Supplementary Figure 4 Forest plot of subgroup analysis comparing discomfort during bronchoscopy in dexmedetomidine and control groups.



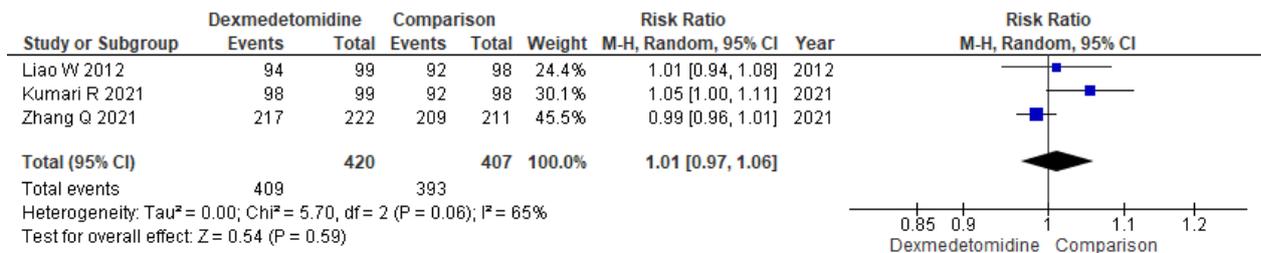
Supplementary Figure 5 Forest plot showing the composite scores at the level of nasopharynx.



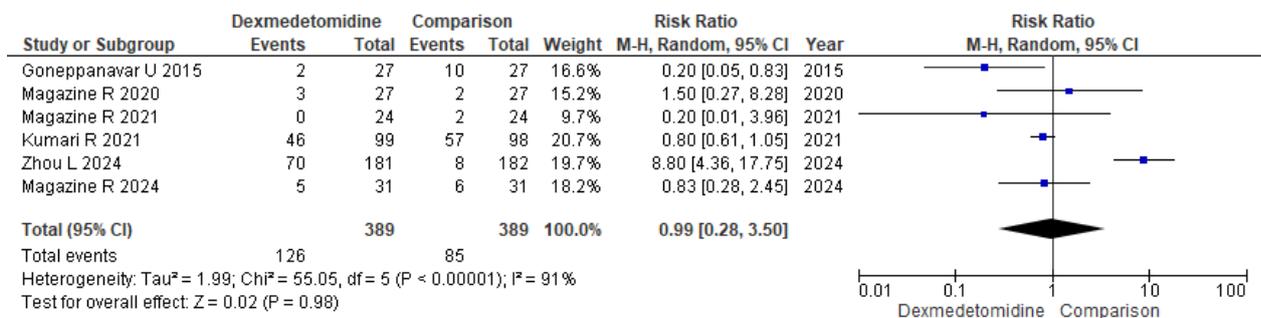
Supplementary Figure 6 Forest plot showing composite scores at the level of trachea.



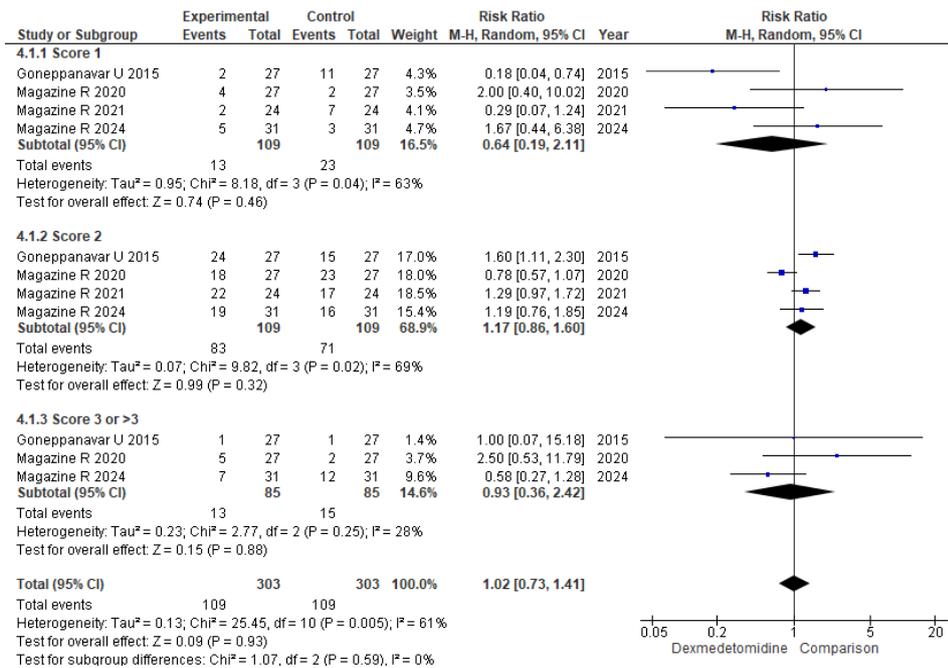
Supplementary Figure 7 Forest plot for the outcome of Cough.



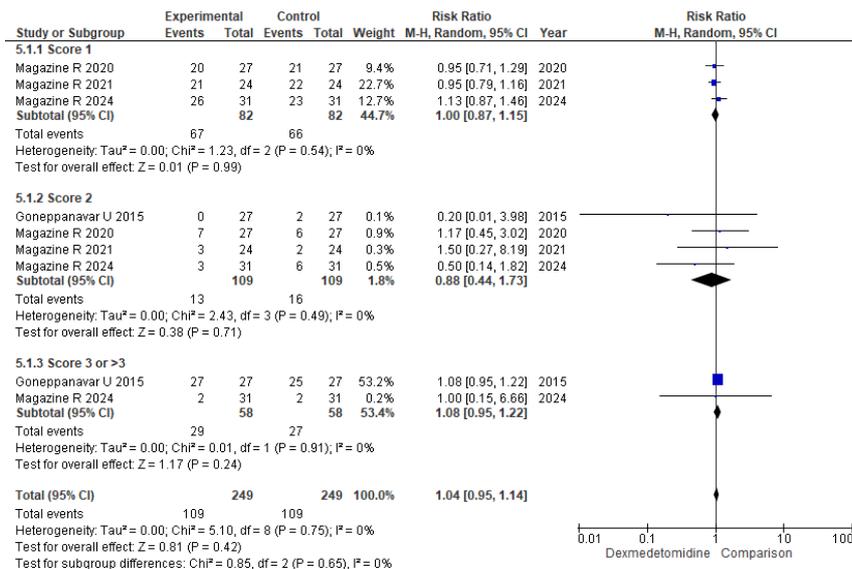
Supplementary Figure 8 Forest plot comparing willing to repeat procedure.



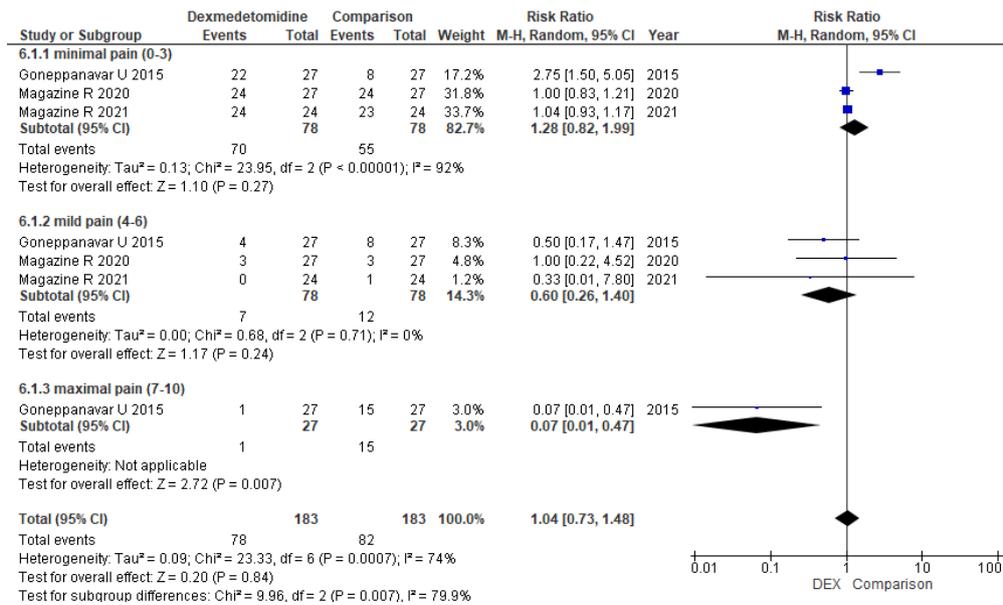
Supplementary Figure 9 Forest plot comparing the need of a rescue dose.



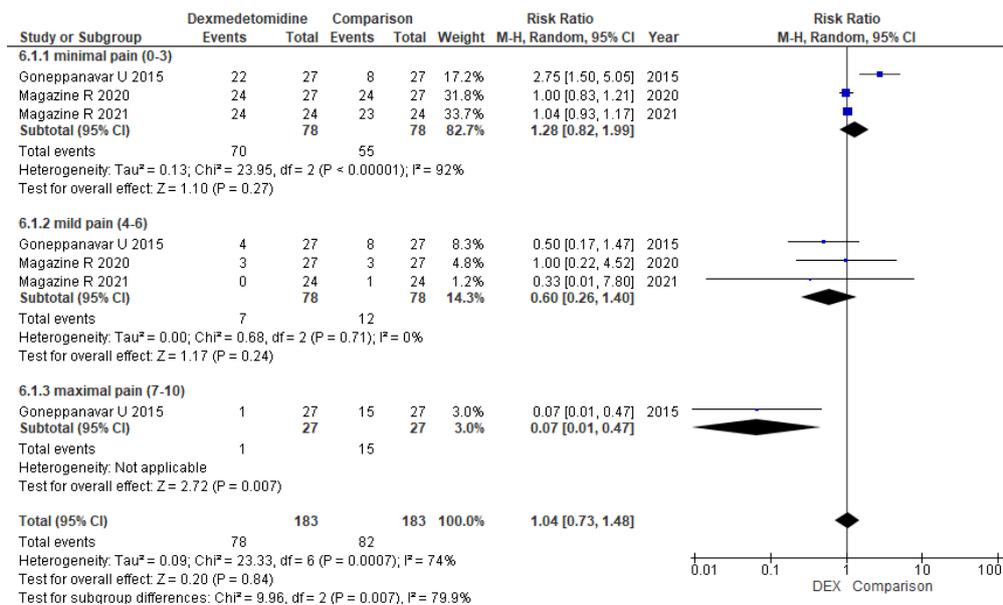
Supplementary Figure 10 Forest plot for Ramsay sedation score, measured during the procedure.



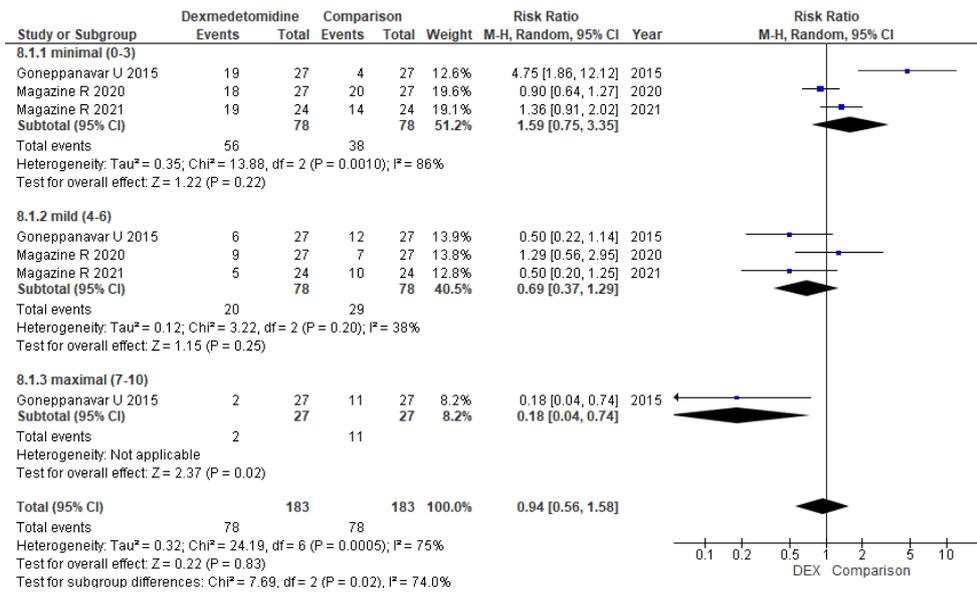
Supplementary Figure 11 Forest plot showing Ramsay sedation score, as measured after the procedure.



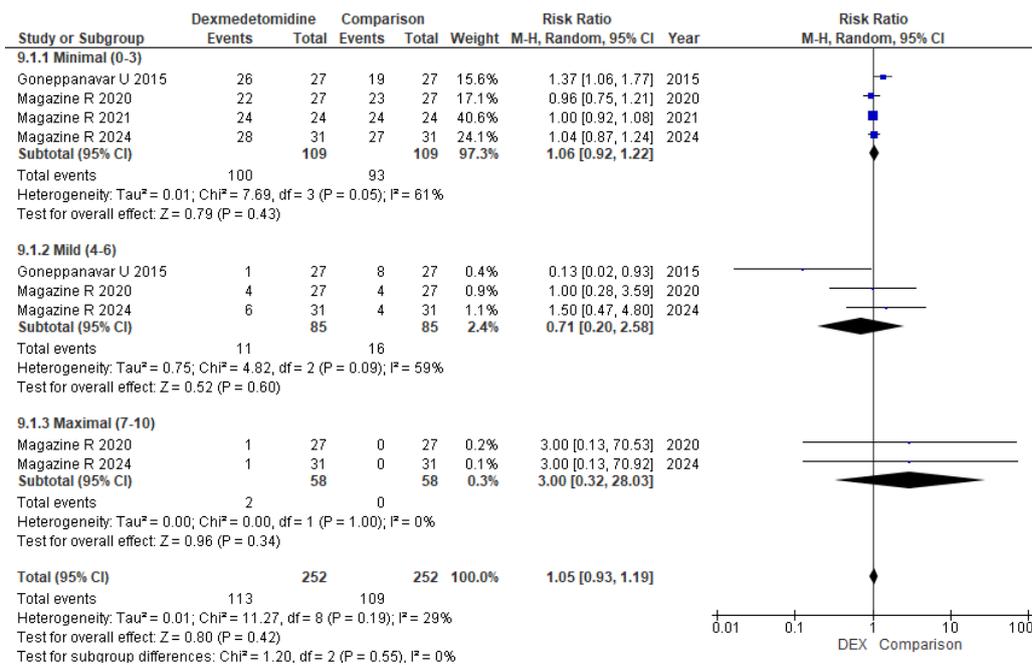
Supplementary Figure 12 Forest plot for pain-during procedure between dexmedetomidine and control groups.



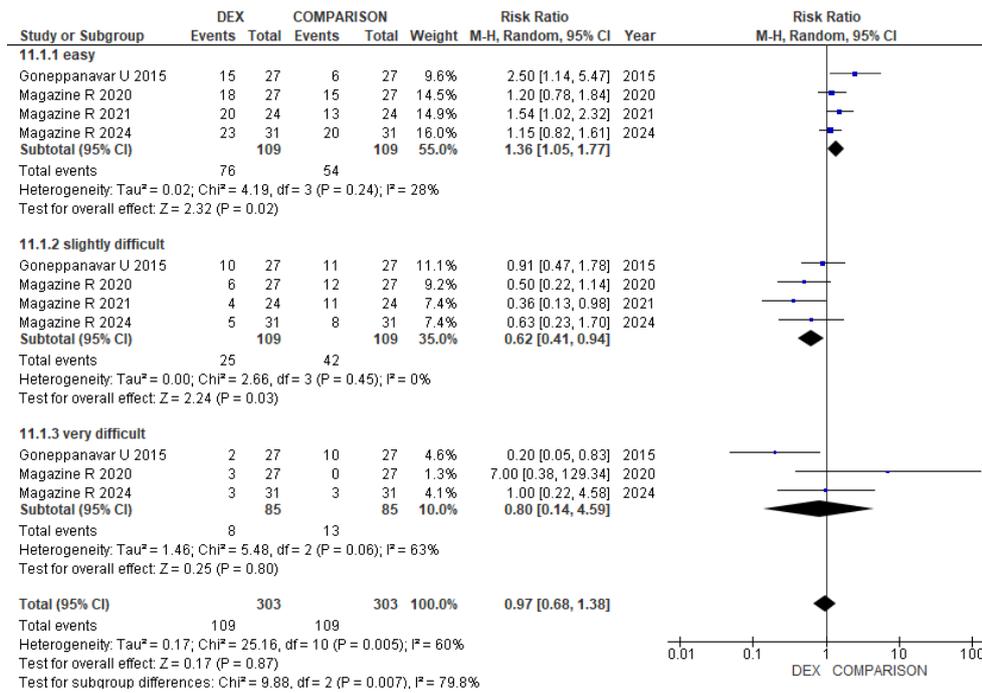
Supplementary Figure 13 Forest plot comparing pain-during procedure between dexmedetomidine and control groups.



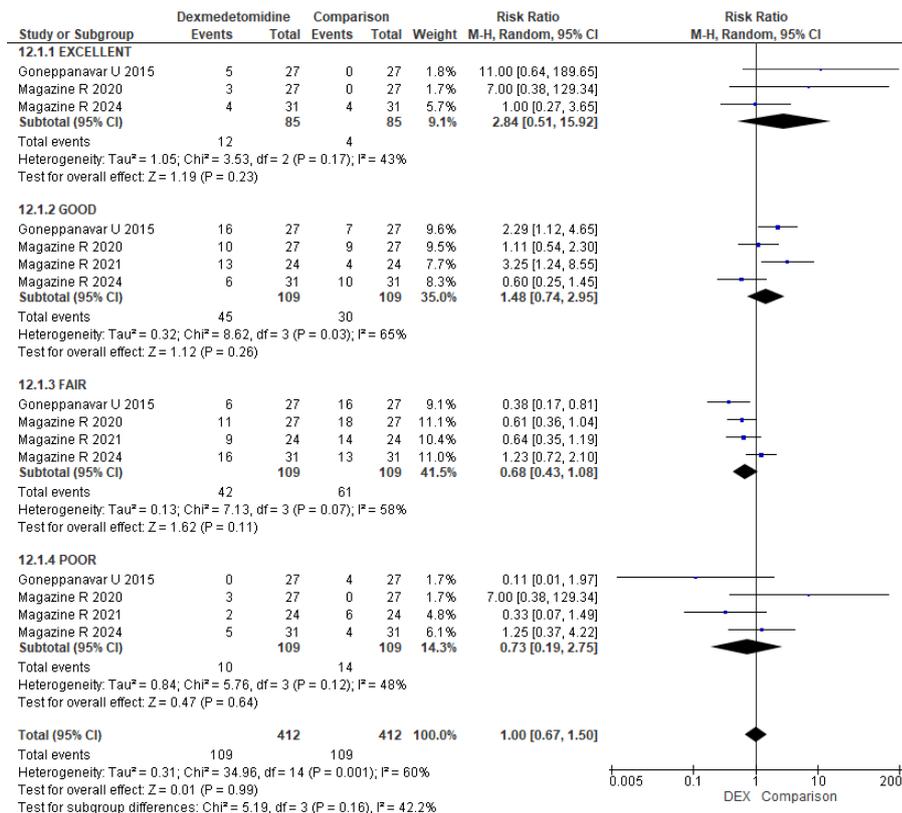
Supplementary Figure 14 Forest plot comparing distress, during procedure between Dexmedetomidine and control groups.



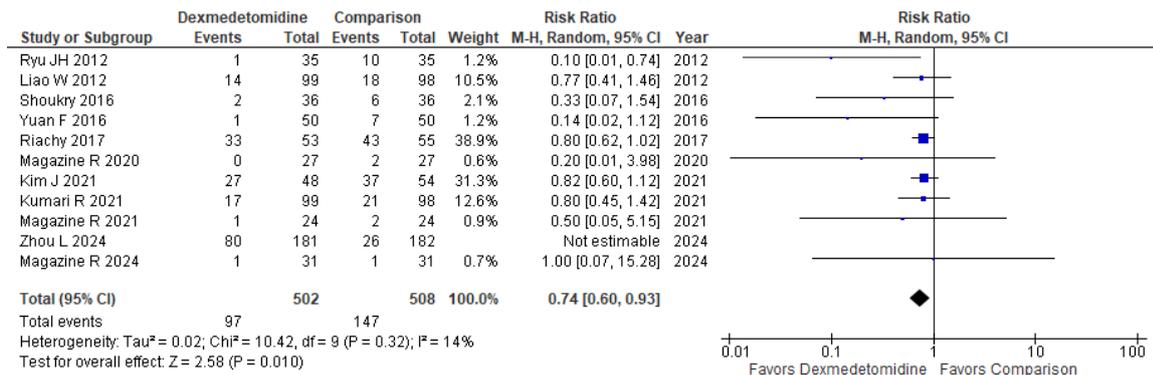
Supplementary Figure 15 Forest plot comparing distress, 10 minutes after procedure between dexmedetomidine and control groups.



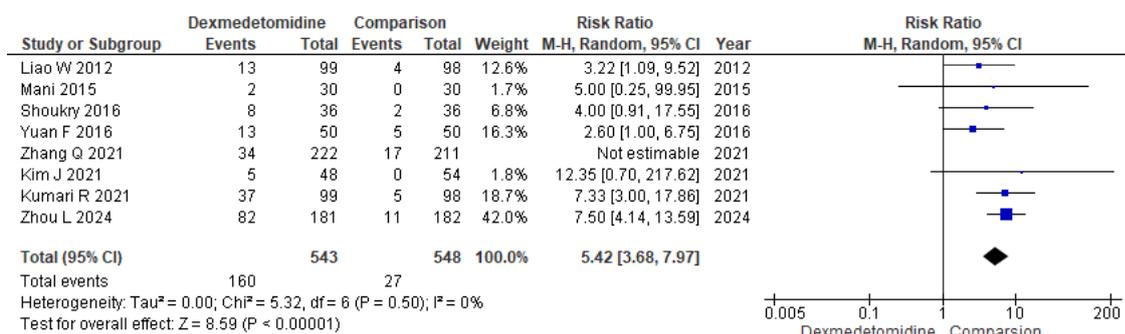
Supplementary Figure 16 Forest plot comparing ease of bronchoscopy between dexmedetomidine and control groups.



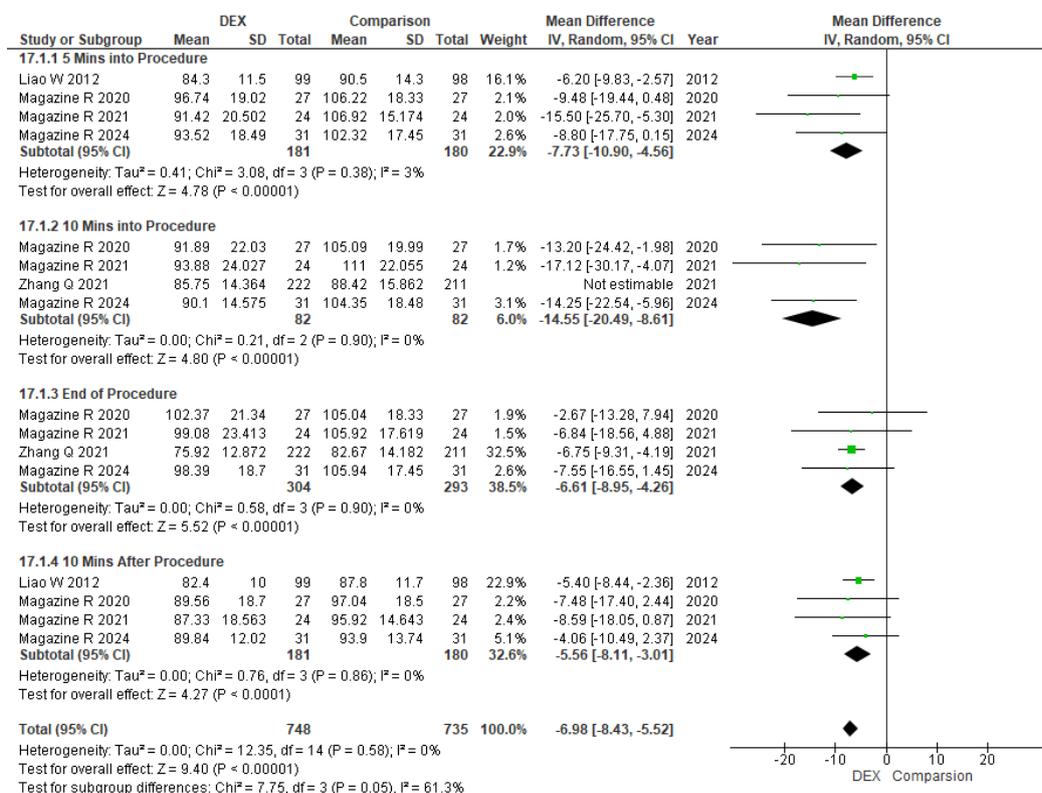
Supplementary Figure 17 Forest plot comparing quality of sedation between dexmedetomidine and control groups.



Supplementary Figure 18 Sensitivity analysis forest plot for comparing oxygen desaturation between dexmedetomidine and control groups.

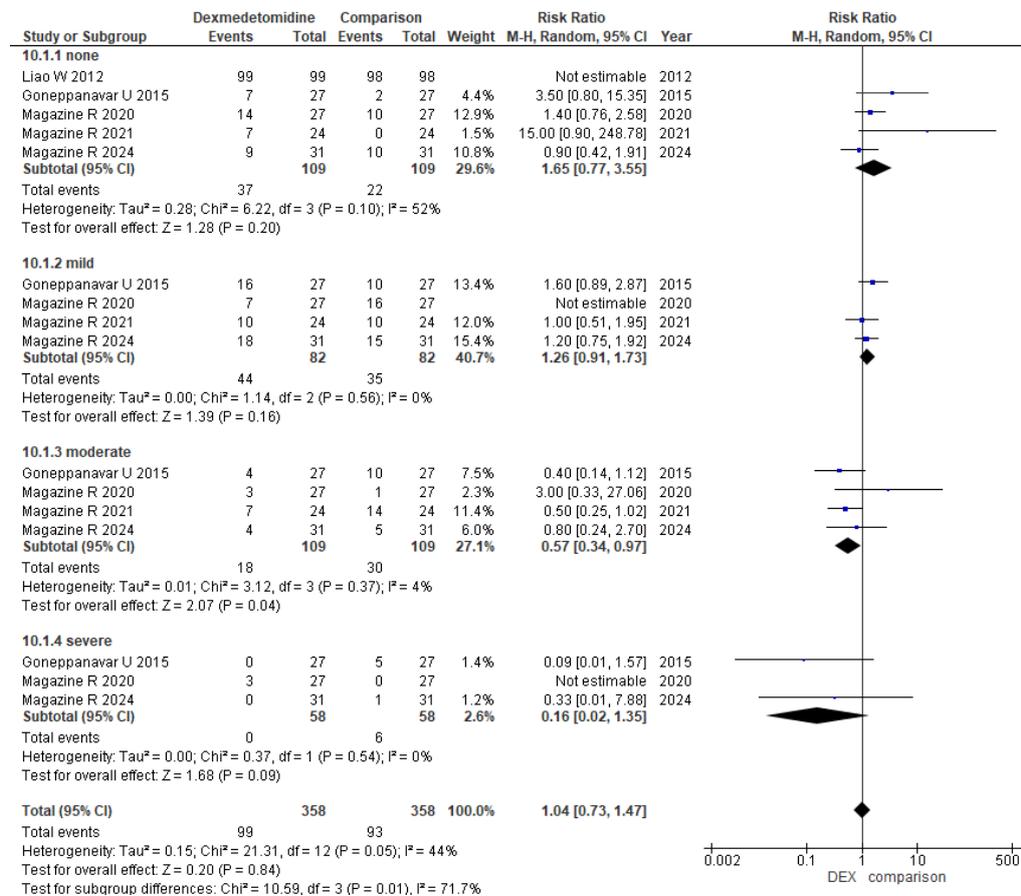


Supplementary Figure 19 Sensitivity analysis forest plot for comparing bradycardia between dexmedetomidine and control groups.

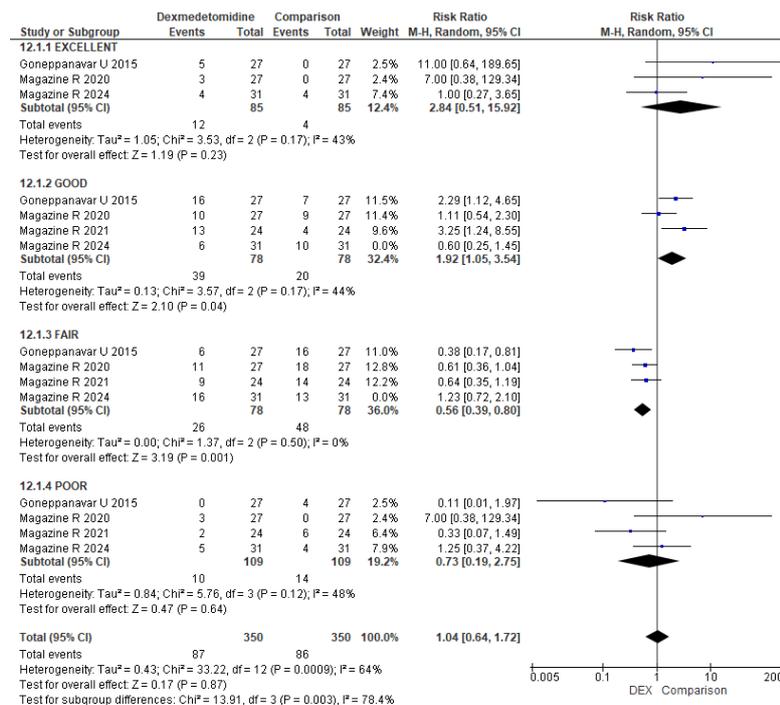


Supplementary Figure 20 Sensitivity analysis forest plot for comparing heart rate at

10 Minutes, between dexmedetomidine and control groups.

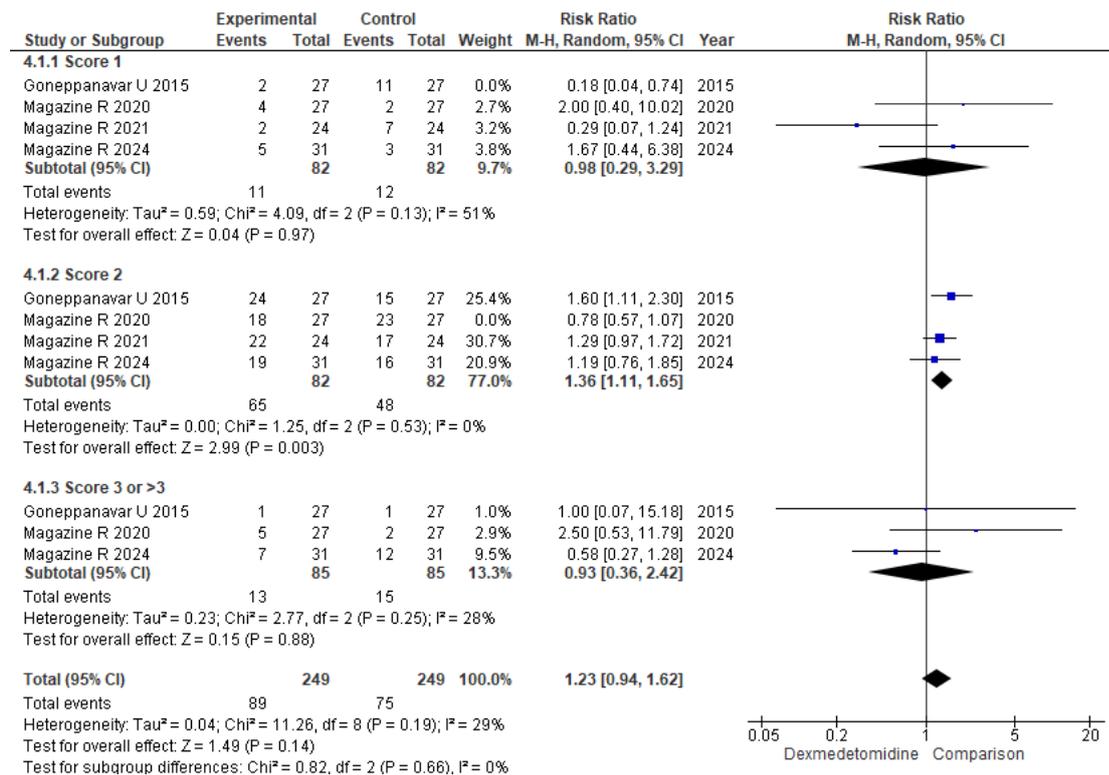


Supplementary Figure 21 Sensitivity analysis forest plot for comparing discomfort (none, mild, severe) between dexmedetomidine and control groups.

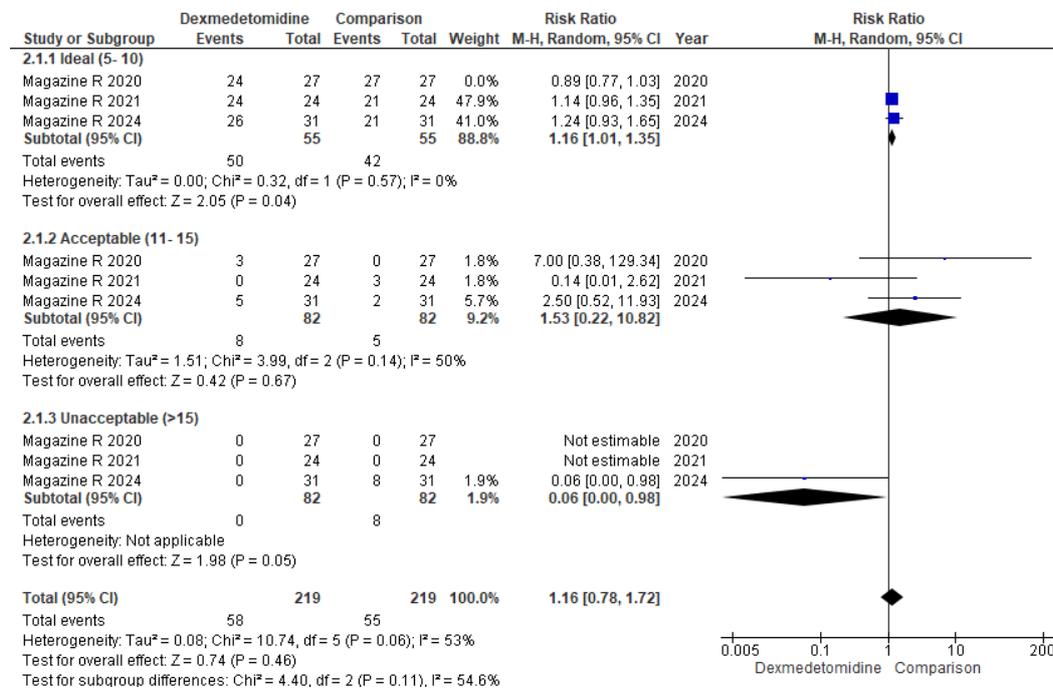


Supplementary Figure 22 Sensitivity analysis forest plot for comparing quality of

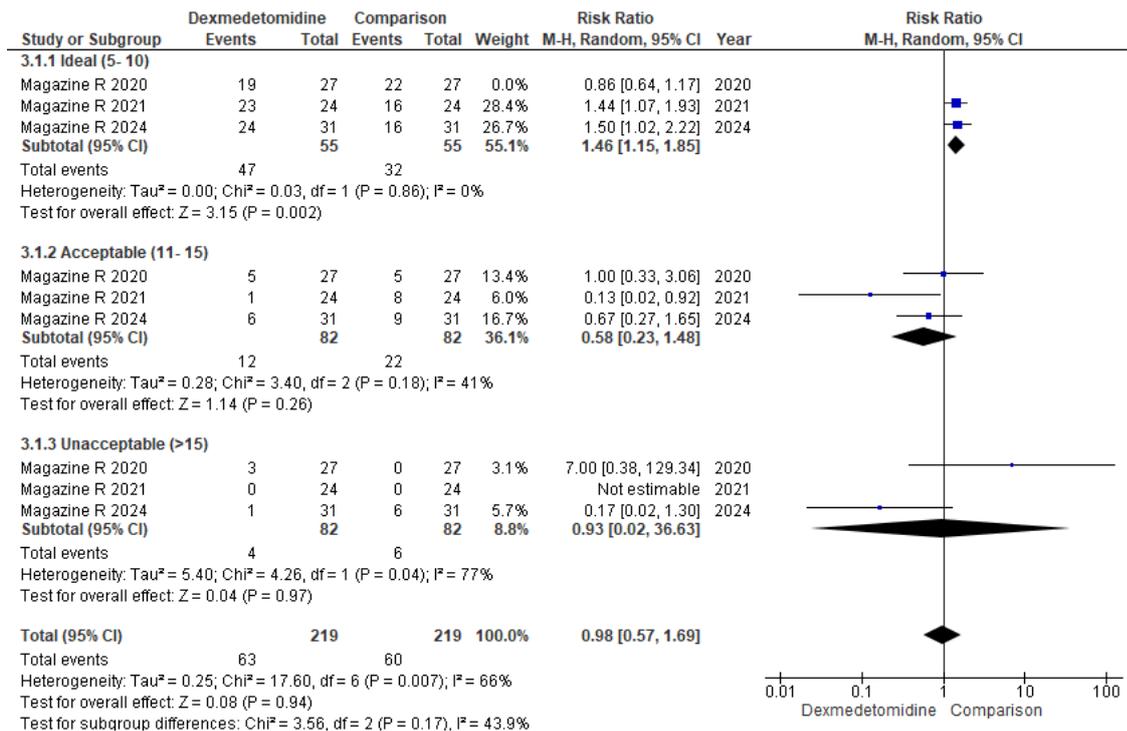
sedation (good, fair) between dexmedetomidine and control groups.



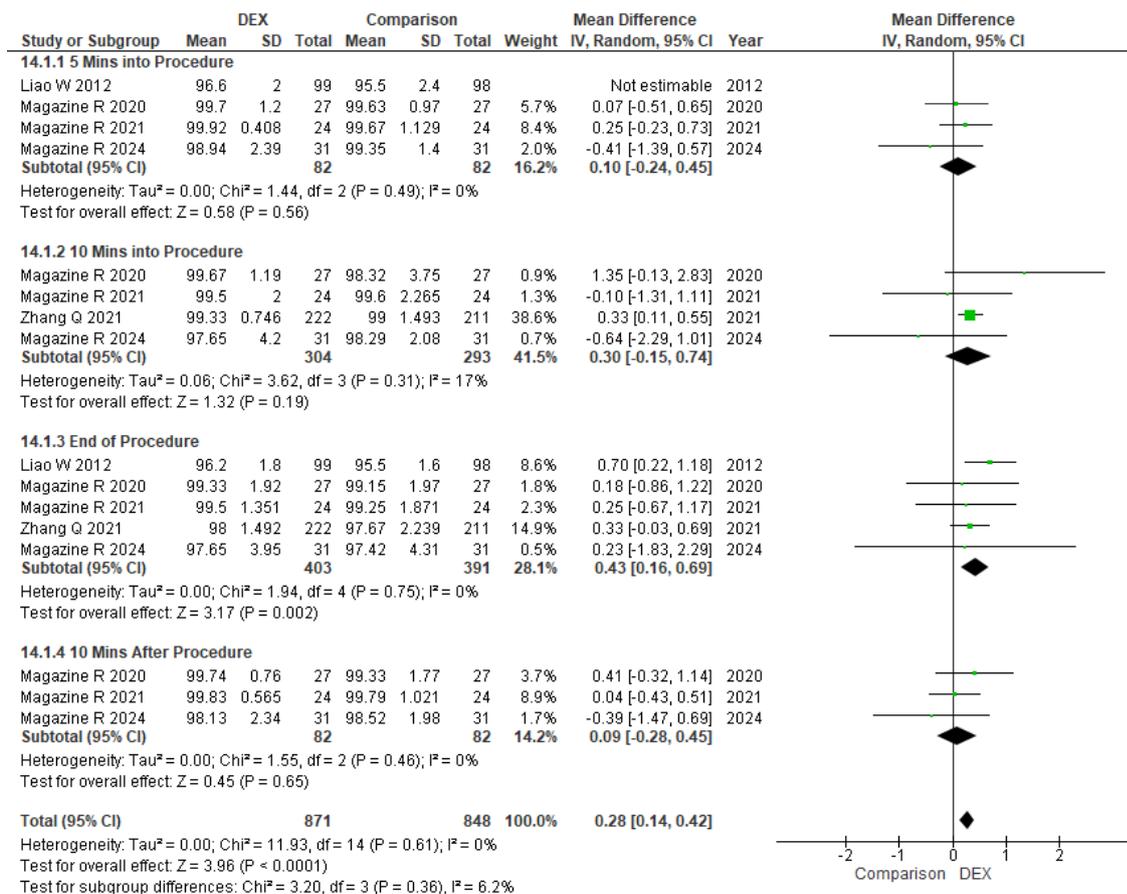
Supplementary Figure 23 Sensitivity analysis forest plot for comparing Ramsay Sedation Score (score 1, score 2) during procedure between dexmedetomidine and control groups.



Supplementary Figure 24 Sensitivity analysis forest plot for comparing composite score at nasopharynx between dexmedetomidine and control groups.

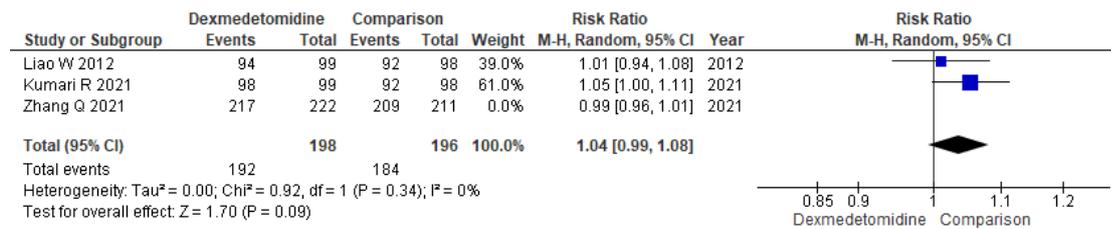


Supplementary Figure 25 Sensitivity analysis forest plot for comparing composite score at trachea between dexmedetomidine and control groups.

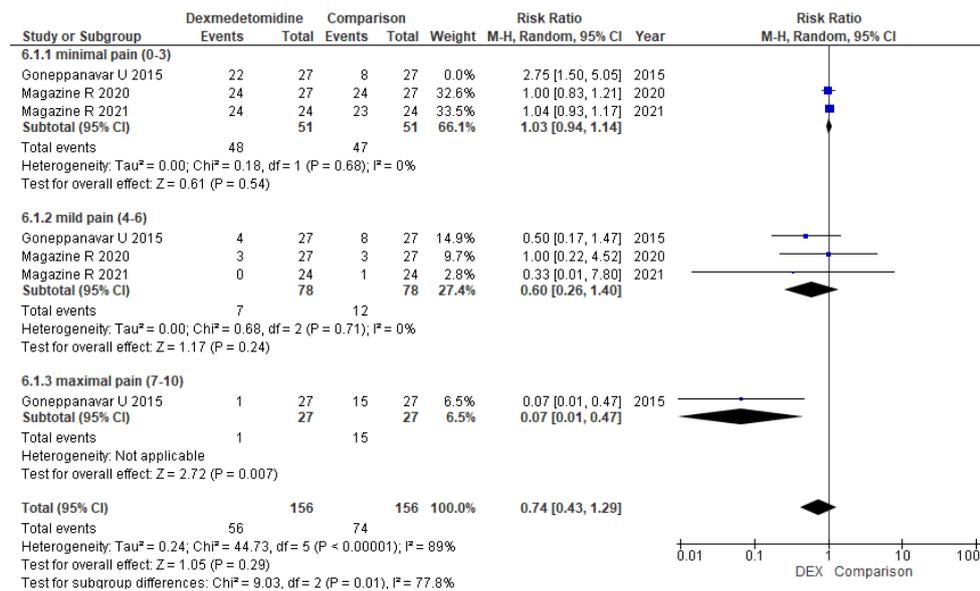


Supplementary Figure 26 Sensitivity analysis forest plot for comparing mean

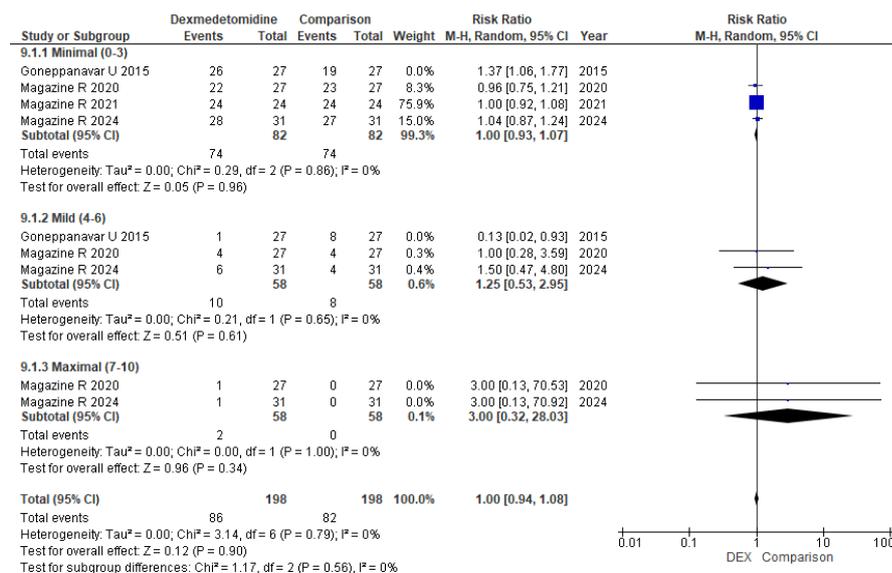
oxygen saturation at 5 minutes between dexmedetomidine and control groups.



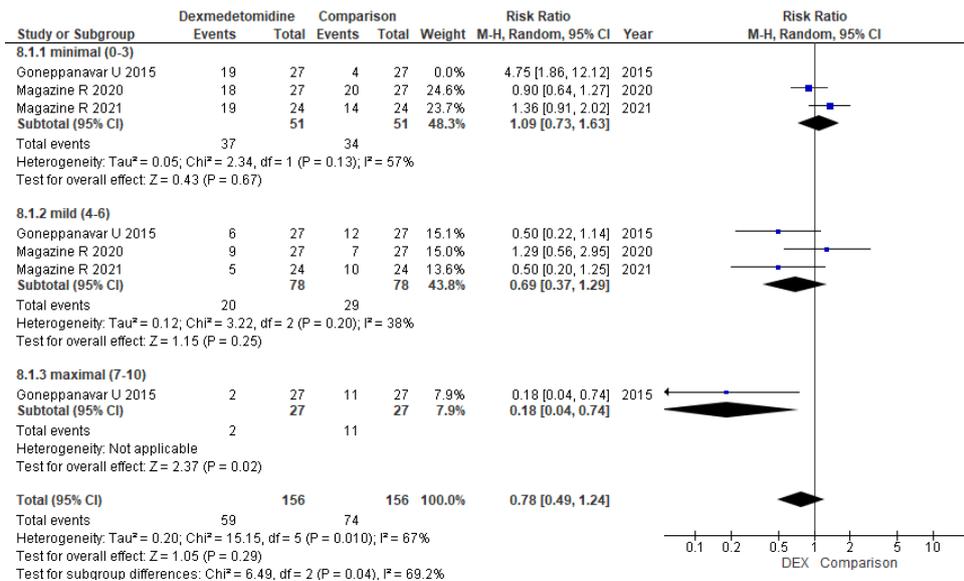
Supplementary Figure 27 Sensitivity analysis forest plot for comparing willingness to repeat procedure between dexmedetomidine and control groups.



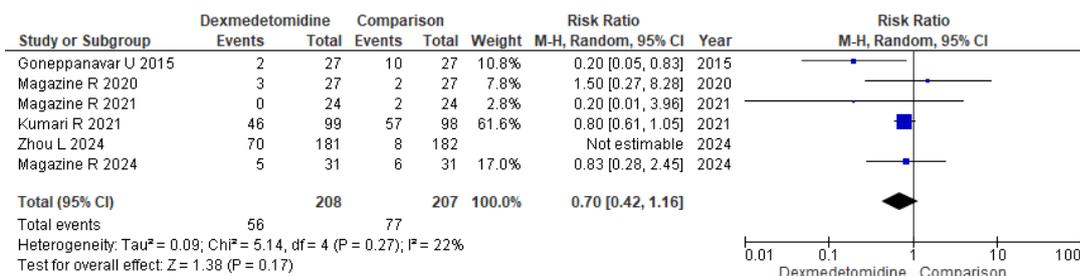
Supplementary Figure 28 Sensitivity analysis forest plot for comparing pain, during procedure (minimal) between dexmedetomidine and control groups.



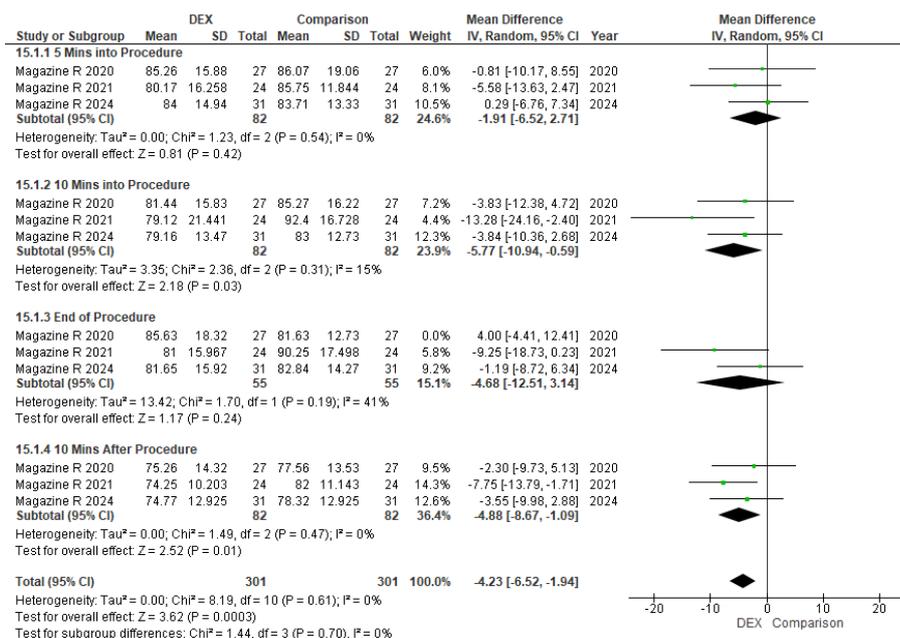
Supplementary Figure 29 Sensitivity analysis forest plot for comparing distress, after procedure (minimal, mild) between dexmedetomidine and control groups.



Supplementary Figure 30 Sensitivity analysis forest plot for comparing distress, during procedure (minimal) between dexmedetomidine and control groups.



Supplementary Figure 31 Sensitivity analysis forest plot for comparing the need of a rescue dose between dexmedetomidine and control groups.



Supplementary Figure 32 Sensitivity analysis forest plot for comparing mean

diastolic blood pressure between dexmedetomidine and control groups.

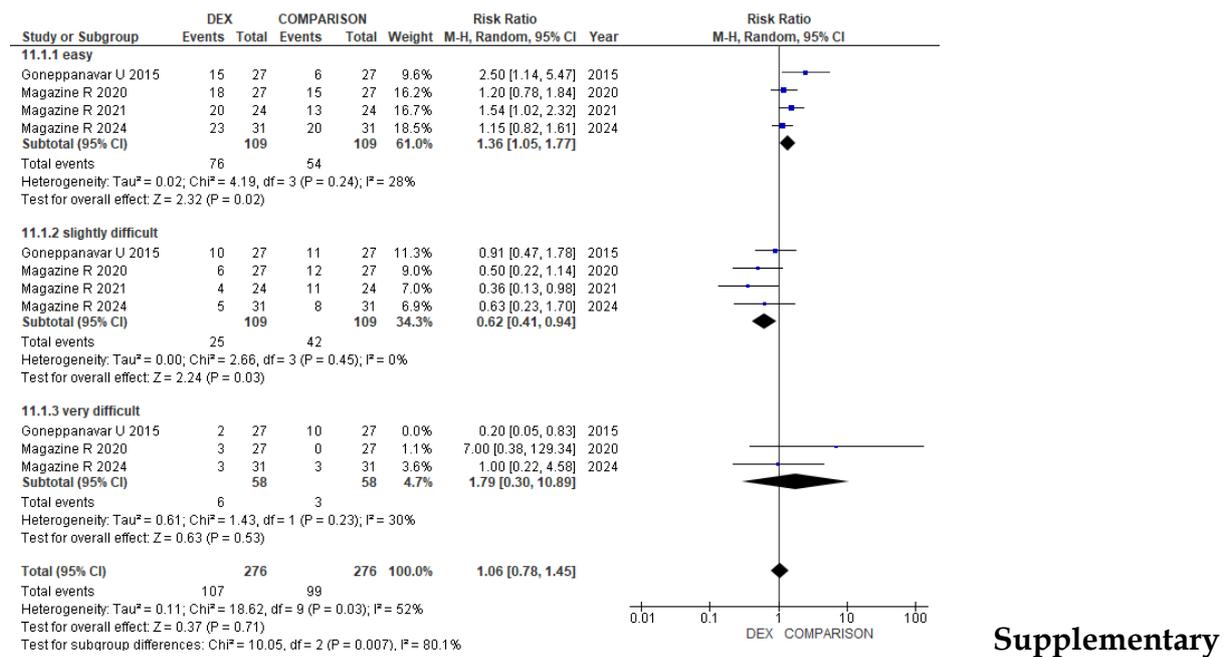
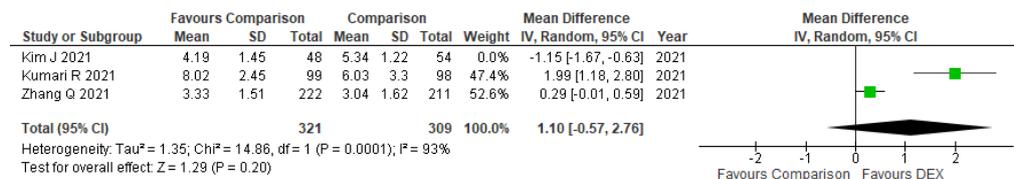


Figure 33 Sensitivity analysis forest plot for comparing ease of bronchoscopy between dexmedetomidine and control groups.



Supplementary Figure 34 Sensitivity analysis forest plot for comparing cough between dexmedetomidine and control groups.

Supplementary Table 1 Detailed search strategy

Database	Search terms	Results
PubMed	("dexmedetomidine"[Supplementary Concept] OR "dexmedetomidine"[All Fields] OR "dexmedetomidine"[MeSH Terms] OR "dexmedetomidine s"[All Fields]) AND ("midazolam"[Supplementary Concept] OR "midazolam"[All Fields] OR "midazolam"[MeSH Terms] OR "midazolam s"[All Fields] OR "midazolame"[All Fields] OR ("propofol"[Supplementary Concept] OR "propofol"[All Fields] OR "propofol"[MeSH Terms] OR "propofol s"[All Fields]) OR ("remimazolam"[Supplementary Concept] OR	OR <i>n</i> = 73

"remimazolam"[All Fields]) OR ("alfentanil"[Supplementary Concept] OR "alfentanil"[All Fields] OR "alfentanil"[MeSH Terms] OR "alfentanil s"[All Fields]) OR ("fentanyl"[Supplementary Concept] OR "fentanyl"[All Fields] OR "fentanyl"[MeSH Terms] OR "fentanyl s"[All Fields] OR "fentanyl s"[All Fields]) OR ("ketamin"[All Fields] OR "ketamine"[Supplementary Concept] OR "ketamine"[All Fields] OR "esketamine"[Supplementary Concept] OR "esketamine"[All Fields] OR "esketamine"[Supplementary Concept] OR "esketamine"[All Fields] OR "ketamine"[MeSH Terms] OR "ketamine s"[All Fields] OR "ketamines"[All Fields]) OR ("remifentanil"[Supplementary Concept] OR "remifentanil"[All Fields] OR "remifentanil"[MeSH Terms] OR "remifentanil s"[All Fields]) OR ("placebos"[All Fields] OR "placebos"[Supplementary Concept] OR "placebos"[All Fields] OR "placebo"[All Fields] OR "placebos"[MeSH Terms])) AND ("bronchoscopy"[MeSH Terms] OR "bronchoscopy"[All Fields] OR "bronchoscopies"[All Fields])

Cochrane Library	dexmedetomidine AND (midazolam OR propofol OR remimazolam OR alfentanil OR fentanyl OR ketamine OR remifentanil OR placebo) AND bronchoscopy	<i>n</i> = 115
Scopus	Dexmedetomidine AND (midazolam OR propofol OR remimazolam OR alfentanil OR other) AND bronchoscopy	<i>n</i> = 840
