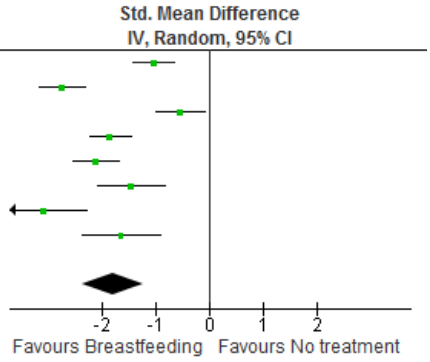
Revman Plots: Breastfeeding child 0-2 years

Distress (Acute)

Study or Subgroup	Breastfeeding Mean	SD	Total	No treatment Mean	SD	Total	Weight	Std. Mean Difference IV, Random, 95% CI
Abdel Razek 2009	3.81	1.93	60	5.61	1.49	60	13.3%	-1.04 [-1.42, -0.66]
Dilli 2009 (1)	4.29	1.43	73	8.57	1.66	85	13.0%	-2.73 [-3.17, -2.30]
Goswami 2013 (1)	8.5	1	40	9	0.83	40	13.0%	-0.54 [-0.99, -0.09]
Iqbal 2014	3.55	1.61	75	6.8	1.88	75	13.2%	-1.85 [-2.23, -1.46]
Modarres 2013	3.52	1.37	65	6.78	1.69	65	13.0%	-2.11 [-2.54, -1.68]
Shah Ali 2009	4.6	1.75	19	6.68	1.21	38	12.1%	-1.46 [-2.07, -0.84]
Taavoni 2009	4.6	1.75	19	8.37	0.82	38	11.0%	-3.08 [-3.89, -2.28]
Thomas 2011	6.71	2.17	20	9.42	0.72	20	11.4%	-1.64 [-2.37, -0.92]
Total (95% CI)			**371**			**421**	**100.0%**	**-1.78 [-2.35, -1.22]**

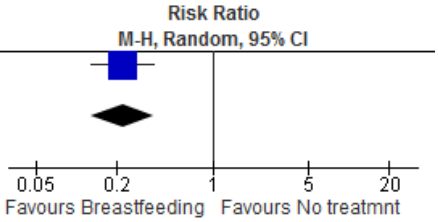
Heterogeneity: Tau² = 0.59; Chi² = 74.98, df = 7 (P < 0.00001); I² = 91%
Test for overall effect: Z = 6.19 (P < 0.00001)



Distress Acute (pain yes/no)

Study or Subgroup	Breastfeeding Events	Total	No treatment Events	Total	Weight	Risk Ratio M-H, Random, 95% CI
Dilli 2009 (1)	12	73	64	85	100.0%	0.22 [0.13, 0.37]
Total (95% CI)		**73**		**85**	**100.0%**	**0.22 [0.13, 0.37]**
Total events	12		64			

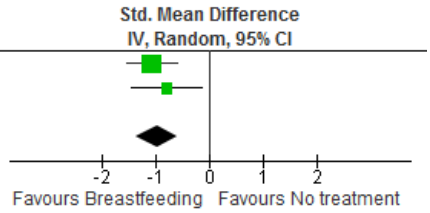
Heterogeneity: Not applicable
Test for overall effect: Z = 5.61 (P < 0.00001)



Distress (Recovery)

Study or Subgroup	Breastfeeding Mean	SD	Total	No treatment Mean	SD	Total	Weight	Std. Mean Difference IV, Random, 95% CI
Goswami 2013 (1)	0.67	1.5	40	2.92	2.52	40	65.4%	-1.07 [-1.54, -0.60]
Thomas 2011	0.78	1.87	20	2.78	2.94	20	34.6%	-0.80 [-1.44, -0.15]
Total (95% CI)			**60**			**60**	**100.0%**	**-0.98 [-1.36, -0.60]**

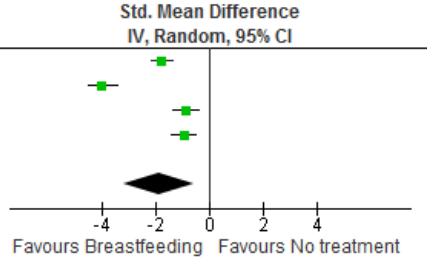
Heterogeneity: Tau² = 0.00; Chi² = 0.47, df = 1 (P = 0.49); I² = 0%
Test for overall effect: Z = 5.04 (P < 0.00001)



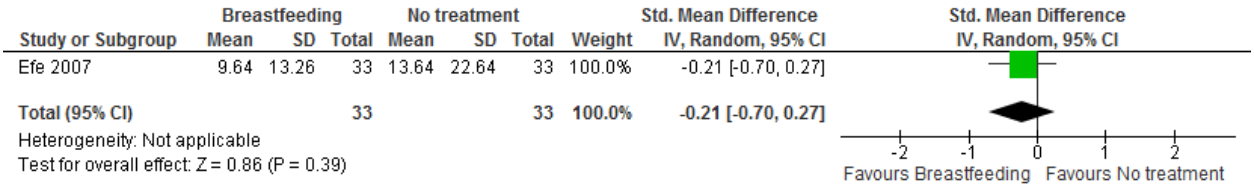
Distress (Acute + Recovery)

Study or Subgroup	Breastfeeding Mean	SD	Total	No treatment Mean	SD	Total	Weight	Std. Mean Difference IV, Random, 95% CI
Abdel Razek 2009	6.26	0.61	60	7.43	0.7	60	25.2%	-1.77 [-2.19, -1.35]
Dilli 2009 (1)	1.67	1.67	73	8.33	1.66	85	24.8%	-3.98 [-4.53, -3.44]
Efe 2007	1.99	2.23	33	4.24	2.76	33	24.9%	-0.89 [-1.39, -0.38]
Goswami 2013 (1)	1.86	1.52	40	4.47	3.54	40	25.1%	-0.95 [-1.41, -0.49]
Total (95% CI)			**206**			**218**	**100.0%**	**-1.89 [-3.19, -0.59]**

Heterogeneity: Tau² = 1.69; Chi² = 87.31, df = 3 (P < 0.00001); I² = 97%
Test for overall effect: Z = 2.86 (P = 0.004)



Procedure Duration



Author(s): VS/AT
Date: 2015-03-23
Question: Should breastfeeding vs control be used for reducing vaccine injection pain in children up to 2 years?[1]
Settings: clinics
Bibliography: Dilli 2009 (1), Efe 2007, Goswami 2013 (1), Iqbal 2014, Modarres 2013, Abdel Razek 2009, Shah Ali 2009, Taavoni 2009, Thomas 2011

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Breastfeeding	Control	Relative (95% CI)	Absolute		
Distress Acute[2,3,4] (measured with: validated tools (Modified Behavioural Pain Scale 0-10, Neonatal Infant Pain Scale 0-7, Wong and Baker Faces Scale 0-5, Modified Neonatal Facial Coding System 0-6, Douleur Aigue du Nouveau-ne 0-10) by researchers; Better indicated by lower values)												
8[3]	randomised trials	very serious[5]	no serious inconsistency[6]	no serious indirectness	no serious imprecision	none	371	421[7]	-	SMD 1.78 lower (2.35 to 1.22 lower)[2,3,4]	⊕⊕OO LOW	CRITICAL
Distress Acute yes/no[7] (assessed with: validated tool (Neonatal Infant Pain Scale 0-7, yes/no with score cut-off of 3))												
1	randomised trials	very serious[5]	no serious inconsistency	no serious indirectness	serious[8]	none	12/73 (16.4%)[7]	64/85 (75.3%)	RR 0.22 (0.13 to 0.37)[7]	587 fewer per 1000 (from 474 fewer to 655 fewer)	⊕OOO VERY LOW	CRITICAL
Distress Recovery (measured with: validated tool (Modified Neonatal Facial Coding System 0-6, Modified Neonatal Infant Pain Scale 0-7); Better indicated by lower values)												
2	randomised trials	very serious[5]	no serious inconsistency	no serious indirectness	serious[8]	none	60	60	-	SMD 0.98 lower (1.36 to 0.6 lower)	⊕OOO VERY LOW	CRITICAL
Distress Acute + Recovery (measured with: validated tools (cry duration) by researcher; Better indicated by lower values)												
4	randomised trials	very serious[5]	no serious inconsistency[6]	no serious indirectness	no serious imprecision	none	206	218[7]	-	SMD 1.89 lower (3.19 to 0.59 lower)	⊕⊕OO LOW	CRITICAL
Procedure Outcomes (duration, success) (measured with: electronic timer; Better indicated by lower values)												

1	randomised trials	serious[5]	no serious inconsistency	no serious indirectness	serious[9]	none	33	33	-	SMD 0.21 lower (0.7 lower to 0.27 higher)	⊕⊕OO LOW	IMPORTANT
Safety (assessed with: aspiration, cyanosis, respiratory changes, vomiting)												
2	randomised trials	serious[5]	no serious inconsistency	no serious indirectness	serious[8]	none	-[10]	-	not pooled	not pooled	⊕⊕OO LOW	IMPORTANT
Use of intervention (assessed with: observation of infant breastfeeding)												
1	randomised trials	serious[11]	no serious inconsistency	no serious indirectness	serious[8]	none	-[7]	-	-	-	⊕⊕OO LOW	IMPORTANT
Parent Fear, Vaccine Compliance, Preference, Satisfaction (assessed with: no data were identified for these important outcomes)												
0	No evidence available					none	-	0%	-	-		IMPORTANT
								0%		-		

[1] Control group included infant holding in 4 studies, infant supine position in 3 studies and unclear position in 2 studies
[2] Additional information and data provided by 1 author (Taavoni 2009)
[3] Data from Taavoni (2009) and Shah Ali (2009) from the same study
[4] Sample size for breastfeeding group divided by 2 for studies by Taavoni (2009) and Shah Ali (2009)
[5] Immunizer, parent, researcher not blinded; outcome assessor not consistently blinded; studies not consistently truly random
[6] Heterogeneity can be explained by potential differences in the implementation of the intervention (breastfeeding); age of infant. Breastfeeding may not have been consistently maintained throughout the vaccine injection.
[7] In 1 study (Dilli 2009 (1)), 4 infants (5%) in the breastfeeding group were excluded because they did not want to feed. Infants in this study were under 6 months of age.
[8] Sample size was below the recommended optimum information size (OIS) of 400 for an effect size of 0.2
[9] Confidence intervals cross the line of nonsignificance and the sample size was below the recommended optimum information size (OIS) of 400 for an effect size of 0.2
[10] In 2 studies (Abdel Razek 2009, Efe 2007) including 93 infants, there were no reports of any adverse events as defined above.
[11] Immunizer, parent, researcher not blinded; outcome assessor not blinded