Additional file 2 – Risk of bias assessment – overview

Author	Methods	Risks of Bias	Source	Tools
Targeting healthcare providers or systems				
Calvo 2009	Pre- and post-intervention design	Some concerns	Current study	Cochrane EPOC 'Risk of bias' criteria
Ho 2011	Before and after study	Some concerns	Current study	Cochrane EPOC 'Risk of bias' criteria
Liang 2004	Interrupted time series	Some concerns	Chen et al (2018)	Cochrane EPOC 'Risk of bias' criteria
Mohammadi 2012	Retrospective, before-after study	Some concerns	Chen et al (2018)	Cochrane EPOC 'Risk of bias' criteria
Poma 1998	Interrupted time series	Some concerns	Chen et al (2018)	Cochrane EPOC 'Risk of bias' criteria
Scarella 2011	Interrupted time series	Some concerns	Chen et al (2018)	Cochrane EPOC 'Risk of bias' criteria
Bhartia 2020	Interrupted time series	Some concerns	Current study	Cochrane EPOC 'Risk of bias' criteria
Chaillet 2015	Randomized controlled trial	Low risks of bias	Chen et al (2018)	Cochrane EPOC 'Risk of bias' criteria
Kabore 2019	Randomized controlled trial	Some concerns	Current study	Cochrane Risk of Bias Tool for randomised trials
Kazandjian 1998	Retrospective cohort, observational study	Satisfactory study	Current study	New-castle Ottawa Scale
Lagrew 1996	Interrupted time series	Some concerns	Current study	Cochrane EPOC 'Risk of bias' criteria
Lomas 1991	Randomized controlled trial	Some concerns	Chen et al (2018)	Cochrane EPOC 'Risk of bias' criteria
Robson 1996	Interrupted time series	Some concerns	Current study	Cochrane EPOC 'Risk of bias' criteria
Socol 1993	Interrupted time series	Some concerns	Current study	Cochrane EPOC 'Risk of bias' criteria
van Dillen 2008	Uncontrolled before-after study	Some concerns	Current study	Cochrane EPOC 'Risk of bias' criteria
Multi-target interventions				
Xia 2019	Uncontrolled before-after study	Low risks of bias	Current study	Cochrane EPOC 'Risk of bias' criteria
Zhang 2020	Randomized controlled trial	Some concerns	Current study	Cochrane Risk of Bias Tool for randomised trials
Yu 2017	Pre-post intervention study	Not serious	Opiyo et al (2020)	GRADE
Borem 2020	Interrupted time series	Not serious	Opiyo et al (2020)	GRADE

Runmei 2012	Controlled before-after study	Some concerns	Chen et al (2018)	Cochrane EPOC 'Risk of bias' criteria
Clarke 2020	Randomized controlled trial	Some concerns	Current study	Cochrane Risk of Bias Tool for randomised trials

Additional File 2.1 – Risk of bias assessment of observational study using Newcastle Ottawa Scale

Domain		**Kazandjian 1998**	
		Score	**Notes**
Selection (Max. 5)	**Representativeness**	1	Truly representative (all births during period of interest in the entire hospital network)
	Sample size	1	Justified and satisfactory
	Non-respondents	0	No provided
	Measurement (exposure)	1	Non-validated tool but described
Comparibility (Max. 2)	**Confounding control**	0	Non-participating hospitals as control
Outcomes Measures & Analysis (Max. 3)	**Assessment (outcome)**	1	Unblinded
	Statistical test	1	Statistical test used and appropriate
Final Score / Final Assessment		5	Satisfactory study

Additional File 2.2 – Risk of bias assessment of randomised controlled trial using Cochrane Risk of Bias Tool for randomised trials

Author	**Kabore 2019**	**Clarke 2020**	**Zhang 2020**
Risk of bias arising from the randomization process	Some concerns	Some concerns	Low risks
Notes	Allocation random and concealed after assignment. Higher previous CS history in intervention group	Allocation random and concealed after assignment. Significantly higher number of women in the intervention group with	Allocation random and concealed after assignment. No significant baseline differences

		higher number of VB history (before previous births)	
Risk of bias arising from the timing of identification or recruitment of participants	Low risks	Low risks	Low risks
Notes	Cluster (hospitals) recruited before randomisation but women were recruited after randomisation	Cluster (hospitals) recruited before randomisation but women were recruited after randomisation	Hospitals are recruited before randomisation
Risk of bias due to deviations from the intended interventions	Low risks	Some concerns	Low risks
Notes	Participants (women and healthcare providers) are aware of the trials and may be aware of the assigned intervention	Participants (women and healthcare providers) are aware of the trials and may be aware of the assigned intervention. It was mentioned that "the trial team were blinded to the results of the trial" but not the the assigned intervention	Participants (women and healthcare providers) are aware of the trials and may be aware of the assigned intervention. It was mentioned that "No masking was applied in this study"
Risk of bias due to missing outcome data	Low risks	Low risks	Low risks
Notes	No missing outcome data	No missing outcome data	Random selection at pre- and post-intervention
Risk of bias in measurement of the outcome	Low risks	Some concerns	Some concerns
Notes	Seems that the outcomes assessor is blinded -> "Data collectors were aware of the randomization assignments but were not involved in outcome assessments. Access to the database was restricted to the data manager until the trial was completed"	Unclear if the outcomes assessor is blinded or not	Unclear if the outcomes assessor is blinded or not

Risk of bias in selection of the reported result	Low risks	Low risks	Low risks
Notes	Seems to be intention to trear analysis. Results are not assessed based on multiple measurements or multiple analysis	Seems to be intention to treat analysis. Results are not assessed based on multiple measurements or multiple analysis	Seems to be intention to trear analysis. Results are not assessed based on multiple measurements or multiple analysis
Final Assesment	Some concerns	Some concerns	Some concerns

Additional File 2.3 – Risk of bias assessment of uncontrolled before and after study using Cochrane EPOC 'Risk of bias' criteria

Author	Intervention independent of other changes	Notes	Shape of the intervention effect pre-specified	Notes	Intervention unlikely to affect data collection	Notes	Knowledge of the allocated interventions adequately prevented during the study	Notes	Incomplete outcome data (attrition bias)	Notes	Selective outcome reporting (reporting bias)	Notes	Other risks of bias	Notes	Final Assesment
Calvo 2009	Unclear risks	Unclear, not stated	Low risks	Point of intervention and analysis seems relevant	Low risks	Sources and methods of data collection were the same before and after the intervention: using medical records	Low risks	Outcomes are objectively assessed	Unclear risks	Unclear how many missing data	Low risks	All relevant outcomes in the methods section are reported in the results section	N/A	N/A	Some concerns
Ho 2011	Low risks	Covariance assessed	Low risks	Point of intervention and analysis seems relevant	Low risks	Sources and methods of data collection were the same before and after	Low risks	Outcomes are objectively assessed	Unclear risks	Unclear how many missing data	Low risks	All relevant outcomes in the methods section	N/A	N/A	Some concerns

						the intervention: using medical records						are reported in the results section			
Bhartia 2020	Low risks	Contributing factors are related to the implemented interventions	Low risks	Point of intervention and analysis seems relevant	Low risks	Sources and methods of data collection were the same before and after the intervention: using medical records	Low risks	Outcomes are objectively assessed	Unclear risks	Unclear how many missing data	Low risks	All relevant outcomes in the methods section are reported in the results section	N/A	N/A	Some concerns
Lagrew 1996	Unclear risks	Unclear, not stated	Low risks	Point of intervention and analysis seems relevant	Low risks	Sources and methods of data collection were the same before and after the intervention: using medical records	Low risks	Outcomes are objectively assessed	Unclear risks	Unclear how many missing data	Low risks	All relevant outcomes in the methods section are reported in the results section	Some concerns	Unclear how long is the intervention implementation	Some concerns

Robson 1996	Some concerns	There could have been other historic events during this period that weren't mentioned	Low risks	Point of intervention and analysis seems relevant	Low risks	Sources and methods of data collection were the same before and after the intervention: using medical records	Low risks	Outcomes are objectively assessed	Unclear risks	Unclear how many missing data	Low risks	All relevant outcomes in the methods section are reported in the results section	Some concerns	Unclear intensity of the audit and feedback during 1989-1992 (prospective/retrospective audit?).	Some concerns
Socol 1993	Unclear risks	Unclear, not stated	Low risks	Point of intervention and analysis seems relevant	Low risks	Sources and methods of data collection were the same before and after the intervention: using medical records	Low risks	Outcomes are objectively assessed	Unclear risks	Unclear how many missing data	Low risks	All relevant outcomes in the methods section are reported in the results section	N/A	N/A	Some concerns
van Dillen 2008	Unclear risks	Unclear, not stated	Low risks	Point of intervention and analysis seems relevant	Low risks	Sources and methods of data collection were the	Low risks	Outcomes are objectively assessed	Low risks	3% missing data	Low risks	All relevant outcomes in the	N/A	N/A	Some concerns

						same before and after the intervention: using medical records						methods section are reported in the results section			
Xia 2019	Low risks	Covariance assessed	Low risks	Point of intervention and analysis seems relevant	Low risks	Sources and methods of data collection were the same before and after the intervention: using medical records	Low risks	Outcomes are objectively assessed	Low risks	1000 out of almost 2,000,000 data	Low risks	All relevant outcomes in the methods section are reported in the results section	N/A	N/A	Low risks of bias