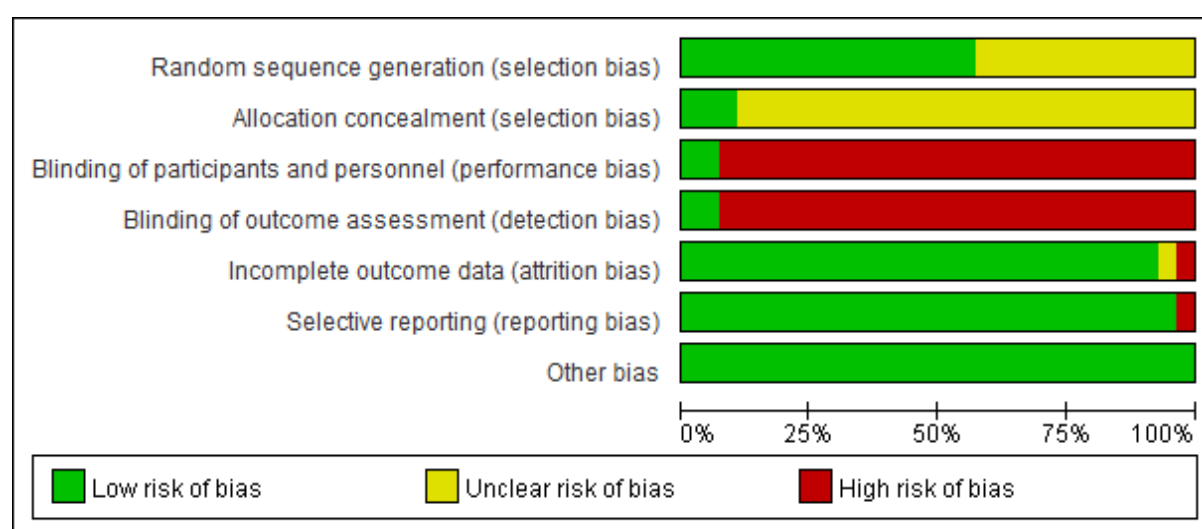


## SUPPLEMENTARY INFORMATION

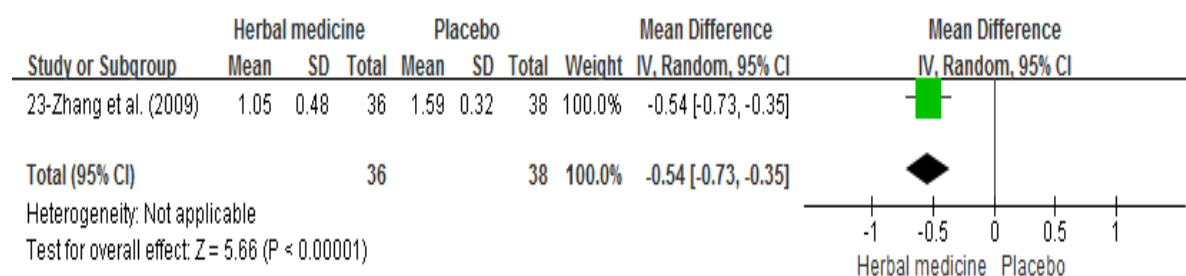
### TITLE: Herbal Medicine for Adult Patients with Cough Variant Asthma: A Systematic Review and Meta-analysis

(List available Supplementary Information items in the following order)

**Figure S1-** Risk of bias graph



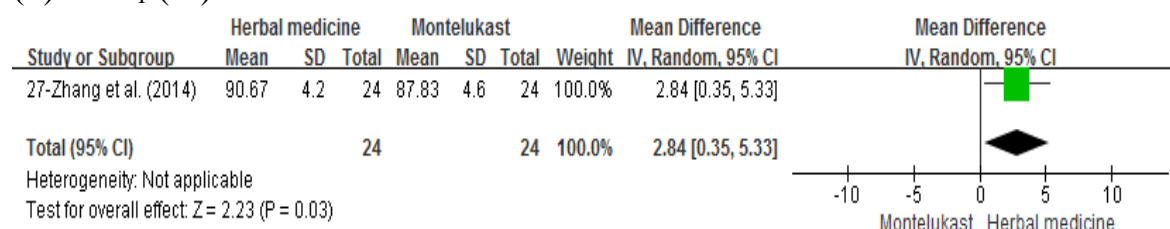
**Figure S2-** Forrest plot of CD4+/CD8+ ratio



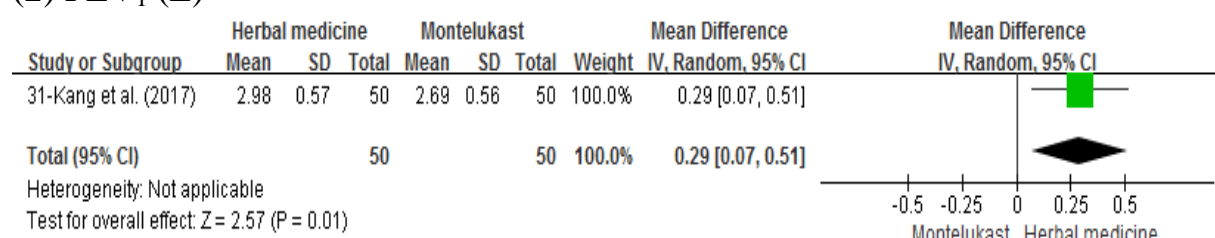
**Figure S3- Forrest plot of Forced Expiratory Volume in One Second (FEV1)**

## A Herbal Medicine versus Montelukast

### (1) FEV<sub>1</sub> (%)

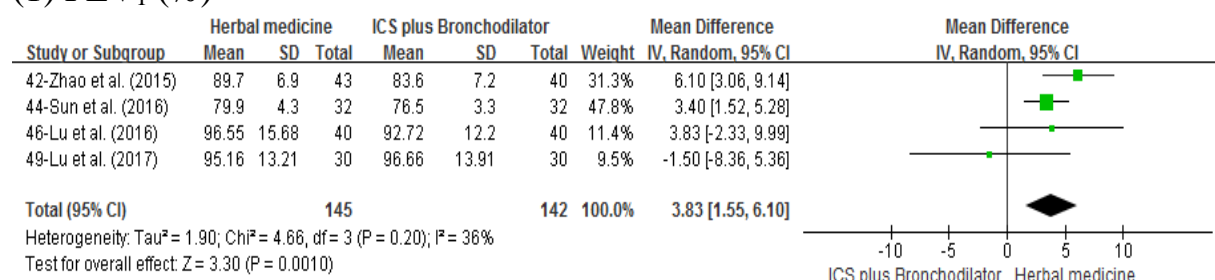


### (2) FEV<sub>1</sub> (L)

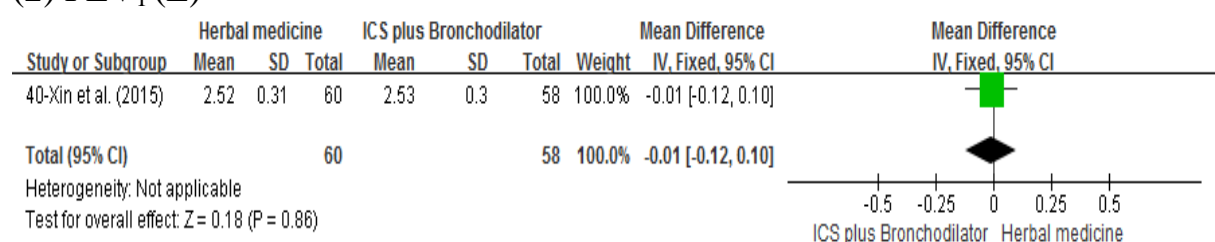


## B Herbal Medicine versus ICS plus Bronchodilator

### (1) FEV<sub>1</sub> (%)



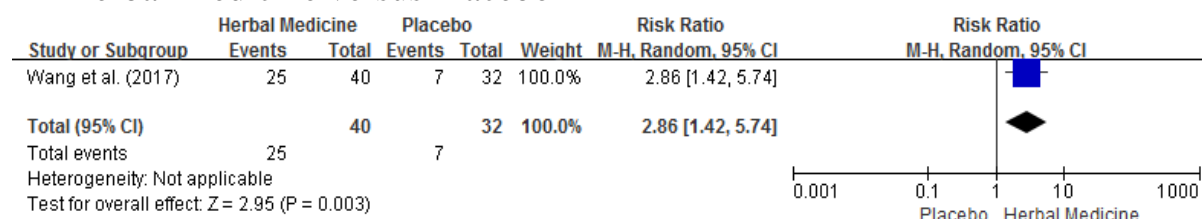
### (2) FEV<sub>1</sub> (L)



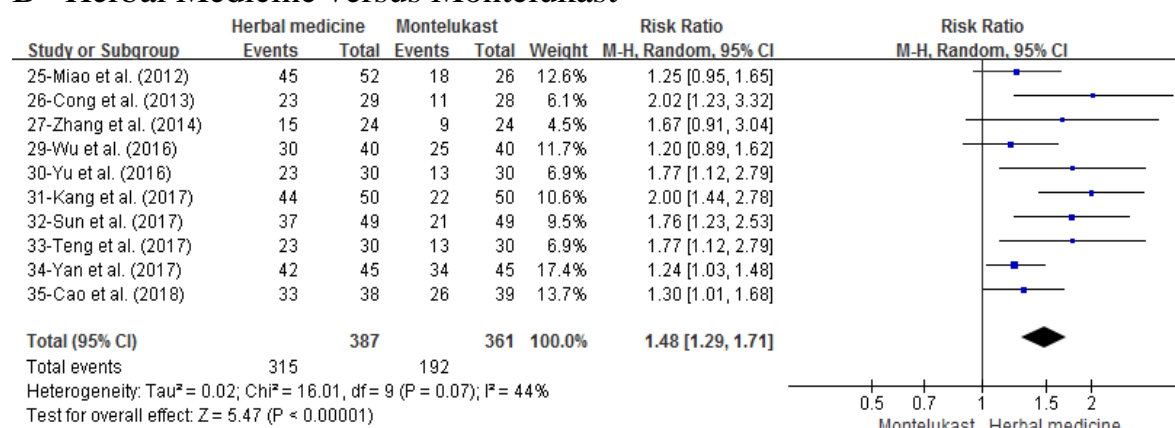
**Figure S3 – A and B, Forrest plot of Forced Expiratory Volume in One Second (FEV1).**

**Figure S4- Forrest plot of effective rate**

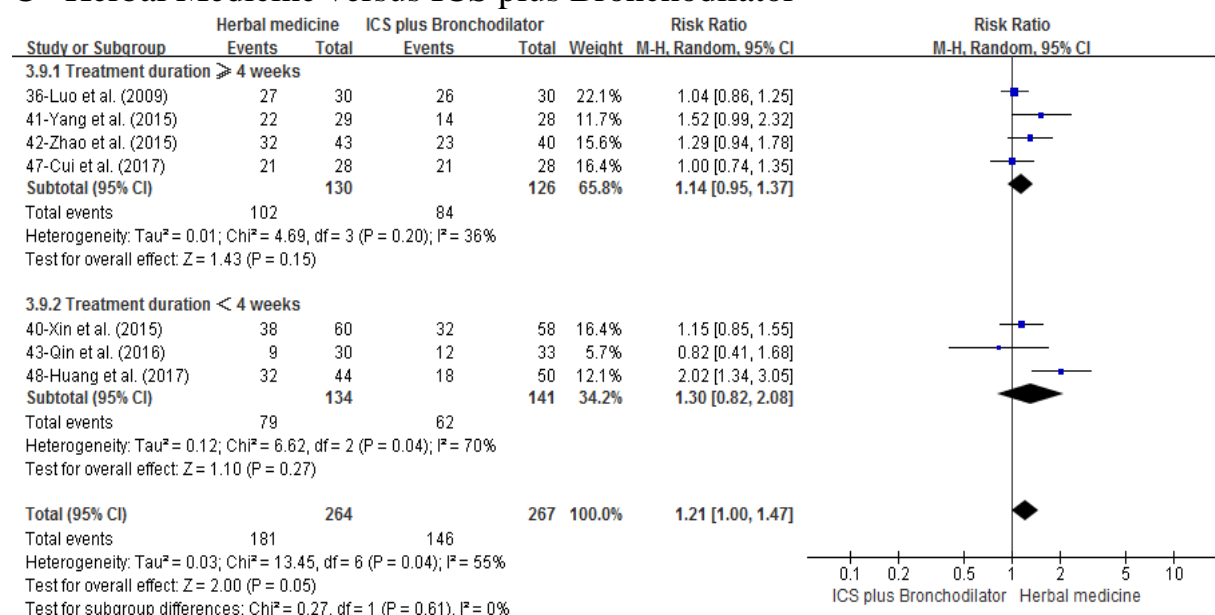
## A Herbal Medicine versus Placebo



## B Herbal Medicine versus Montelukast

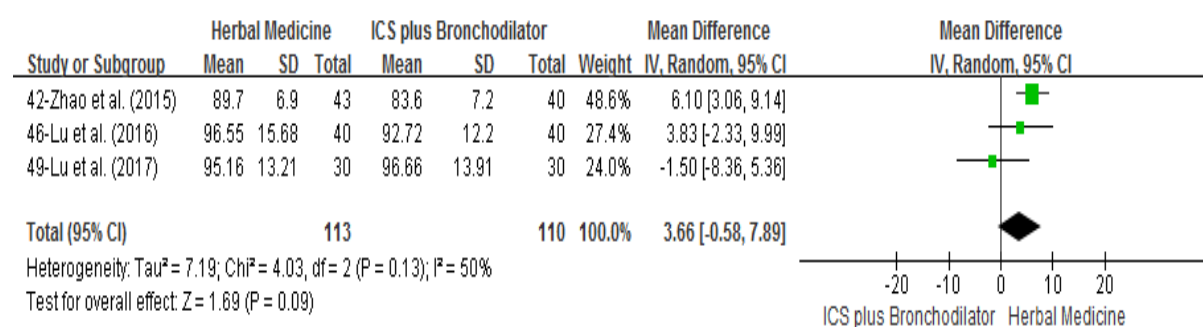


## C Herbal Medicine versus ICS plus Bronchodilator



**Figure S4 – A, B and C, Forrest plot of effective rate.**

**Figure S5-** Sensitivity analyses of FEV1 (%) in Herbal Medicine versus ICS plus Bronchodilator



**Table S1- GRADE evaluation of Herbal Medicine vs. Montelukast**

Outcome	Absolute Effect		Relative Effect (95% CI) No. of Participants & Studies	Certainty of the Evidence (GRADE)
	With CHM	Without CHM		
LCQ Scale from: 3 to 21 <sup>b</sup> Treatment duration: Range 2 to 4 weeks	15.31	13.21	MD 2.38 (1.32, 3.44)  Based on data from 422 patients in 6 studies	⊕⊕○○ LOW <sup>1,2</sup>
	Average difference: 2.38 points higher (95% CI: 1.32 higher to 3.44 higher)			
CSS Scale from: 0 to 5 <sup>a</sup> Treatment duration: Range 2 to 8 weeks	—		SMD -0.80 (-1.08, -0.51)  Based on data from 454 patients in 6 studies	⊕⊕⊕○ LOW <sup>1,2</sup>
FEV <sub>1</sub> (L) Treatment duration: Range 4 weeks	2.98	2.69	MD 0.29 (0.07 to 0.51)  Based on data from 100 patients in 1 study	⊕⊕○○ LOW <sup>1,3</sup>
	Average difference: 0.29 litres higher (95% CI: 0.07 higher to 0.51 higher)			
VAS Scale from: 0 to 10 <sup>a</sup> Treatment duration: Range 4 weeks	2.61	3.95	MD -1.34 (-1.82, -0.86)  Based on data from 77 patients in 1 study	⊕⊕○○ LOW <sup>1,3</sup>
	Average difference: 1.34 points lower (95% CI: 1.82 lower to 0.86 lower)			
Effective rate Treatment duration: Range 2 to 8 weeks	78 per 100	50 per 100	RR 1.48 (1.29 to 1.71)  Based on data from 748 patients in 10 studies	⊕⊕○○ MODERATE <sup>1</sup>
	Difference: 28 more per 100 patients (95% CI: 15 to 38 more per 100 patients)			

The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI). Abbreviations: CHM, Chinese herbal medicine; CI, confidence interval; CSS, Cough symptom score; FEV<sub>1</sub>, forced expiratory volume-one second; LCQ, Leicester Cough Questionnaire; MD, mean difference; RR, risk ratio; SMD, standardised mean difference; VAS, Visual Analogue Scale.

a. Higher scores indicate more symptoms; b. Higher scores indicate less symptoms.

1. Unclear sequence generation and allocation concealment. Lack of blinding of participants and personnel;
2. Considerable statistical heterogeneity;
3. Small sample size.

**Table S2- GRADE evaluation of Herbal Medicine vs. ICS plus Bronchodilators**

Outcome	Absolute Effect		Relative Effect (95% CI) No. of Participants & Studies	Certainty of the Evidence (GRADE)
	With CHM	Without CHM		
LCQ Scale from: 3 to 21 <sup>b</sup> Treatment duration: Range 2 weeks	<b>15.95</b>	<b>14.93</b>	<b>MD 1.02</b> (0.01, 2.05)  Based on data from 62 patients in 1 study	⊕⊕○○ LOW <sup>1,3</sup>
	Average difference: 1.02 points higher  (95% CI: 0.01 high to 2.05 higher)			
CSS Scale from: 0 to 5 <sup>a</sup> Treatment duration: Range 4 to 8 weeks	-		<b>SMD -0.25 SD</b> (-0.89, 0.39)  Based on data from 369 patients in 5 studies	⊕⊕○○ LOW <sup>1,2</sup>
FEV <sub>1</sub> (%) Treatment duration: Range 2 to 12 weeks	<b>90.33</b>	<b>87.37</b>	<b>MD 3.83</b> (1.55 to 6.10)  Based on data from 287 patients in 4 studies	⊕⊕○○ LOW <sup>1,3</sup>
	Average difference: 3.83% higher  (95% CI: 1.55% higher to 6.10% higher)			
VAS Scale from: 0 to 10 <sup>a</sup> Treatment duration: Range 2 to 4 weeks	<b>2.78</b>	<b>3.48</b>	<b>MD -0.67</b> (-1.80, 0.46)  Based on data from 281 patients in 4 studies	⊕○○○ VERY LOW <sup>1,2,3</sup>
	Average difference: 0.67 points lower  (95% CI: 1.80 lower to 0.46 higher)			
Effective rate Treatment duration: Range 2 to 8 weeks	<b>69</b> per 100	<b>55</b> per 100	<b>RR 1.21</b> (1.00 to 1.47)  Based on data from 531 patients in 7 studies	⊕⊕○○ LOW <sup>1,2</sup>
	Difference: 14 more per 100 patients  (95% CI: 0 to 26 more per 100 patients)			

The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI). Abbreviations: CHM, Chinese herbal medicine; CI, confidence interval; CSS, Cough symptom score; FEV<sub>1</sub>, forced expiratory volume-one second; LCQ, Leicester Cough Questionnaire; MD, mean difference; RR, risk ratio; SMD, standardised mean difference; VAS, Visual Analogue Scale.

a. Higher scores indicate more symptoms; b. Higher scores indicate less symptoms.

1. Unclear sequence generation and allocation concealment. Lack of blinding of participants and personnel;
2. Considerable statistical heterogeneity;
3. Small sample size.

**Table S3- GRADE evaluation of Herbal Medicine vs. Placebo**

Outcome	Absolute Effect		Relative Effect (95% CI) No. of Participants & Studies	Certainty of the Evidence (GRADE)
	With CHM	Without CHM		
CSS Scale from: 0 to 5 <sup>a</sup> Treatment duration: Range 2 weeks	<b>2.35</b>	<b>3.5</b>	<b>MD -1.15</b> (-1.67, -0.63)  Based on data from 72 patients in 1 study	⊕⊕⊕○ MODERATE <sup>1</sup>
	Average difference: 1.15 points lower  (95% CI: 1.67 lower to 0.63 lower)			
VAS Scale from: 0 to 10 <sup>a</sup> Treatment duration: Range 2 weeks	<b>3.08</b>	<b>4.84</b>	<b>MD -1.76</b> (-2.66, -0.86)  Based on data from 72 patients in 1 study	⊕⊕⊕○ MODERATE <sup>1</sup>
	Average difference: 1.76 points lower  (95% CI: 2.66 lower to 0.86 lower)			
CD4+/CD8+ ratio Treatment duration: Range 8 weeks	<b>1.05</b>	<b>1.59</b>	<b>MD -0.54</b> (-0.73, -0.35)  Based on data from 74 patients in 1 study	⊕⊕⊕○ MODERATE <sup>1</sup>
	Average difference: 0.54 lower  (95% CI: 0.73 lower to 0.35 lower)			
Effective rate Treatment duration: Range 2 weeks	<b>63</b> per 100	<b>22</b> per 100	<b>RR 2.86</b> (1.42 to 5.74)  Based on data from 72 patients in 1 study	⊕⊕⊕○ MODERATE <sup>1</sup>
	Difference: 41 more per 100 patients  (95% CI: 9 to 100 more per 100 patients)			

The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI). Abbreviations: CHM, Chinese herbal medicine; CI, confidence interval; CSS, Cough symptom score; MD, mean difference; RR, risk ratio; VAS, Visual Analogue Scale.

a. Higher scores indicate more symptoms.

1. Small sample size.