

# THE EFFECTS OF DEXMEDETOMIDINE ON CHILDREN UNDERGOING MAGNETIC RESONANCE IMAGING: A SYSTEMATIC REVIEW & ME-TA-ANALYSIS.

Angelopoulou Valentina-Anastasia<sup>1,2,\*</sup>, Pouliakis Abraham<sup>3,\*</sup>, Alexiou Nikolaos<sup>4</sup>, Ioannidi Parthena<sup>5,6</sup>, Vagiona Dimitra<sup>7</sup>, Ekmektzoglou Konstantinos<sup>2,8</sup>, Xanthos Theodoros<sup>9</sup>, Boutsikou Theodora<sup>10</sup>, Iliodromiti Zoi<sup>10</sup> and Iacovidou Nikoleta<sup>2,10</sup>

- 1 Department of Radiology, General Hospital of Elefsina "Thriasio", Attica, Greece
- 2 Postgraduate Study Program (MSc) "Resuscitation", School of Medicine, National and Kapodistrian University of Athens, Greece
- 3 Second Department of Pathology, "Attikon" University Hospital, National and Kapodistrian University of Athens, Athens, Greece
- 4 First Department of Internal Medicine, General Hospital of Elefsina "Thriasio", Attica, Greece
- 5 Department of Invasive Radiology, General Hospital of Athens "Evangelismos", Athens, Greece
- 6 European Board of Interventional Radiology (EBIR)
- 7 Primary Health Center of Nevrokopi, General Hospital of Drama, Drama, Greece
- 8 School of Medicine, European University Cyprus, Nicosia, Cyprus
- 9 School of Health Sciences, University of West Attica, Athens, Greece
- 10 Department of Neonatology, "Aretaieio" Hospital, School of Medicine, National and Kapodistrian University of Athens, Athens, Greece

## **\*Correspondence:**

Abraham Pouliakis:

apoul967@gmail.com; phone number: mob: +30 697 2846977; tel: +30 210 5831958 & 5831953; fax: +30 210 5831942

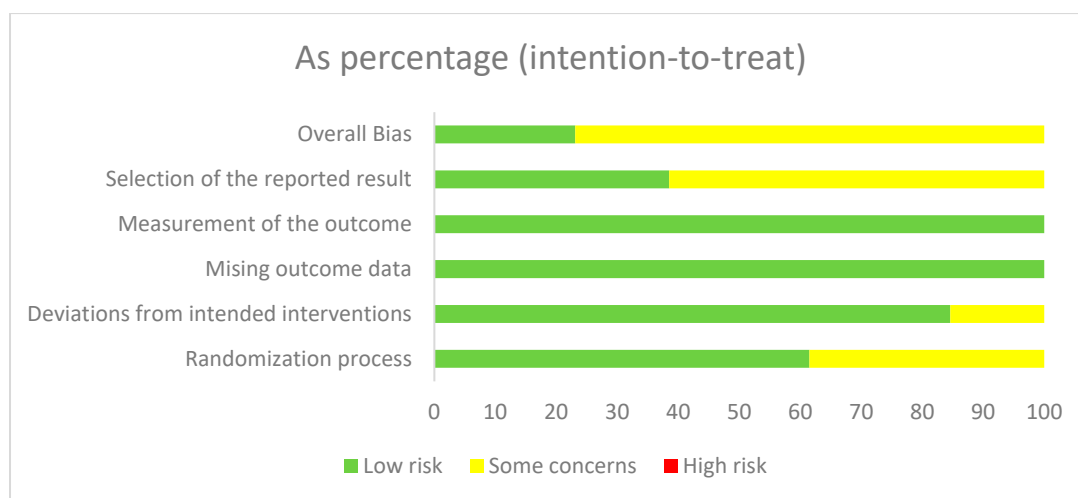
Angelopoulou Valentina-Anastasia:

valeange274@gmail.com; phone number: mob: +30 697 8142824

## FIGURES of BIAS ASSESSMENT of the included studies

Unique ID	Study ID	Experimental	Comparator	Outcome	Weight	D1	D2	D3	D4	D5	Overall		
1	Olgun et al (2018)	NA	NA	NA	1	!	+	+	+	+	!	+	Low risk
2	Siddappa et al (2011)	NA	NA	NA	1	+	!	+	+	!	!	!	Some concerns
3	Mason et al (2011)	NA	NA	NA	1	!	!	+	+	+	!	!	High risk
4	Abulebda et al (2018)	NA	NA	NA	1	+	+	+	+	+	+	+	
5	Mason et al (2010)	NA	NA	NA	1	!	+	+	+	!	!	!	D1 Randomisation process
6	Kamal et al (2017)	NA	NA	NA	1	+	+	+	+	!	!	!	D2 Deviations from the intended interventions
7	Eldeek et al (2016)	NA	NA	NA	1	+	+	+	+	!	!	!	D3 Missing outcome data
8	Tammam (2013)	NA	NA	NA	1	+	+	+	+	!	!	!	D4 Measurement of the outcome
9	Sriganesh et al (2018)	NA	NA	NA	1	+	+	+	+	+	+	+	D5 Selection of the reported result
10	Ahmed et al (2015)	NA	NA	NA	1	!	+	+	+	!	!	!	
11	Tammam et al (2013)	NA	NA	NA	1	+	+	+	+	!	!	!	
12	Debashish et al (2020)	NA	NA	NA	1	+	+	+	+	+	+	+	
13	Mason et al (2014)	NA	NA	NA	1	!	+	+	+	!	!	!	

Sup.fig.1: Bias assessment diagram formed after evaluating the studies with RoB-2 tool

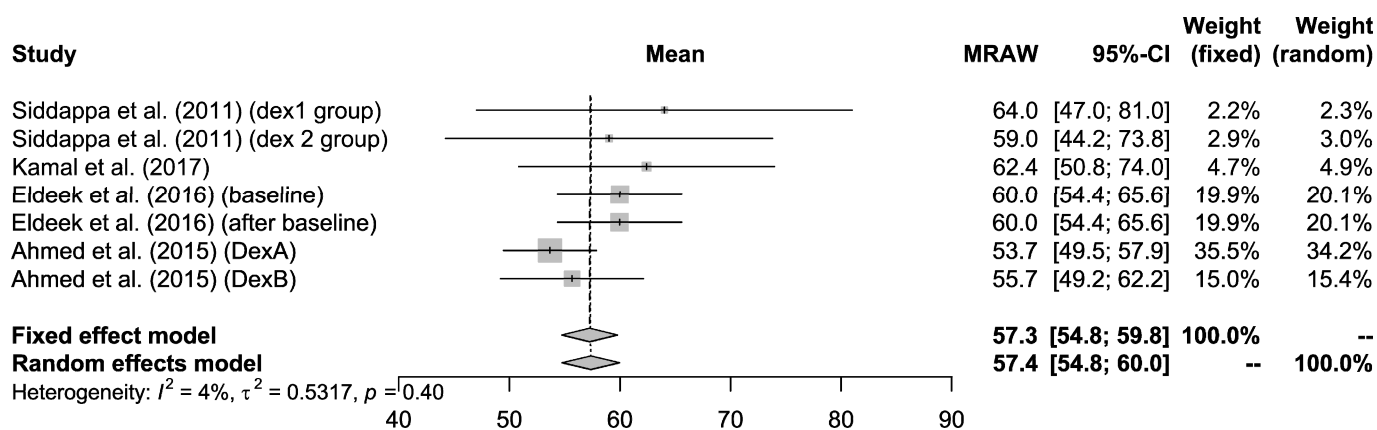


Sup.fig.2: Bias assessment as percentage, after evaluating the studies with RoB-2 tool

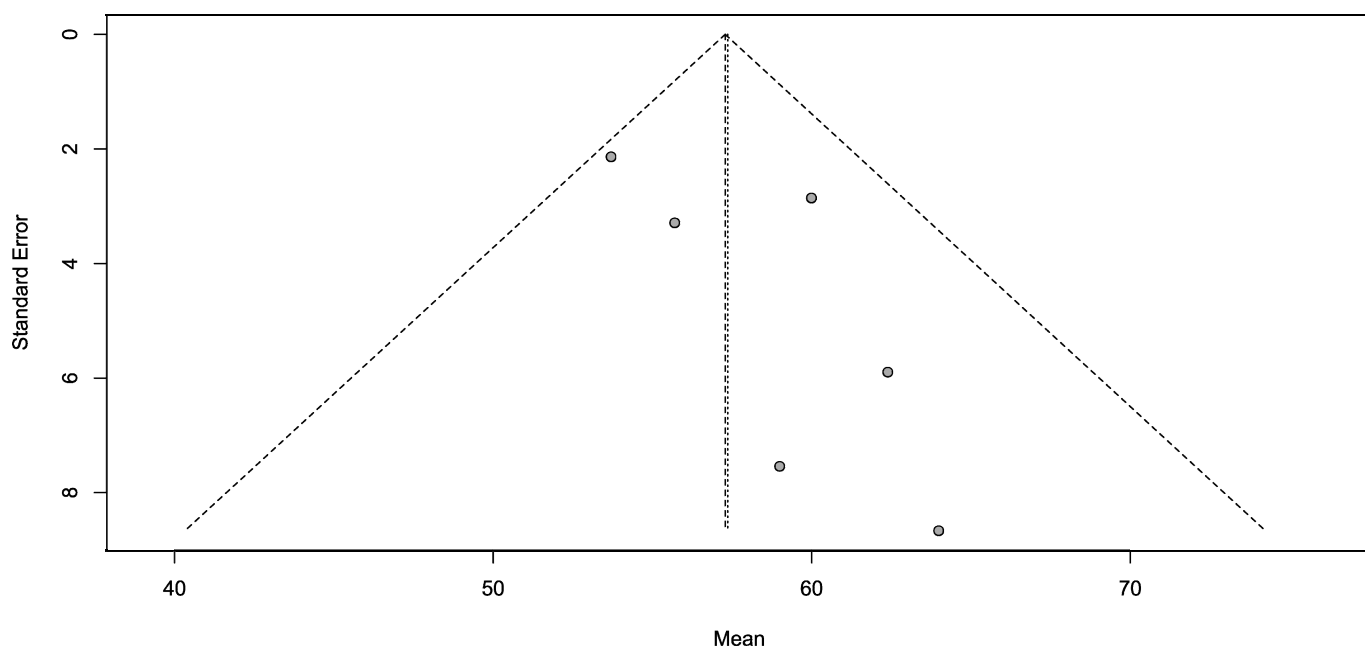
	Randomization process	Deviations from intended interventions	Missing outcome data	Measurement of the outcome	Selection of the reported result	Overall Bias
Assignment to intervention (the 'intention-to-treat' effect)						
Total number of study = 13						
Low risk	61,5	84,6	100	100	38,5	23,1
Some concerns	38,5	15,4	0	0	61,5	76,9
High risk	0	0	0	0	0	0

Sup.fig.3: bias assessment as percentage, after evaluating the studies with RoB-2 tool

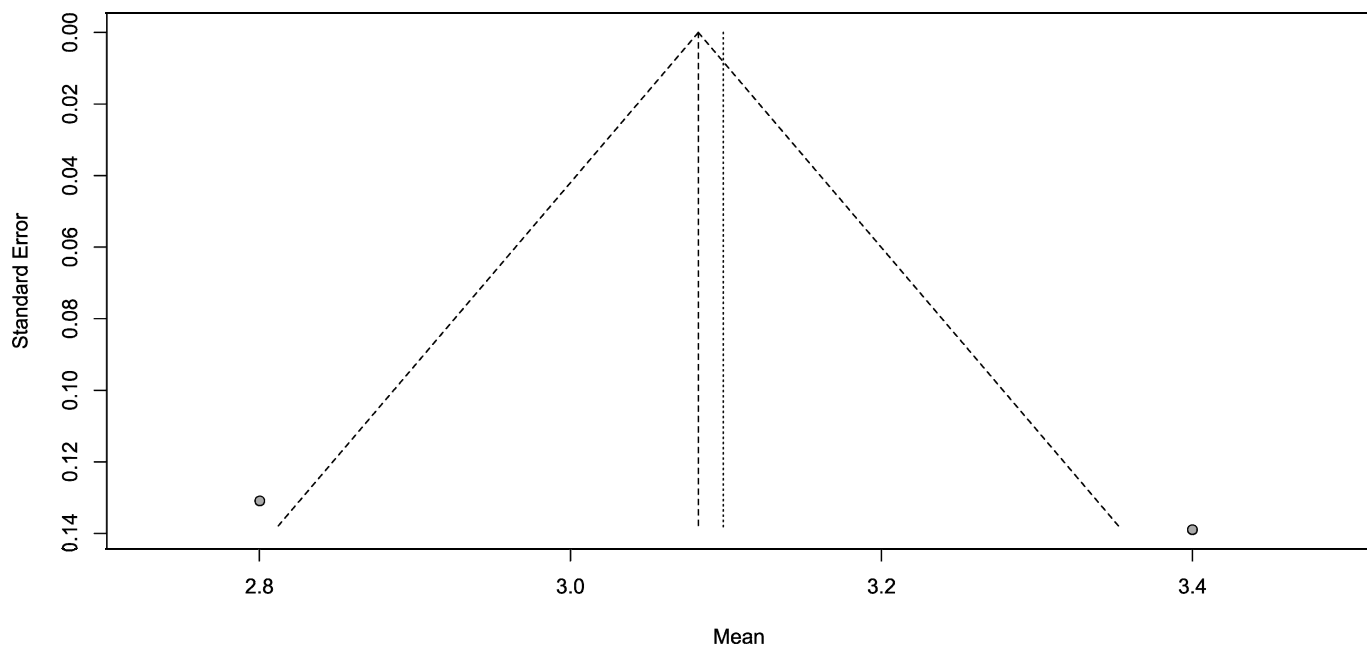
# FOREST AND FUNNEL PLOTS



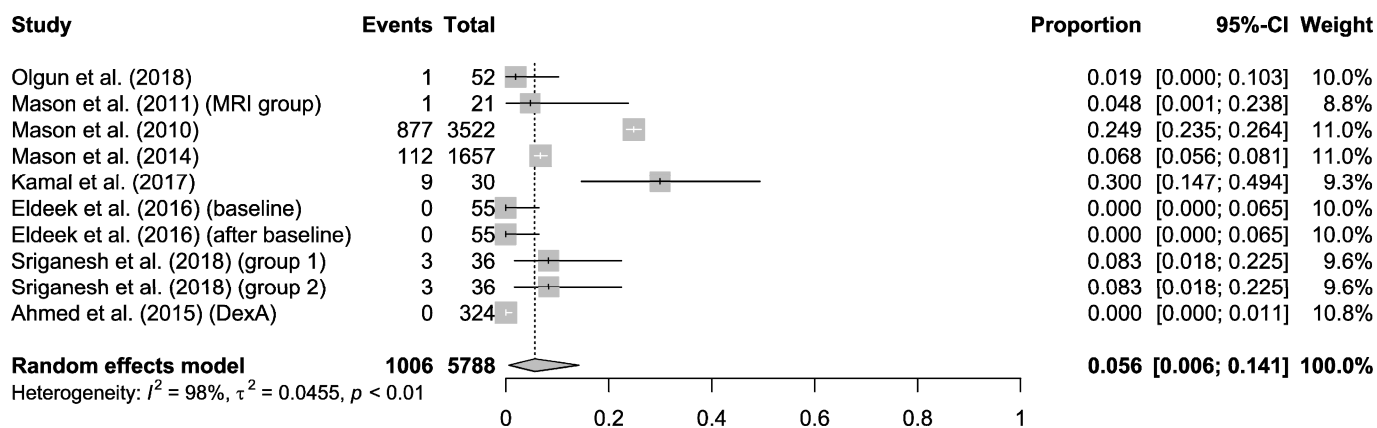
Sup.fig.4: Forest plot of participants' age (months)



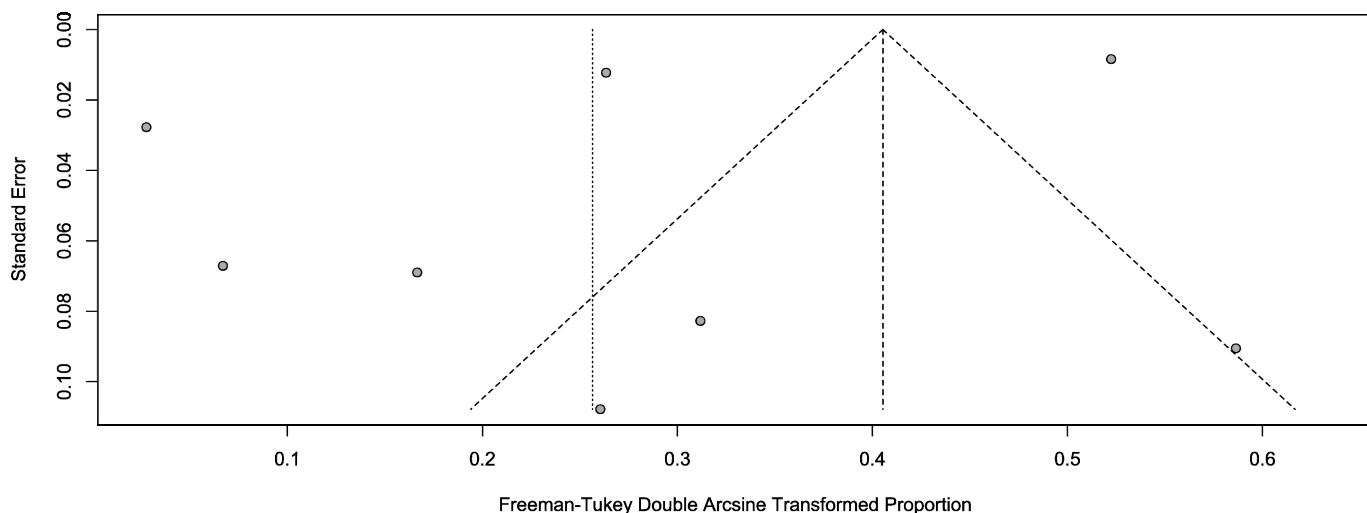
Sup.fig.5: Funnel plot of participants' age (months)



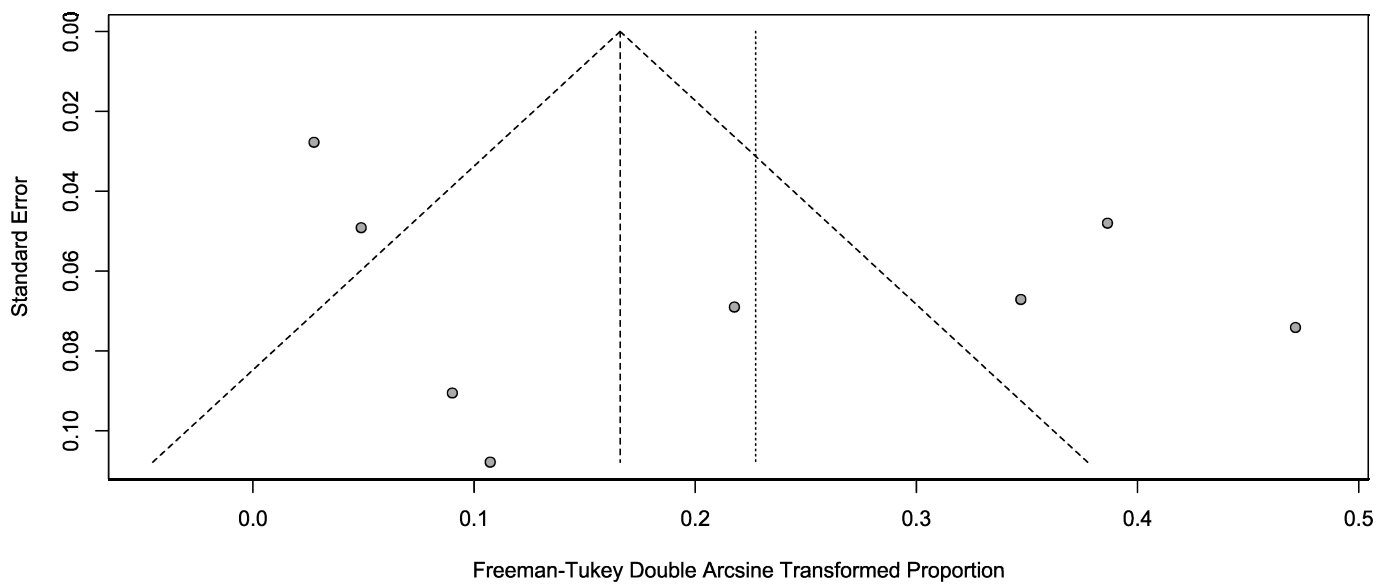
Sup.fig.6: Funnel plot about the induction dose of DEX



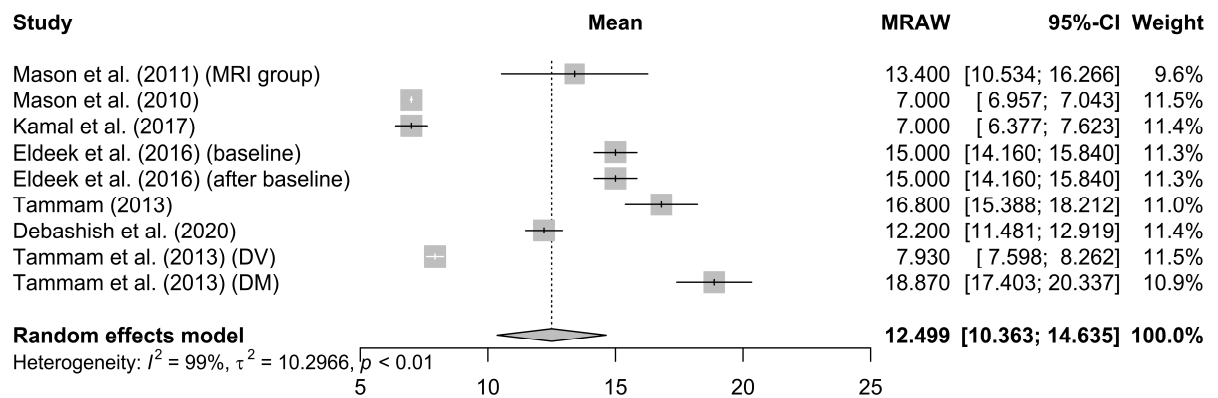
Sup.fig.7: Forest plot about the need of additional dose of DEX



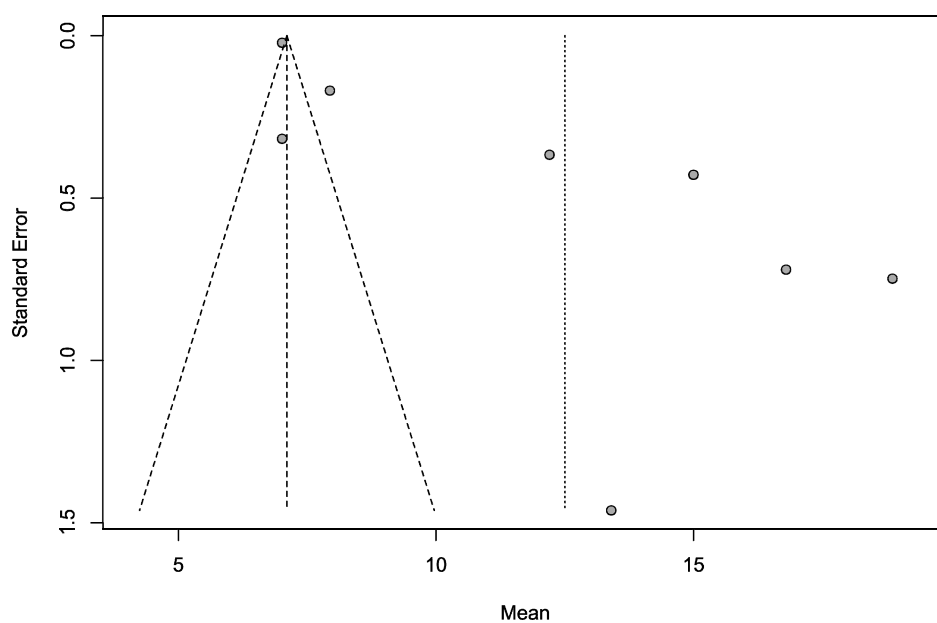
Sup.fig.8: Funnel plot about additional doses of DEX



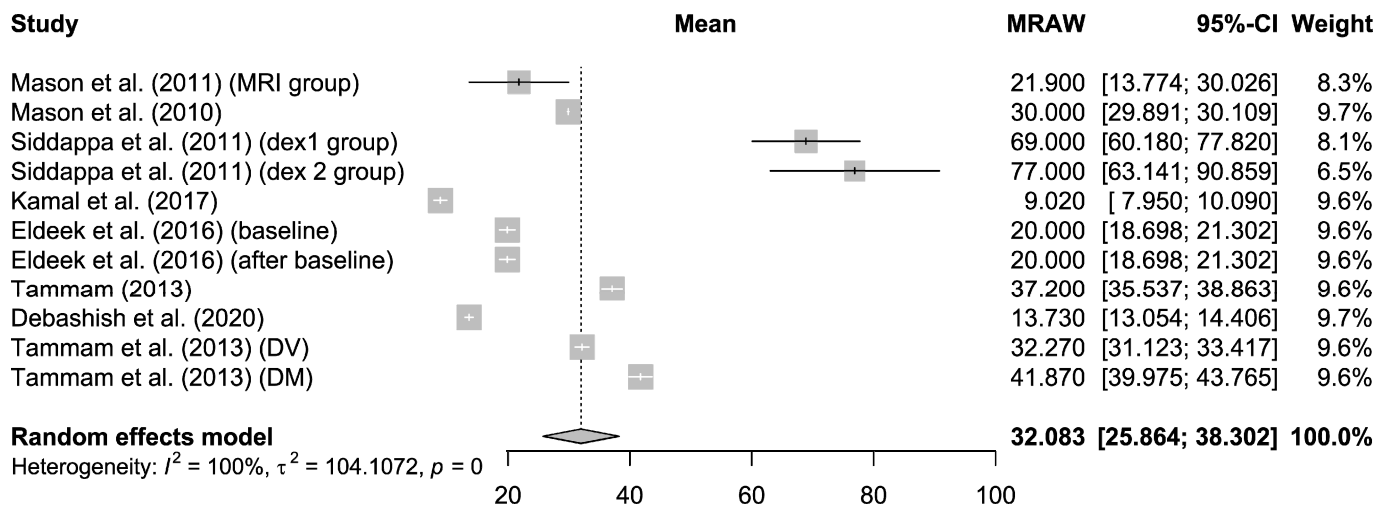
Sup.fig.9: Funnel plot about DEX's failure



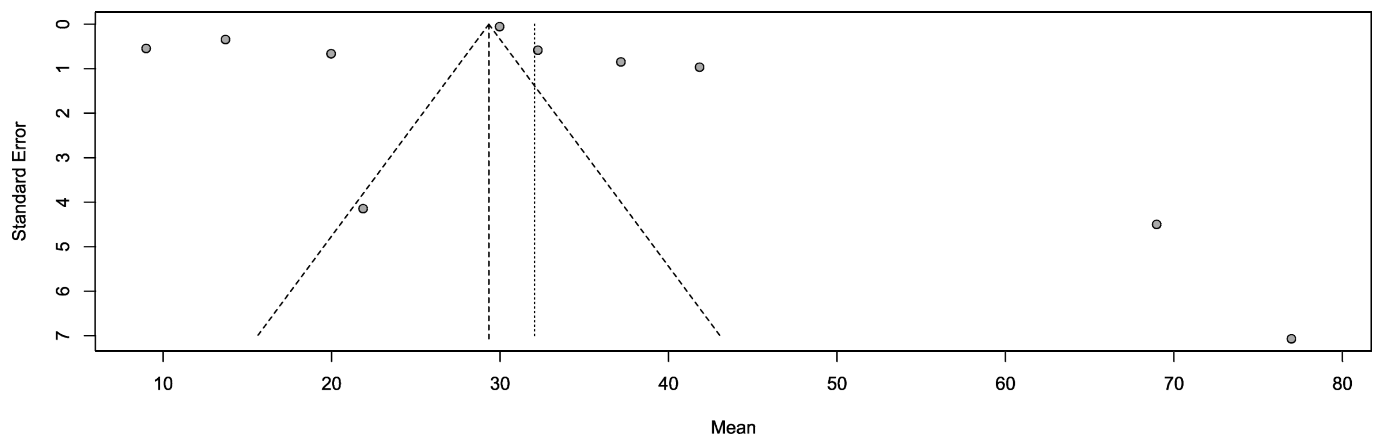
Sup.fig.10: Forest plot of onset time



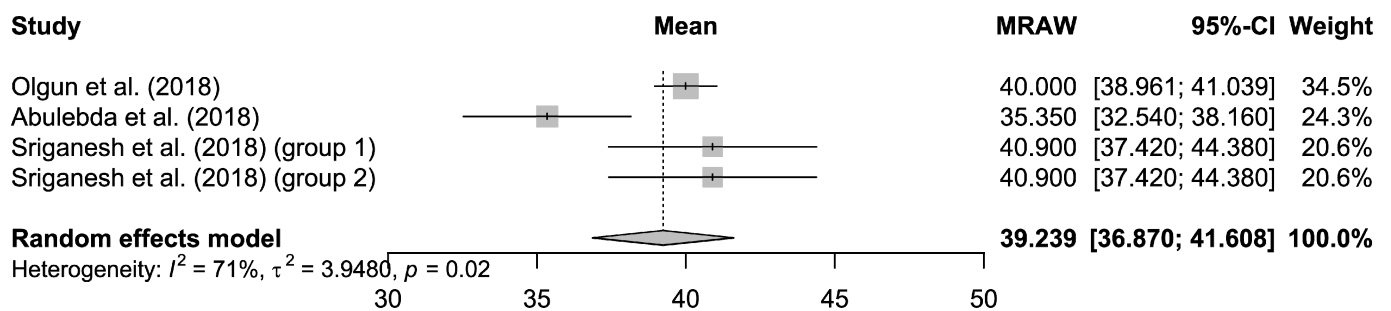
Sup.fig.11: Funnel plot of onset time.



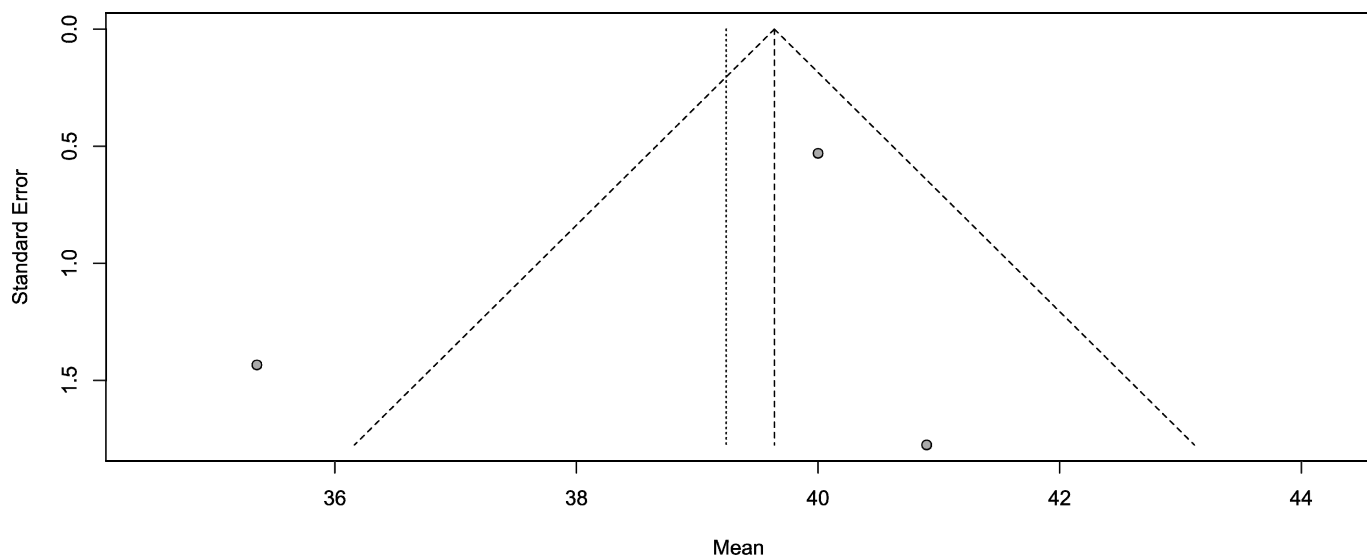
Sup.fig.12: Forest plot for the recovery time



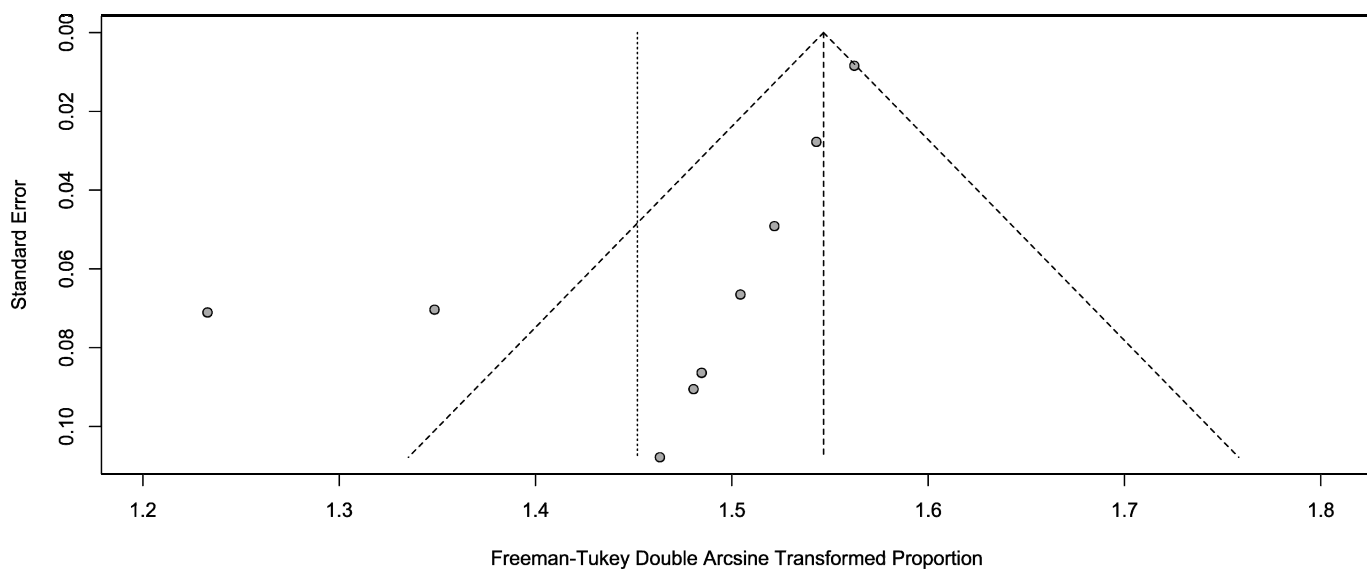
Sup.fig.13: Funnel plot about recovery time



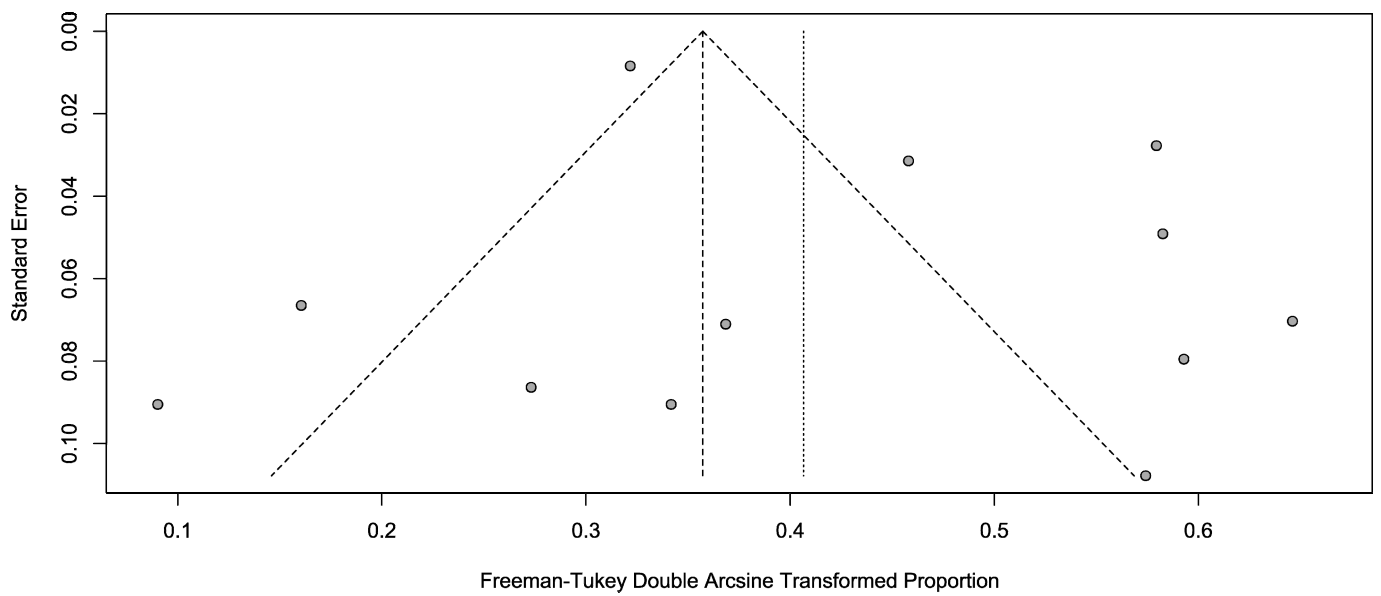
Sup.fig.14: Forest plot of total time



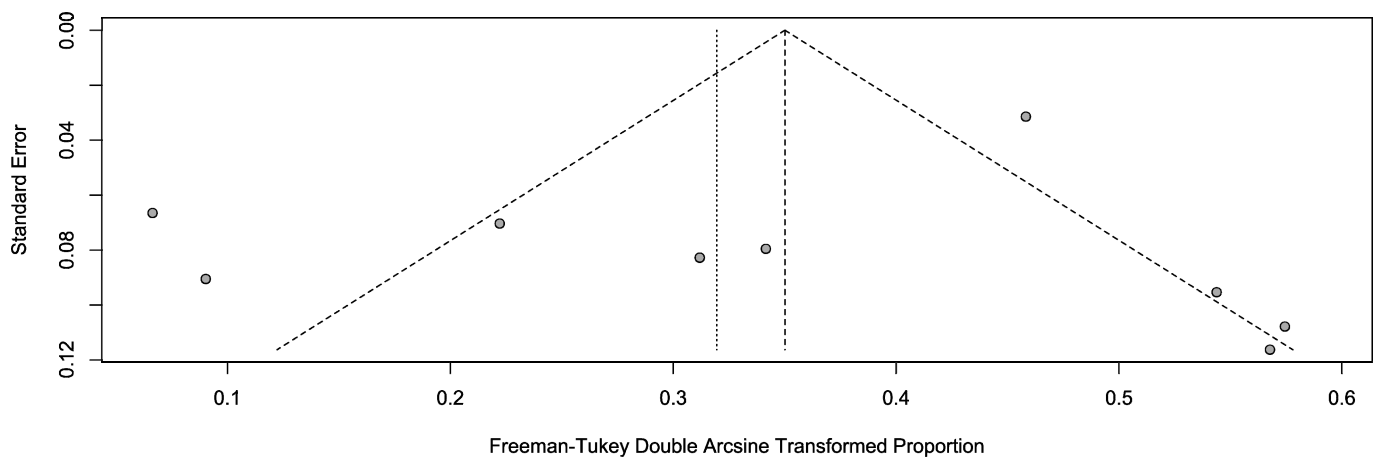
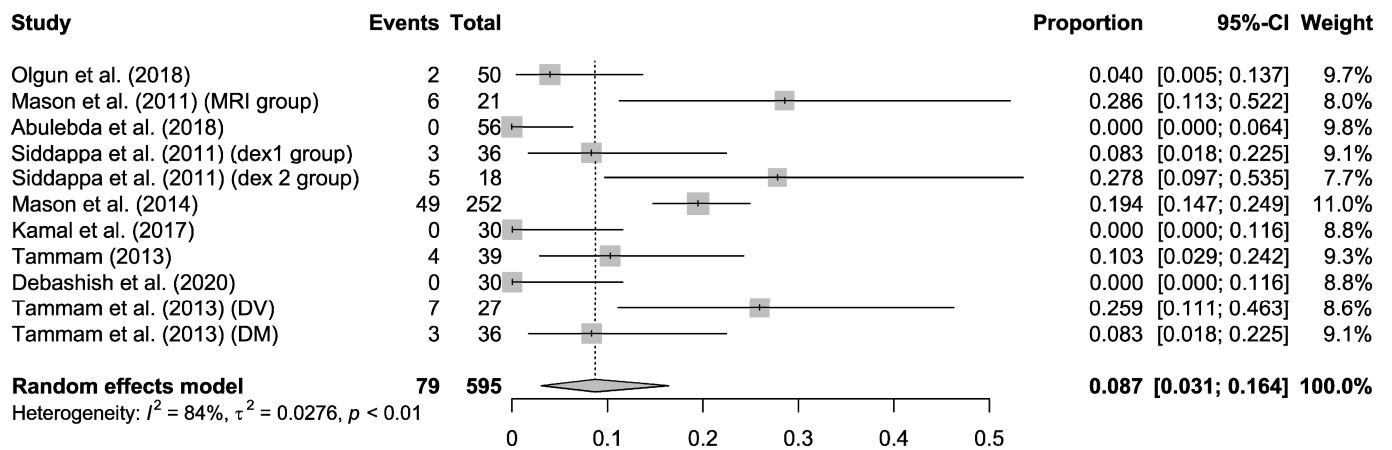
Sup.fig.15: Funnel plot of total time



sup.fig.16: Funnel plot of method's efficiency

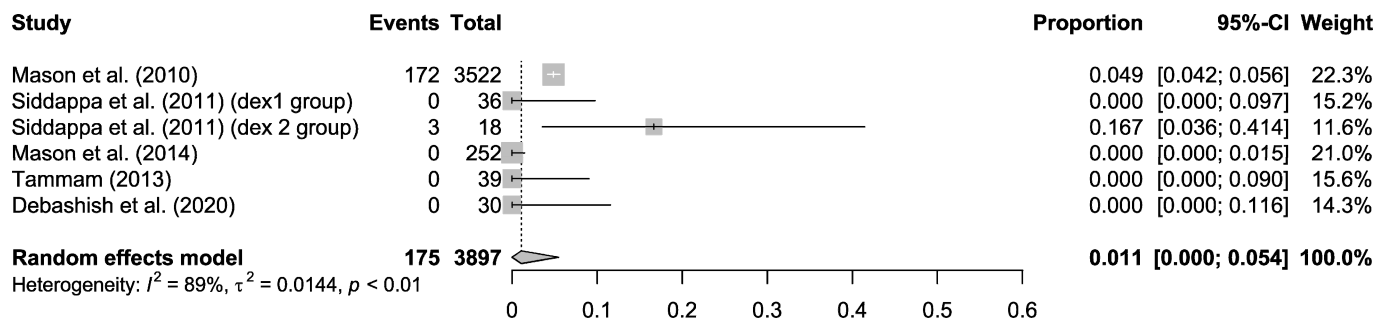


sup.fig.17: Funnel plot of method's safety

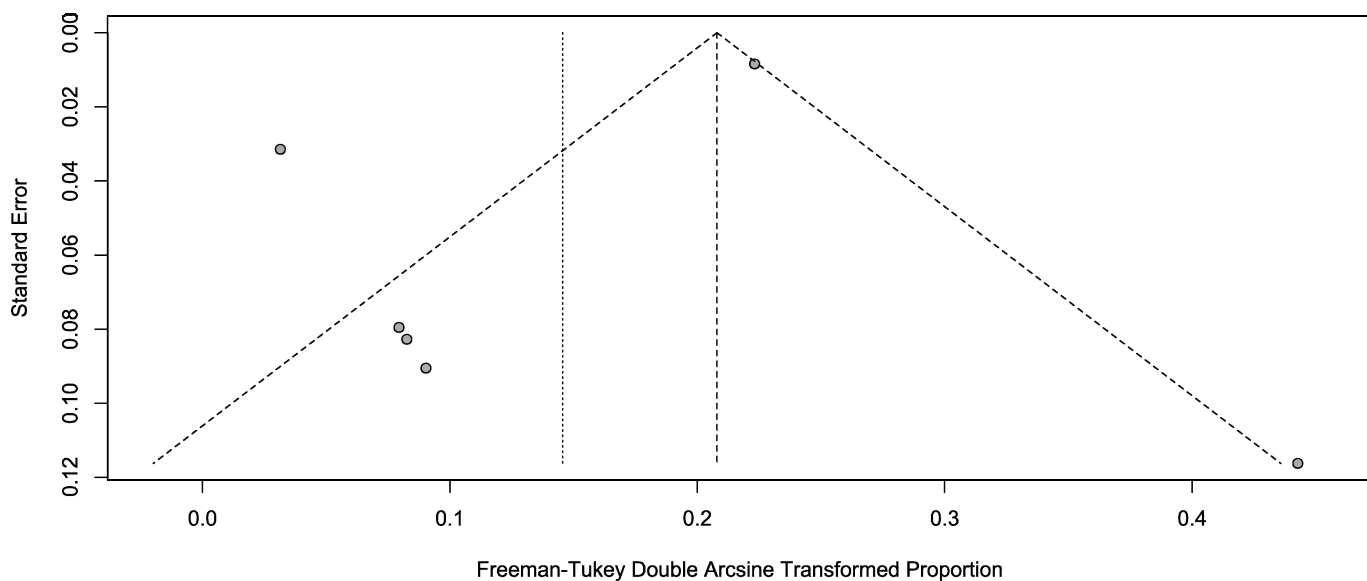


sup.fig.19: Funnel plot for hypotension.

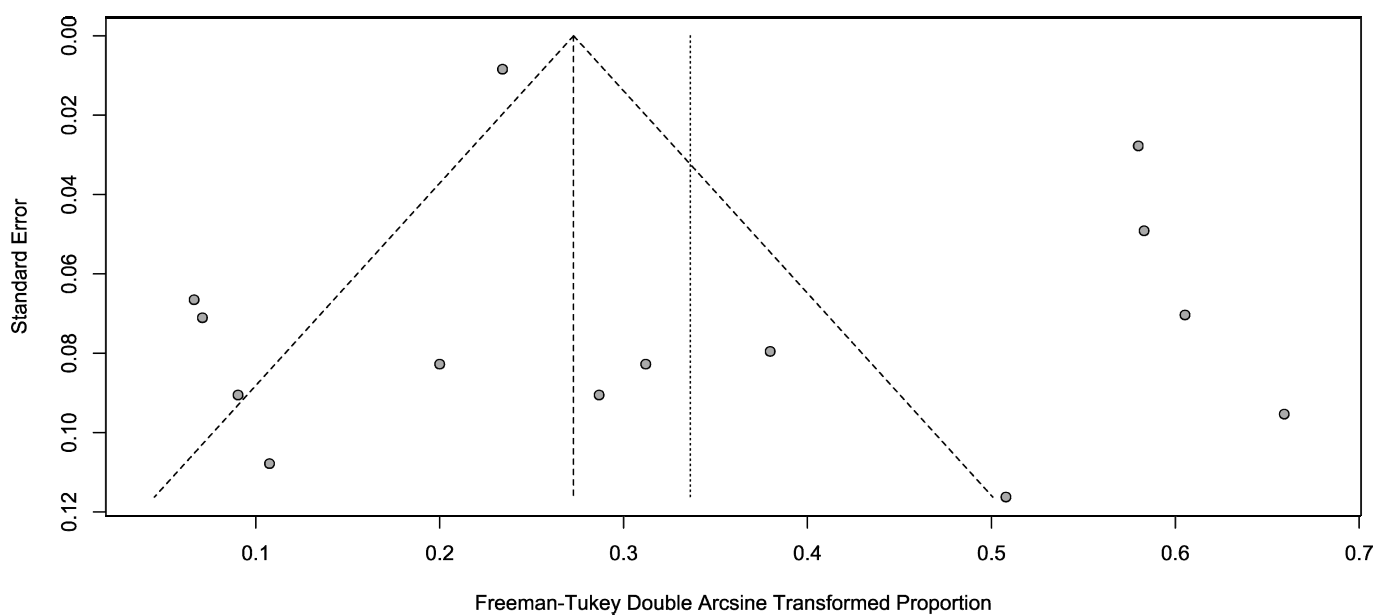




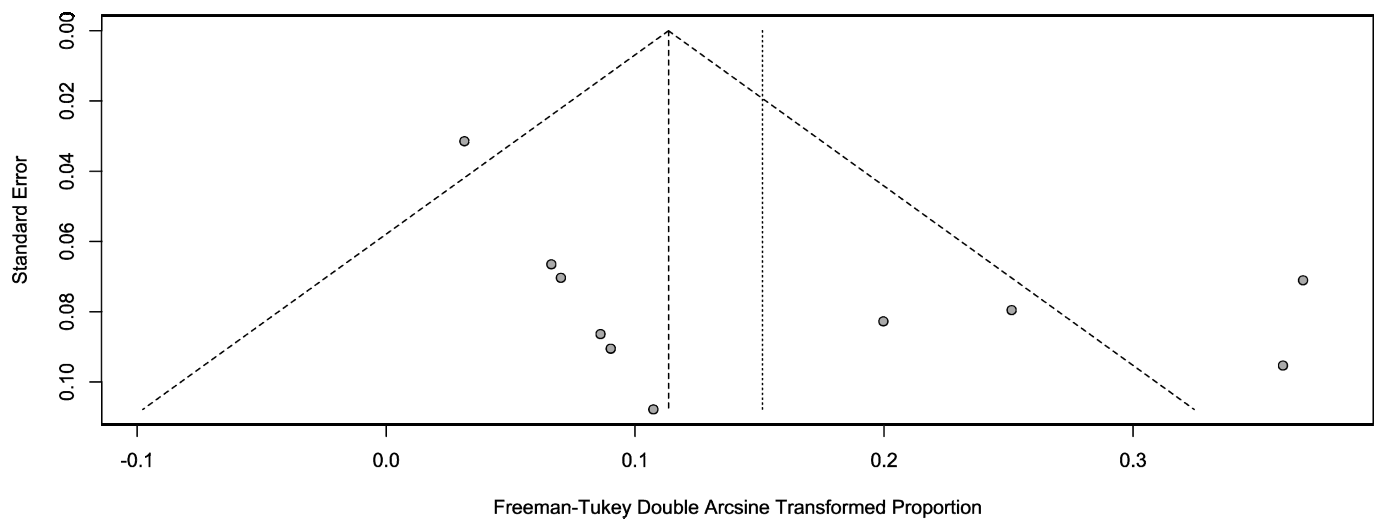
suppl.fig.20: Forest plot of hypertension



sup.fig.21: Funnel plot for hypertension



sup.fig.22: Funnel plot for bradycardia



sup.fig.23: Funnel plot for desaturation