中藥輔助療法能成為化療引起之白血球低下症的另一種治療選擇嗎？

參考文獻

Chinese Herbal Medicine for Chemotherapy-Induced Leukopenia: A Systematic Review and Meta-Analysis of High-Quality Randomized Controlled Trials

Qing Wang,Hui Ye,Qiu-qin Wang,Wei-tong Li,Bei-bei Yu, Ya-mei Bai1 and Gui-hua Xu

doi：10.3389/fphar.2021.573500

引言人：李佳香

日期：2021/12/07

前言

- 化療副作用常見為白血球低下。
- 當白血球低下時易造成感染，約50%病人會因敗血性休克而死亡。
- G-CSF能增加白血球以維持療程，但副作用是發燒和肌肉痠痛，反而增加病人不適。

(戴、駱，1999)

常見化療副作用

- 骨髓功能障礙 (約80%)
- 噁心嘔吐 (約70-80%)
- 口腔潰瘍
- 末梢神經病變
- 疲倦 (約30%)
- 腹瀉便秘

(林、張、羅，2016)

白血球低下

- 定義:顆粒性白血球低於 500/立方毫米。
- 低於200/立方毫米，則屬於嚴重的白血球低下。
- 是化學治療中最危險的副作用，當白血球太低時，對感染的抵抗力會變弱，容易得到感染。
- 預防方法：化療24小時後開始施打G-CSF。

(Hauner K, Maisch P& Retz M,2017)

臨床運用

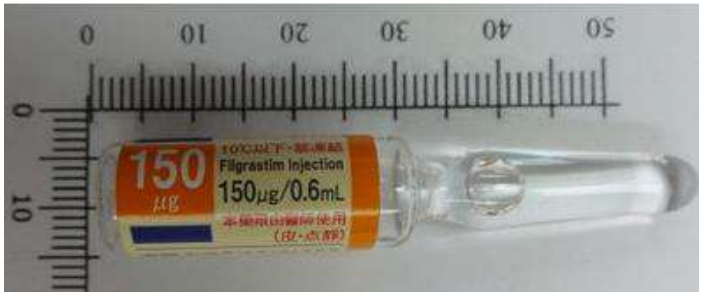
保護性隔離條件:

- ＷＢＣ< 1000 mm3
- ＡＮＣ< 500 mm3

$$ANC = Total\ WBC \times \frac{(\%\ of\ neutrophils + \%\ of\ bands)}{100}$$

骨髓細胞生長激素 (G-CSF)

- **Filgrastim 150mcg/Amp(短效型)**



1. 半衰期:3.5小時
2. 注射天數:每天施打，持續3-5天
3. 藥價:1442

- **Neulasta 0.6mL/syri(長效型)**

1. 半衰期:15-80小時
2. 注射天數:一個月一次
3. 藥價:18158

(高，2013)

G-CSF副作用

- 骨頭酸痛、肌肉酸痛
- 發燒
- 噁心、嘔吐
- 疲倦
- 肝功能與尿酸升高
- 骨質疏鬆
- 關節炎、骨頭壞死

(高，2013)

臨床困擾

- 化療２４小時後，須注射Ｇ－ＣＳＦ而住院增加住院天數。
- 若不住院也得每天來回醫院注射後再返家，增加交通費。
- 病人或家屬自行施打心裡壓力大且不熟練。
- 病人因注射過程會痛或副作用明顯而有恐懼感。
- 凝血功能差注射部位容易瘀青。

文獻提到的中藥藥名

- 扶正固本湯
- 化遼煎毒湯
- 護髓湯
- 扶正生白湯
- 健脾生隨湯
- 益髓生血膠囊
- 加味六味地黃湯
- 加味三菜風碎湯
- 三黃散仙湯
- 雙黃生白顆粒
- 八珍湯

圖：八珍湯

中藥 VS G-CSF

	中藥	G-CSF
開立醫師	中醫師	當科醫師
給藥途徑	口服	皮下或靜脈滴注
給藥時機	整個化療療程均可使用	化療後24小時
給藥頻率	每天１－３次	每天一次
給藥後疼痛	不會	會
費用	健保給付	需自費
家屬心理壓力	無	有

文獻介紹

Impact Factor 5.810 | CiteScore 6.2
More on impact ›

frontiers in Pharmacology | Ethnopharmacology

Chinese Herbal Medicine for Chemotherapy-Induced Leukopenia: A Systematic Review and Meta-Analysis of High-Quality Randomized Controlled Trials

Impact factor 5.81

Qing Wang[1], Hui Ye[1†], Qiu-qin Wang[†], [illegible] Bai[1]* and Gui-hua Xu[1]*

[1]School of Nursing, Nanjing University of Chinese Medicine, Nanjing, China
[2]Public Teaching Department for Foreign Languages, Nanjing University of Chinese Medicine, Nanjing, China

Appraisal sheets(FAITH)

- Appraisal Tool
  - [統合分析 Meta-analysis]
    - **步驟1：研究探討的問題為何 (PICO)**
    - 步驟2：研究的品質如何 (內在效度)
    - 步驟3：研究結果之意義為何 (效益)

步驟１：系統性文獻回顧探討的問題為何？

研究族群 / 問題 (Population/ Problem)：

- Chemotherapy-Induced Leukopenia patients

介入措施 (Intervention)：

- Chinese Herbal Medicine

比較 (Comparison)：

- Non Chinese Herbal Medicine

結果 (Outcomes)：

- the clinical symptoms of CIL

Appraisal sheets(FAITH)

- Appraisal Tool
  - [統合分析 Meta-analysis]
    - 步驟1：研究探討的問題為何 (PICO)
    - **步驟2：研究的品質如何 (內在效度)**
    - 步驟3：研究結果之意義為何 (效益)

步驟 2：系統性文獻回顧的品質如何?(FAITH)

【F】研究是否找到 (Find) 所有的相關證據？

良好的文獻搜尋至少應包括二個主要的資料庫(如：Medline, Cochrane 考科藍實證醫學資料庫, EMBASE 等)，並且加上文獻引用檢索(參考文獻中相關研究、Web of Science, Scopus或 Google Scholar)、試驗登錄資料等。文獻搜尋應不只限於英文，並且應同時使用 MeSH字串及一般檢索詞彙(text words)。

Search Strategy

We performed a comprehensive search of 4 English electronic databases (PubMed, Web of Science, Cochrane Library, and Elsevier) from the date of inception to November 4, 2020 and 4 Chinese electronic databases (China National Knowledge Infrastructure, Chinese Biomedical Database, Chinese VIP Information Database, and Wanfang Med Database). The following medical subject heading (MeSH) terms and free text words were used for the search: "Chinese Medicine," "Chinese Herbal Medicine," "Chinese patent medicine," "leukopenia," "hypoleucocytosis," "hypolekocytosis," "neutropenia," and "bone marrow suppression." In the Chinese electronic databases, keywords were searched in Chinese characters and Pinyin. There was no limitation on language used.

Key words

"Chinese Medicine," "Chinese Herbal Medicine," "Chinese patent medicine," "leukopenia," "hypoleucocytosis," "hypolekocytosis," "neutropenia," and "bone marrow suppression."

P.7

步驟 2：系統性文獻回顧的品質如何?(FAITH)

【F】研究是否找到 (Find) 所有的相關證據？

良好的文獻搜尋至少應包括二個主要的資料庫(如：Medline, Cochrane 考科藍實證醫學資料庫, EMBASE 等)，並且加上文獻引用檢索(參考文獻中相關研究、Web of Science, Scopus或 Google Scholar)、試驗登錄資料等。文獻搜尋應不只限於英文，並且應同時使用 MeSH字串及一般檢索詞彙(text words)。

Inclusion and Exclusion Criteria

Inclusion Criteria

Inclusion criteria were based on the following:

(1) Type of participant: diagnosis of cancer with chemotherapy-induced leukopenia.

(2) Type of study: only high-quality randomized controlled trials (RCTs) related to Chinese herbal medicine in the treatment of CIL, which met the requirements of at least four key domains of the Cochrane risk of bias (RoB) tool, along with trials published in the form of dissertations were selected as eligible studies.

(3) Type of intervention: participants in the intervention groups were treated with CHM in combination with chemotherapeutic drugs. There was no limitation with regard to the form of CHM used (e.g., decoction, capsule, and granule), dosage, or treatment duration. The control groups used chemotherapy alone, chemotherapeutic drugs plus placebo, or chemotherapeutic drugs plus Western medicine, which used to raise leukocytes. All participants were treated *via* oral administration.

(4) Type of outcome measure: primary outcome measures were white blood cell (WBC), neutrophil (NEU), hemoglobin (Hb), and platelet (PLT) counts in addition to the incidence of leukopenia and neutropenia. Secondary outcome measures were the Karnofsky performance scale (KPS) score and improvement, infection amount, granulocyte colony-stimulating factor (G-CSF) dosage and use rate, and adverse events.

Exclusion Criteria

Exclusion criteria were as follows:

(1) Patients with leukopenia not caused by chemotherapy.

(2) Duplicate studies, review, animal experiments, and conference abstracts.

(3) Nonoral TCM methods, such as acupuncture, moxibustion, massage, and acupoint injection, in the intervention group or use of CHM drugs in the control group.

P.7

PRISMA 的流程圖

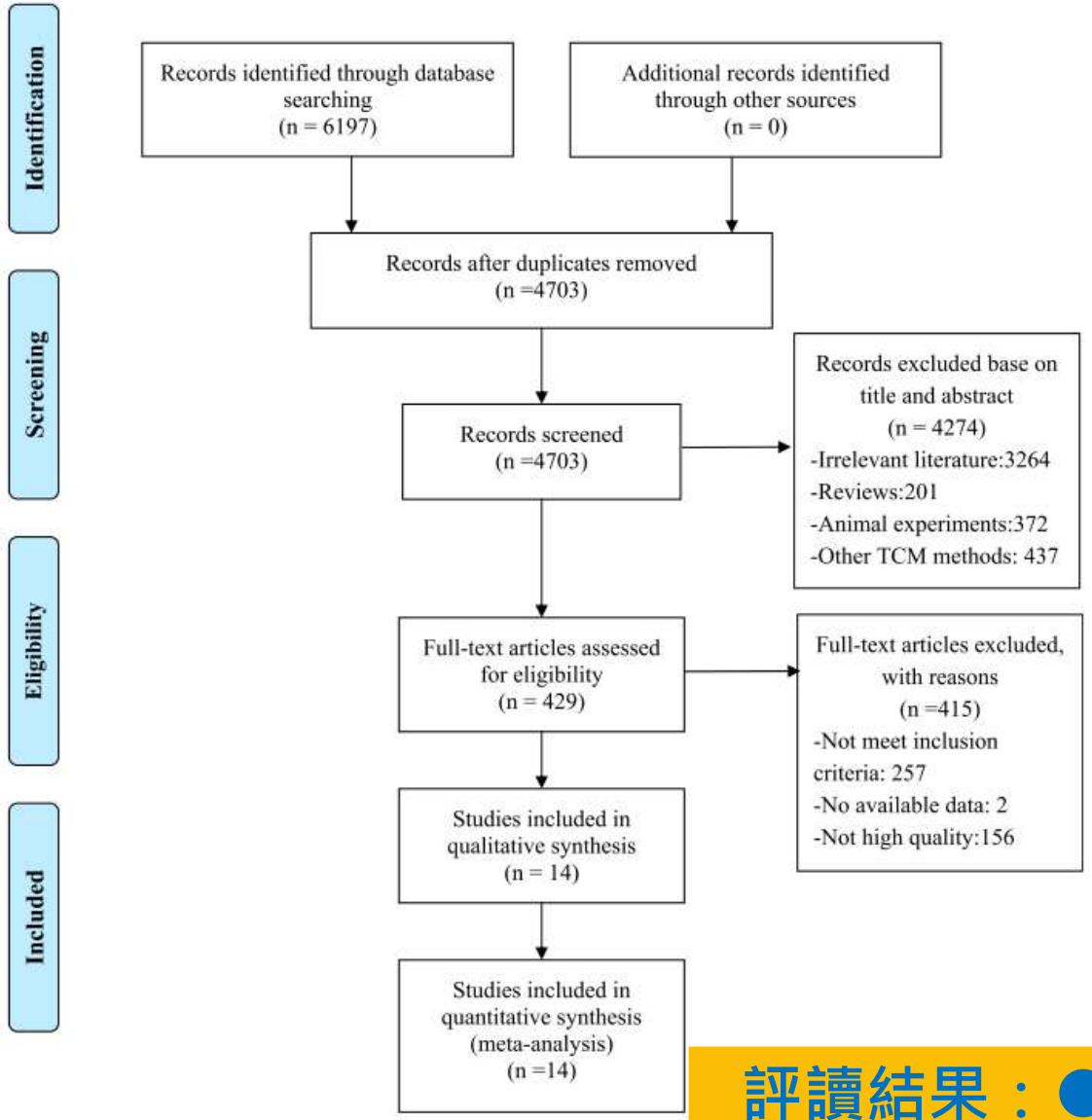


FIGURE 1 | Flowchart of screening process.

Fig. 1. Flow diagram of literature search. Flow diagram describing the process of the literature search according to the PRISMA guidelines, including the reasons for exclusion of articles.

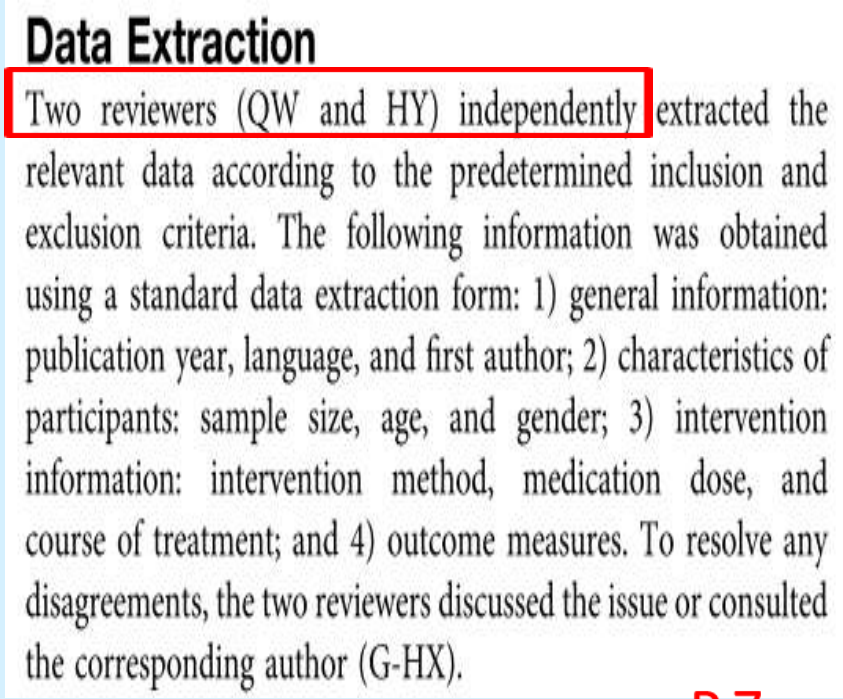
P.2

評讀結果：●是○否○不清楚

Appraisal FAITH - 步驟 2：系統性文獻回顧的品質如何(A)

【I】是否只納入 (Included) 具良好效度的文章？

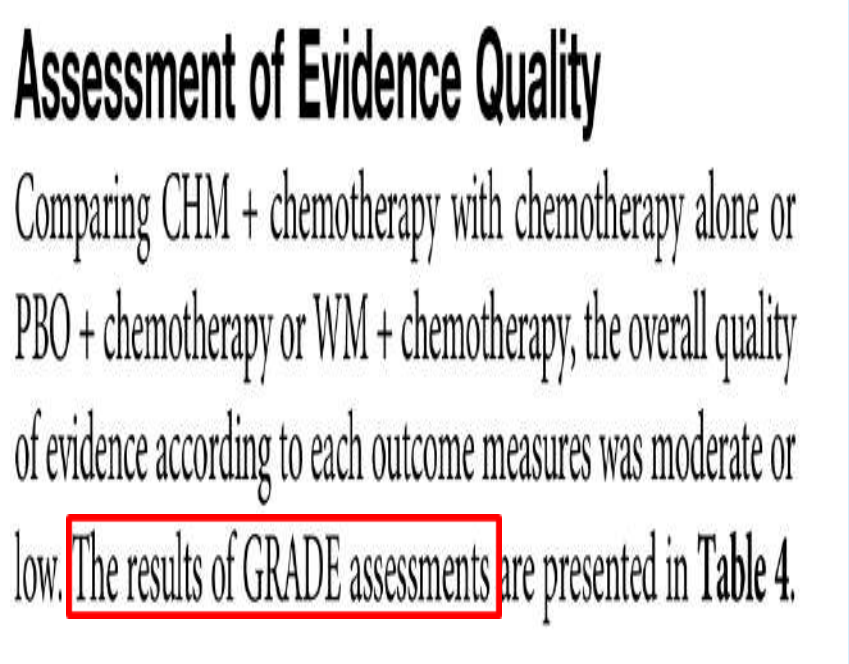
僅進行文獻判讀是不足夠，系統性文獻回顧只納入至少要有一項研究結果是極小偏誤的試驗。在文章的方法章節，可以找到文章評估的方式，及由誰完成評估的，在結果章節則會提供審查者意見一致性的程度。



Data Extraction

Two reviewers (QW and HY) independently extracted the relevant data according to the predetermined inclusion and exclusion criteria. The following information was obtained using a standard data extraction form: 1) general information: publication year, language, and first author; 2) characteristics of participants: sample size, age, and gender; 3) intervention information: intervention method, medication dose, and course of treatment; and 4) outcome measures. To resolve any disagreements, the two reviewers discussed the issue or consulted the corresponding author (G-HX).

P.7



Assessment of Evidence Quality

Comparing CHM + chemotherapy with chemotherapy alone or PBO + chemotherapy or WM + chemotherapy, the overall quality of evidence according to each outcome measures was moderate or low. The results of GRADE assessments are presented in Table 4.

P.9

Appraisal FAITH - 步驟 2：系統性文獻回顧的品質如何(A)

【I】是否只納入 (Included) 具良好效度的文章？

僅進行文獻判讀是不足夠，系統性文獻回顧只納入至少要有一項研究結果是極小偏誤的試驗。在文章的方法章節，可以找到文章評估的方式，及由誰完成評估的，在結果章節則會提供審查者意見一致性的程度。

TABLE 4 | Assessment of evidence quality.

Outcomes	Anticipated absolute effects		Relative effect (95% CI)	No of Participants (studies)	Quality of the evidence (GRADE)
	Risk with controls	Risk difference with CHM (95% CI)			
CHM+ chemotherapy vs. chemotherapy					
WBC counts	—	0.52 MD higher (0.37 to 0.66 higher)	—	391 (6 RCTs)	⊕⊕⊕O Moderate due to risk of bias
NEU counts	—	0.41 MD higher (0.26 to 0.55 higher)	—	215 (4 RCTs)	⊕⊕⊕O Moderate due to risk of bias
Hb counts	—	0.46 SMD higher (0.07 to 0.85 higher)	—	259 (4 RCTs)	⊕⊕OO Low due to risk of bias, inconsistency
PLT counts	—	10.15 MD higher (4.3 to 16.0 higher)	—	259 (4 RCTs)	⊕⊕⊕O Moderate due to risk of bias
KPS	—	7.21 MD higher (2.1 to 12.32 higher)	—	259 (4 RCTs)	⊕⊕OO Low due to risk of bias, inconsistency
G-CSF dosage	—	2.5 SMD lower (6.07 lower to 1.07 higher)	—	132 (2 RCTs)	⊕⊕OO Low due to risk of bias, inconsistency
CHM+ chemotherapy vs. PBO+ chemotherapy					
Incidence of neutropenia	—	—	RR 0.95 (0.69 to 1.33)	160 (2 RCTs)	⊕⊕OO Low due to inconsistency, imprecision
CHM+ Chemotherapy vs. WM+ Chemotherapy					
WBC counts	—	0.80 MD higher (0.20 to 1.40 higher)	—	280 (4 RCTs)	⊕⊕OO Low due to risk of bias, inconsistency
KPS improvement	—	—	RR 1.73 (1.26 to 2.39)	174 (2 RCTs)	⊕⊕⊕O Moderate due to risk of bias
Infection amount	—	—	RR 0.25 (0.12 to 0.51)	184 (2 RCTs)	⊕⊕⊕O Moderate due to risk of bias
G-CSF use rate	—	—	RR 0.35 (0.13 to 0.92)	203 (2 RCTs)	⊕⊕⊕O Moderate due to risk of bias
Incidence of leukopenia	—	—	RR 0.25 (0.08 to 0.79)	213 (2 RCTs)	⊕⊕⊕O Moderate due to risk of bias

RCT, randomized clinical trial; SMD, standardized mean difference; MD, mean difference; CI: confidence interval. High quality: Further research is very unlikely to change the estimate of effect. Moderate quality: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate. Low quality: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate. Very low quality: We are very uncertain about the estimate.

P.11

Appraisal FAITH - 步驟 2：系統性文獻回顧的品質如何(A)

【I】是否只納入 (Included) 具良好效度的文章？

僅進行文獻判讀是不足夠，系統性文獻回顧只納入至少要有一項研究結果是極小偏誤的試驗。在文章的方法章節，可以找到文章評估的方式，及由誰完成評估的，在結果章節則會提供審查者意見一致性的程度。

TABLE 3 | Risk of bias assessment of all included studies.

Studies	A	B	C	D	E	F	G	Total
Liu (2013)	+	–	–	–	+	+	+	4 +
Qian and Li (2013)	+	–	–	–	+	+	+	4 +
Liu and Yao (2014)	+	–	–	–	+	+	+	4 +
Zhao and Lu (2016)	+	–	–	–	+	+	+	4 +
Li and Liu (2019)	+	–	–	–	+	+	+	4 +
Huang and Zhang (2020)	+	–	–	–	+	+	+	4 +
Mok et al. (2007)	+	?	+	+	+	+	+	6 +
Yuan and Zhang (2016)	+	–	+	?	+	+	+	5 +
Ren and Wu (2015)	+	–	–	–	+	+	+	4 +
Wang and Li (2017)	+	+	–	–	+	+	+	5 +
Wang (2011)	+	–	–	–	+	+	+	4 +
Zou (2015)	+	–	–	–	+	+	+	4 +
Wang et al. (2016)	+	–	–	–	+	+	+	4 +
Li et al. (2020)	+	–	–	–	+	+	+	4 +

A, random sequence generation; B, allocation concealment; C, blinding of participants and personnel; D, blinding of outcome assessment; E, incomplete outcome data; F, Selective reporting; G, Other bias. "+" = low risk of bias, "–" = high risk of bias, "?" = unclear risk of bias.

P.7

評讀結果：●是 ○否○不清楚

Appraisal FAITH - 步驟 2：系統性文獻回顧的品質如何(A)

【I】是否只納入 (Included) 具良好效度的文章？

TABLE 1 | Characteristics of the included trials.

First author and publication year	Publication language	Sample size and characteristics (M/F), age (years)		Course of disease	Intervention and dose		Course of treatment (days)	Main outcomes
		Experimental	Control		Intervention	Control		
Liu (2013)	Chinese	28 (20/8) 53.8 ± 3.6	28 (21/7) 54.2 ± 5.8	0.1–7.8 years	Fuzheng Guben decoction, 1 dose, bid + chemotherapy	Chemotherapy	60	WBC count, G-CSF dosage, adverse events
Qian and Li (2013)	Chinese	62 (32/30) 60.20 ± 7.79	58 (31/27) 60.40 ± 8.86	NA	Hua Liao Jian du decoction + chemotherapy	Chemotherapy	21	WBC count, Hb count, PLT count, KPS, adverse events
Liu and Yao (2014)	Chinese	38 (20/18) 34–64	38 (22/16) 28–67	NA	Husui decoction 1 dose, tid + chemotherapy	Chemotherapy	14	WBC count, NEU count, G-CSF dosage, adverse events
Zhao and Lu (2016)	Chinese	15 (0/15) 53.07 ± 7.72	15 (0/15) 48.00 ± 9.80	NA	Fuzheng Shengbai decoction, 1 dose, bid + chemotherapy	Chemotherapy	21	WBC count, NEU count, Hb count, PLT count, KPS, adverse events
Li and Liu (2019)	Chinese	26 (12/14) 53.78 ± 5.95	26 (11/15) 54.13 ± 6.37	NA	Jianpi Shengsui gel, 15–20 g, tid + chemotherapy	Chemotherapy	42	WBC count, NEU count, Hb count, PLT count, KPS, adverse events
Huang and Zhang (2020)	Chinese	29 (18/11) 62.00 ± 6.35	28 (16/12) 63.97 ± 6.33	NA	Yisui Shengxue capsules 1.8 g, tid + chemotherapy	Chemotherapy	21	WBC count, NEU count, Hb count, PLT count, KPS, adverse events
Mok et al. (2007)	English	55 (5/50) 32–75	56 (6/50) 39–72	NA	CHM granules, 3–10 g, qd + chemotherapy	Placebo, 3–10 g, qd + chemotherapy	28	Incidence of neutropenia, adverse events
Yuan and Zhang (2016)	Chinese	27 (15/12) 59.37 ± 5.869	26 (13/13) 59.67 ± 6.449	1–21 month	Qijing Shengbai granules, 12 g, bid + chemotherapy	Placebo 12 g, bid + chemotherapy	42 ± 7	Incidence of neutropenia, adverse events
Ren and Wu (2015)	Chinese	20 (12/8) 58.19 ± 8.67	20 (13/7) 55.5 ± 5.6	10–24 months	Fuzheng Shengbai decoction, 1 dose, bid + chemotherapy	Leukogen tablets 20 mg, tid + chemotherapy	21	WBC count, adverse events
Wang and Li (2017)	Chinese	45 (23/22) 54.87 ± 8.137	45 (24/21) 54.73 ± 7.347	NA	Modified Liu Wei Di Huang decoction 1 dose, tid + chemotherapy	Leukogen tablets 20 mg, tid + chemotherapy	21	WBC count, KPS improvement, G-CSF use rate, adverse events
Wang (2011)	Chinese	45 (24/21) 35–74	44 (23/21) 34–75	NA	Modified Sancai Fengsui decoction, 1 dose, bid + chemotherapy	Leucogen 20 mg and Batyl alcohol 100 mg, tid + chemotherapy	14	WBC count, KPS improvement, infection amount
Zou (2015)	Chinese	47 (20/27) 55.7 ± 16.3	48 (21/27) 55.5 ± 16.7	NA	Sanhuang Sanxian decoction, 1 dose, bid + chemotherapy	Leucogen 20 mg, Batyl alcohol 50 mg, tid + chemotherapy	30	Incidence of leukopenia, infection amount, adverse events
Wang et al. (2016)	Chinese	60 (38/22) 66.17 ± 5.23	58 (36/22) 66.82 ± 4.96	NA	Shuanghuang Shengbai granules, 30 g, bid + chemotherapy	Leucogen 40 mg, tid + chemotherapy	14	Incidence of leukopenia, G-CSF use rate, adverse events
Li et al. (2020)	Chinese	33 (12/21) 58.41 ± 8.12	33 (13/20) 58.35 ± 8.13	7.64 weeks	Bazhen decoction 400 ml/d + chemotherapy	Leucogen 20 mg, Batyl alcohol 100 mg, tid + chemotherapy	28	WBC count, adverse events

M/F, male/female; NA, not available; WBC, white blood cell; NEU, neutrophil; Hb, hemoglobin; PLT, platelet; KPS, Karnofsky performance scale; G-CSF, granulocyte colony-stimulating factor.

Appraisal FAITH 步驟 2：系統性文獻回顧的品質如何 (T-H)

【T】作者是否以表格和圖表「總結」(Total up) 試驗結果？

以「**森林圖**」(forest plot) 呈現研究結果，最好再加上異質性分析。

【H】試驗的結果是否相近 - 異質性 (Heterogeneity)？

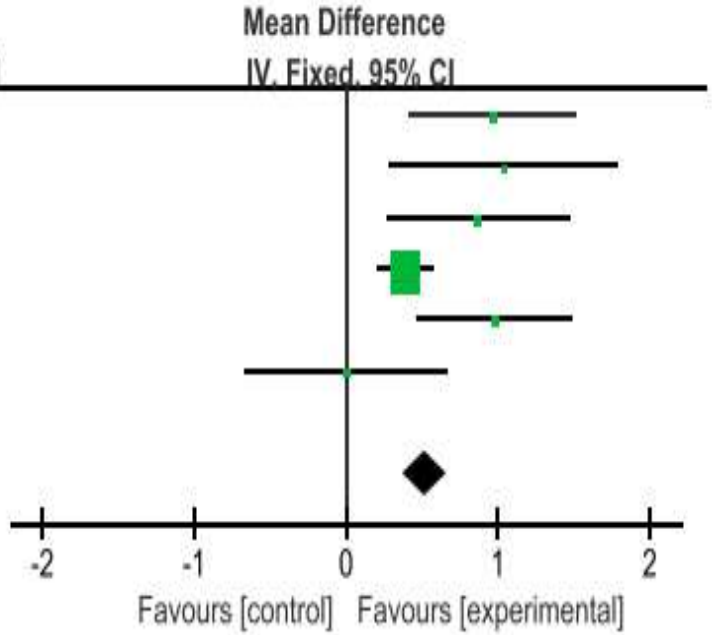
在理想情況下，各個試驗的結果應相近或具同質 性，若具有異質性，作者應評估差異是否顯著 (卡方檢定)。根據每篇個別研究中不同的 PICO 及研究方法，探討造成異質性的原因。

Appraisal FAITH步驟 2：系統性文獻回顧的品質如何 (T-H)

【T】作者是否以表格和圖表「總結」(Total up) 試驗結果？
【H】試驗的結果是否相近 - 異質性 (Heterogeneity)？

Study or Subgroup	Experimental Mean	SD	Total	Control Mean	SD	Total	Weight	Mean Difference IV, Fixed, 95% CI
Huang and Zhang, 2020	5.77	1.06	29	4.8	1.03	28	7.1%	0.97 [0.43, 1.51]
Li and Liu, 2019	3.52	1.54	26	2.48	1.17	26	3.8%	1.04 [0.30, 1.78]
Liu, 2013	5.25	1.38	28	4.38	0.82	28	5.9%	0.87 [0.28, 1.46]
Liu and Yao, 2014	5.38	0.44	38	4.99	0.32	38	69.9%	0.39 [0.22, 0.56]
Qian and Li, 2013	5.63	1.61	62	4.65	1.15	58	8.4%	0.98 [0.48, 1.48]
Zhao and Lu, 2016	5.84	1.06	15	5.84	0.75	15	4.8%	0.00 [-0.66, 0.66]
Total (95% CI)			**198**			**193**	**100.0%**	**0.52 [0.37, 0.66]**

Heterogeneity: $Chi^2 = 13.70$, $df = 5$ ($P = 0.02$); $I^2 = 64\%$
Test for overall effect: $Z = 6.98$ ($P < 0.00001$)



WBC counts

FIGURE 2 | Forest plots of CHM + chemotherpy vs. chemotherapy

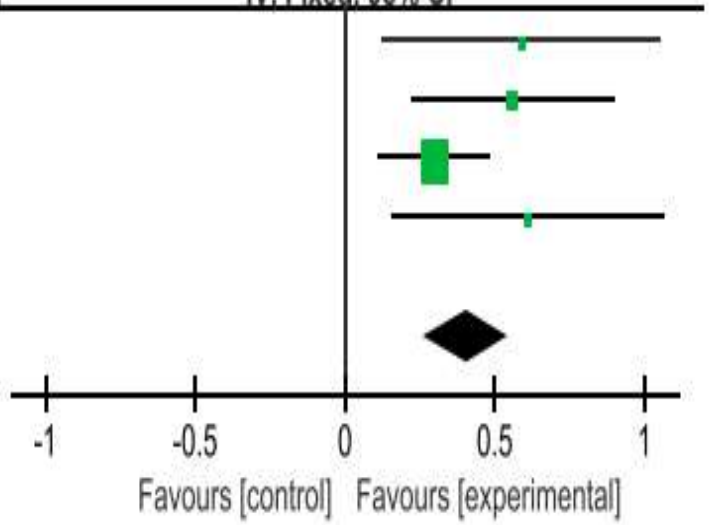
Appraisal FAITH步驟 2：系統性文獻回顧的品質如何 (T-H)

【T】作者是否以表格和圖表「總結」(Total up) 試驗結果？
【H】試驗的結果是否相近 - 異質性 (Heterogeneity)？

	Experimental			Control				Mean Difference
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Fixed, 95% CI
Huang and Zhang, 2020	3.18	0.86	29	2.59	0.91	28	9.6%	0.59 [0.13, 1.05]
Li and Liu, 2019	1.83	0.54	26	1.27	0.68	26	18.2%	0.56 [0.23, 0.89]
Liu and Yao, 2014	4.14	0.44	38	3.84	0.36	38	62.2%	0.30 [0.12, 0.48]
Zhao and Lu, 2016	4.42	0.81	15	3.81	0.37	15	10.0%	0.61 [0.16, 1.06]
Total (95% CI)			108			107	100.0%	0.41 [0.26, 0.55]

Heterogeneity: $Chi^2 = 3.54$, $df = 3$ ($P = 0.32$); $I^2 = 15\%$

Test for overall effect: $Z = 5.59$ ($P < 0.00001$)



NEU counts

FIGURE 2 | Forest plots of CHM + chemotherpy vs. chemotherapy

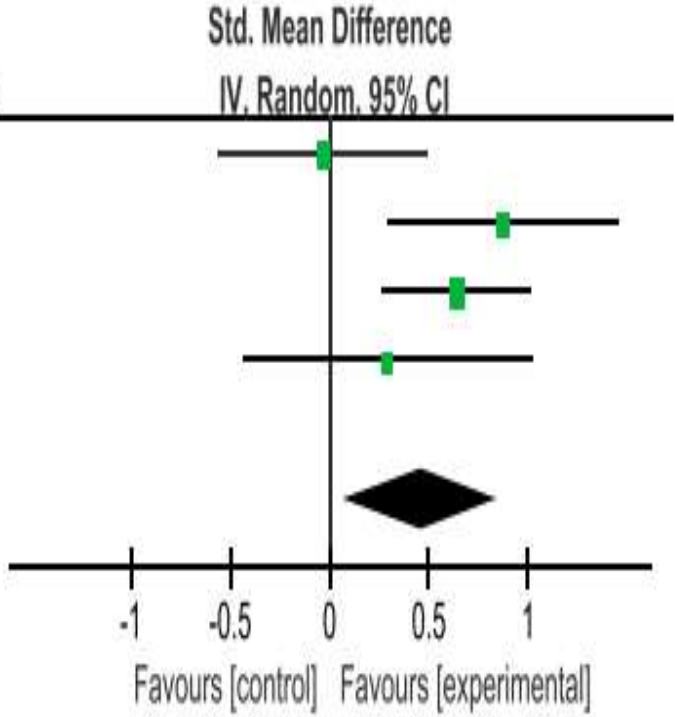
Appraisal FAITH步驟 2：系統性文獻回顧的品質如何 (T-H)

【T】作者是否以表格和圖表「總結」(Total up) 試驗結果？
【H】試驗的結果是否相近 - 異質性 (Heterogeneity)？

Study or Subgroup	Experimental Mean	SD	Total	Control Mean	SD	Total	Weight	Std. Mean Difference IV, Random, 95% CI
Huang and Zhang, 2020	122.05	8.9	29	122.32	8.36	28	25.6%	-0.03 [-0.55, 0.49]
Li and Liu, 2019	106	9.54	26	98	8.43	26	23.3%	0.88 [0.30, 1.45]
Qian and Li, 2013	12.4	2.02	62	11.1	2.01	58	33.1%	0.64 [0.27, 1.01]
Zhao and Lu, 2016	110.93	10.53	15	108.07	8.3	15	18.0%	0.29 [-0.43, 1.01]
Total (95% CI)			132			127	100.0%	0.46 [0.07, 0.85]

Heterogeneity: $Tau^2 = 0.08$; $Chi^2 = 6.55$, df = 3 (P = 0.09); $I^2 = 54\%$

Test for overall effect: Z = 2.33 (P = 0.02)



Hb counts

FIGURE 2 | Forest plots of CHM + chemotherpy vs. chemotherapy

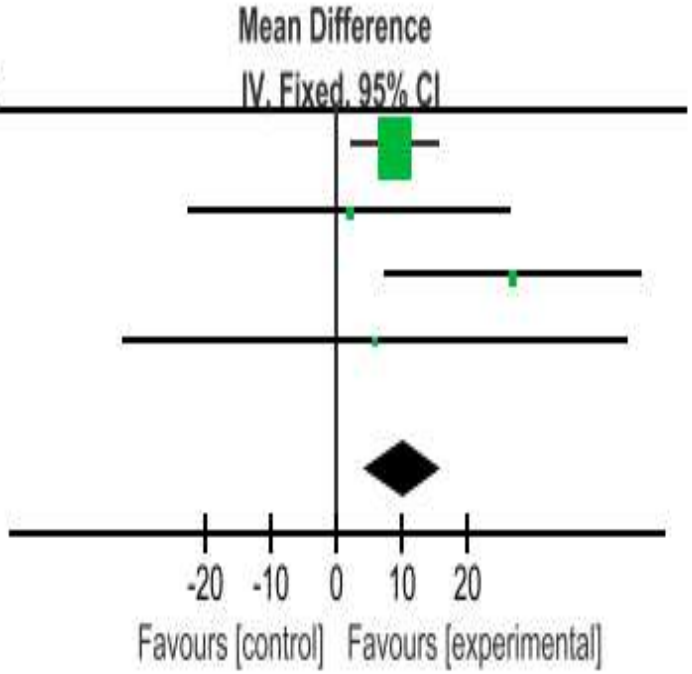
Appraisal FAITH步驟 2：系統性文獻回顧的品質如何 (T-H)

【T】作者是否以表格和圖表「總結」(Total up) 試驗結果？
【H】試驗的結果是否相近 - 異質性 (Heterogeneity)？

Study or Subgroup	Experimental Mean	SD	Total	Control Mean	SD	Total	Weight	Mean Difference IV, Fixed, 95% CI
Huang and Zhang, 2020	155.01	13.83	29	146.03	10.8	28	82.7%	8.98 [2.55, 15.41]
Li and Liu, 2019	179	50.43	26	177	38.29	26	5.8%	2.00 [-22.34, 26.34]
Qian and Li, 2013	138.8	61.86	62	111.9	45.25	58	9.2%	26.90 [7.59, 46.21]
Zhao and Lu, 2016	196.67	57.98	15	190.67	48.76	15	2.3%	6.00 [-32.34, 44.34]
Total (95% CI)			132			127	100.0%	10.15 [4.30, 16.00]

Heterogeneity: $Chi^2 = 3.49$, $df = 3$ ($P = 0.32$); $I^2 = 14\%$

Test for overall effect: $Z = 3.40$ ($P = 0.0007$)

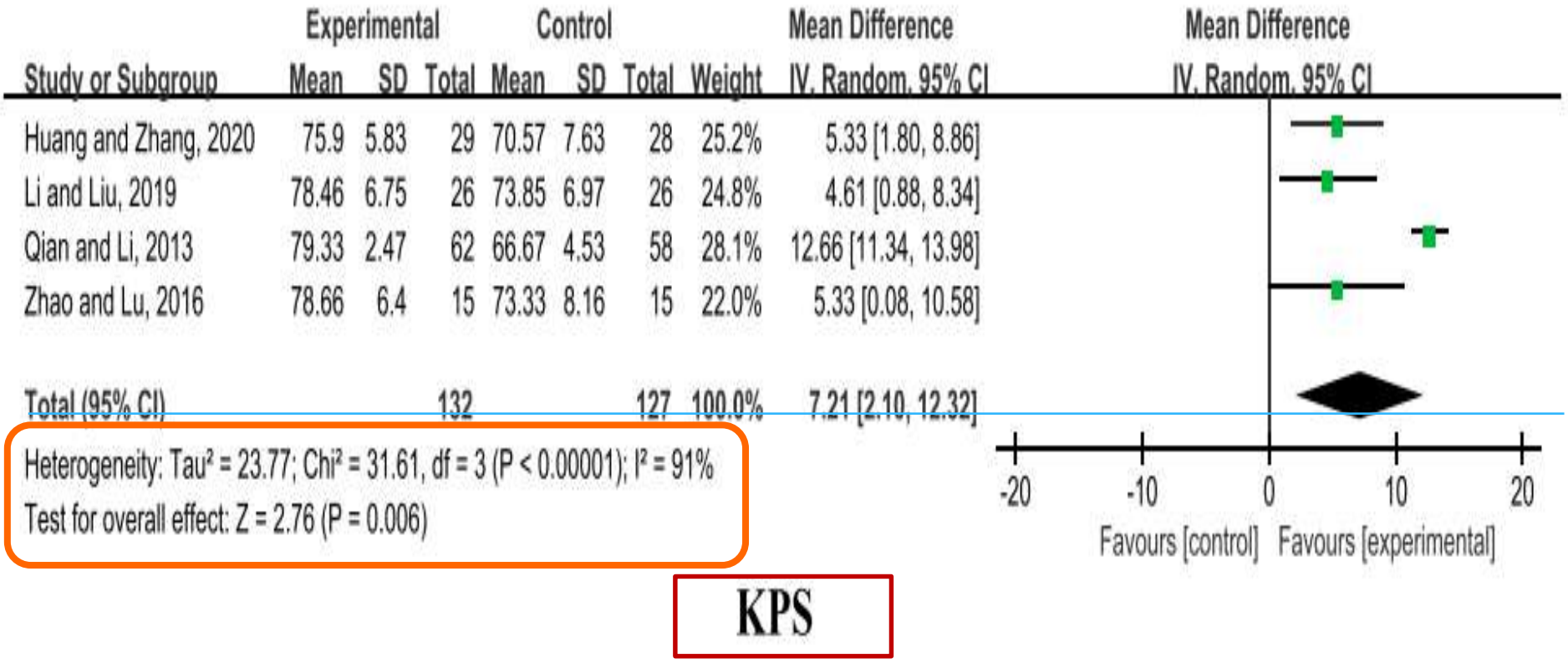


PLT counts

FIGURE 2 | Forest plots of CHM + chemotherpy vs. chemotherapy

Appraisal FAITH步驟 2：系統性文獻回顧的品質如何 (T-H)

【T】作者是否以表格和圖表「總結」(Total up) 試驗結果？
【H】試驗的結果是否相近 - 異質性 (Heterogeneity)？

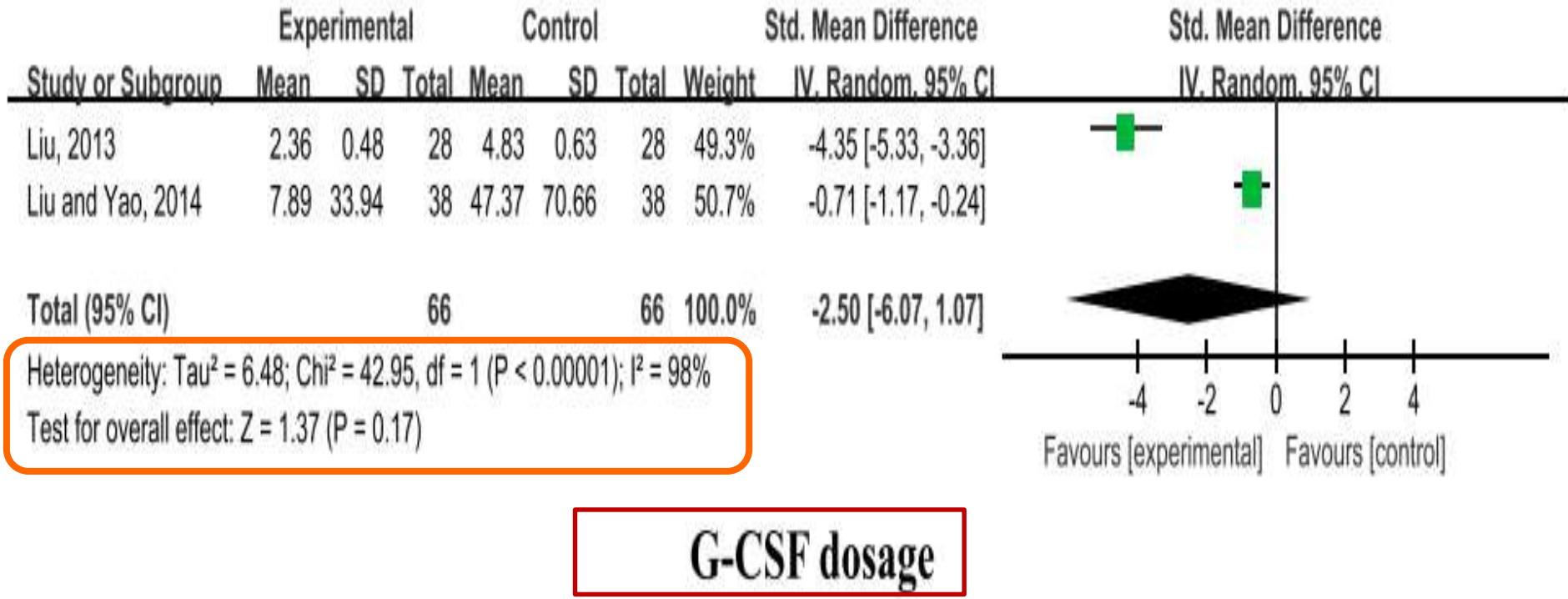


KPS

FIGURE 2 | Forest plots of CHM + chemotherpy vs. chemotherapy

Appraisal FAITH步驟 2：系統性文獻回顧的品質如何 (T-H)

【T】作者是否以表格和圖表「總結」(Total up) 試驗結果？
【H】試驗的結果是否相近 - 異質性 (Heterogeneity)？



G-CSF dosage

FIGURE 2 | Forest plots of CHM + chemotherpy vs. chemotherapy

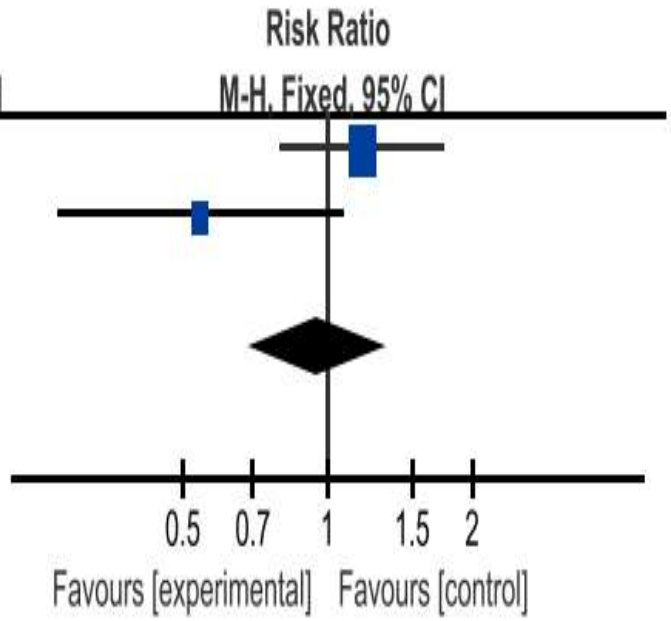
Appraisal FAITH步驟 2：系統性文獻回顧的品質如何 (T-H)

【T】作者是否以表格和圖表「總結」(Total up) 試驗結果？
【H】試驗的結果是否相近 - 異質性 (Heterogeneity)？

Study or Subgroup	Experimental Events	Total	Control Events	Total	Weight	Risk Ratio M-H, Fixed, 95% CI
Mok et al., 2007	29	55	25	56	64.2%	1.18 [0.80, 1.73]
Yuan and Zhang, 2016	8	26	13	23	35.8%	0.54 [0.28, 1.07]
Total (95% CI)		81		79	100.0%	0.95 [0.69, 1.33]
Total events	37		38			

Heterogeneity: $Chi^2 = 3.81$, df = 1 (P = 0.05); $I^2 = 74\%$

Test for overall effect: Z = 0.28 (P = 0.78)

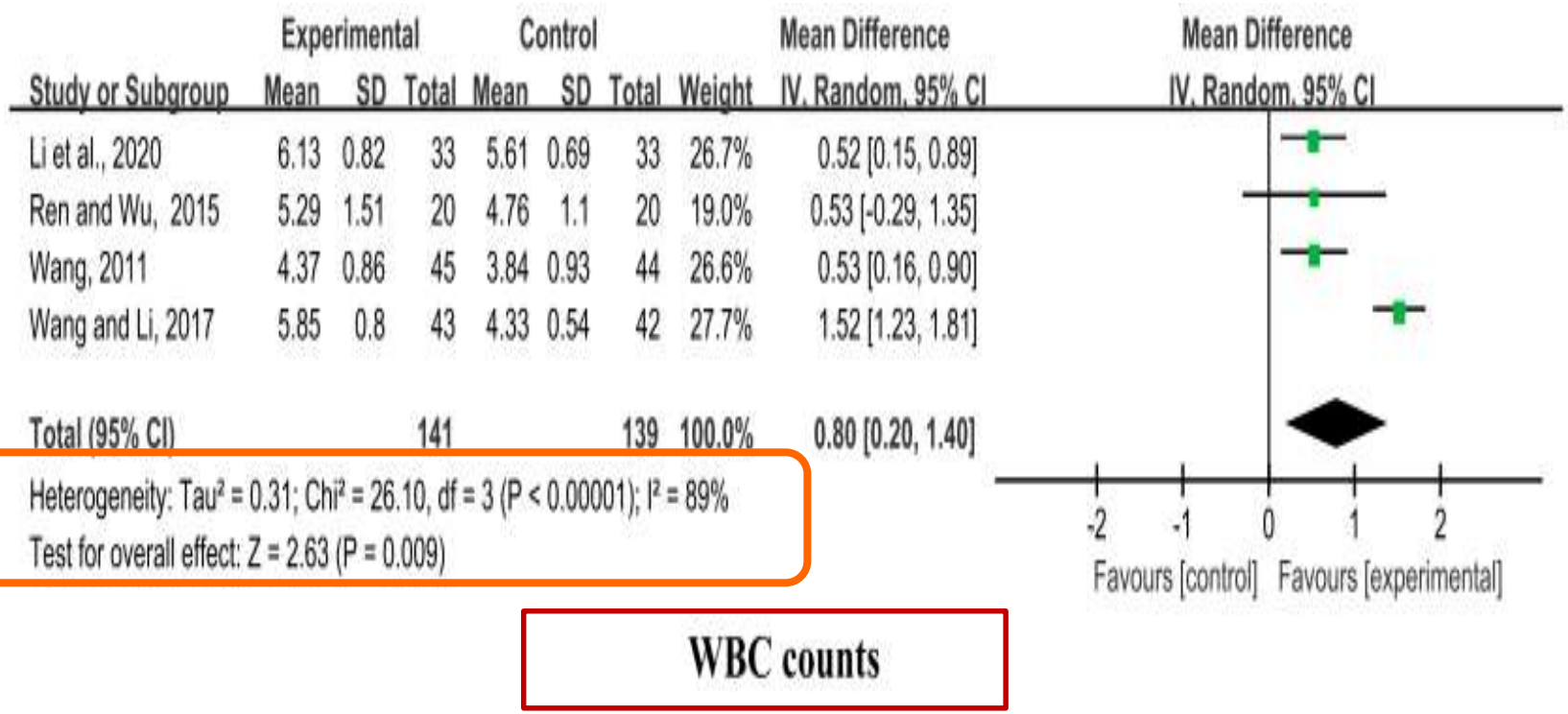


Incidence of Neutropenia

FIGURE 3 | Forest plots of CHM + chemotherapy vs. PBO + chemotherapy

Appraisal FAITH步驟 2：系統性文獻回顧的品質如何 (T-H)

【T】作者是否以表格和圖表「總結」(Total up) 試驗結果？
【H】試驗的結果是否相近 - 異質性 (Heterogeneity)？



Study or Subgroup	Experimental Mean	SD	Total	Control Mean	SD	Total	Weight	Mean Difference IV, Random, 95% CI
Li et al., 2020	6.13	0.82	33	5.61	0.69	33	26.7%	0.52 [0.15, 0.89]
Ren and Wu, 2015	5.29	1.51	20	4.76	1.1	20	19.0%	0.53 [-0.29, 1.35]
Wang, 2011	4.37	0.86	45	3.84	0.93	44	26.6%	0.53 [0.16, 0.90]
Wang and Li, 2017	5.85	0.8	43	4.33	0.54	42	27.7%	1.52 [1.23, 1.81]
Total (95% CI)			141			139	100.0%	0.80 [0.20, 1.40]

Heterogeneity: $Tau^2 = 0.31$; $Chi^2 = 26.10$, df = 3 ($P < 0.00001$); $I^2 = 89\%$

Test for overall effect: $Z = 2.63$ ($P = 0.009$)

Mean Difference IV, Random, 95% CI

-2 -1 0 1 2

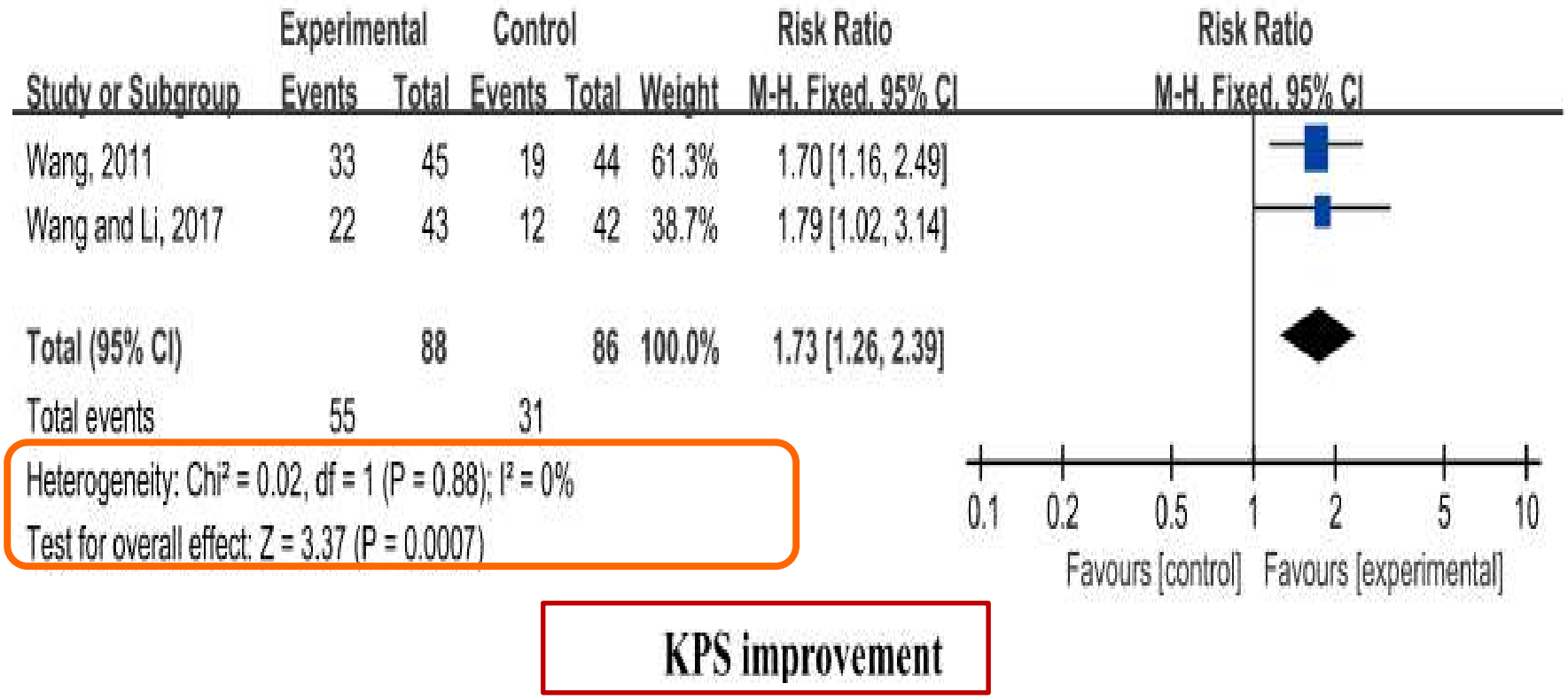
Favours [control] Favours [experimental]

WBC counts

FIGURE 4 | Forest plots of CHM + chemotherapy vs. WM + chemotherapy.

Appraisal FAITH步驟 2：系統性文獻回顧的品質如何 (T-H)

【T】作者是否以表格和圖表「總結」(Total up) 試驗結果？
【H】試驗的結果是否相近 - 異質性 (Heterogeneity)？



Study or Subgroup	Experimental Events	Experimental Total	Control Events	Control Total	Weight	Risk Ratio M-H, Fixed, 95% CI
Wang, 2011	33	45	19	44	61.3%	1.70 [1.16, 2.49]
Wang and Li, 2017	22	43	12	42	38.7%	1.79 [1.02, 3.14]
Total (95% CI)		88		86	100.0%	1.73 [1.26, 2.39]
Total events	55		31			

Heterogeneity: $Chi^2 = 0.02$, $df = 1$ ($P = 0.88$); $I^2 = 0\%$

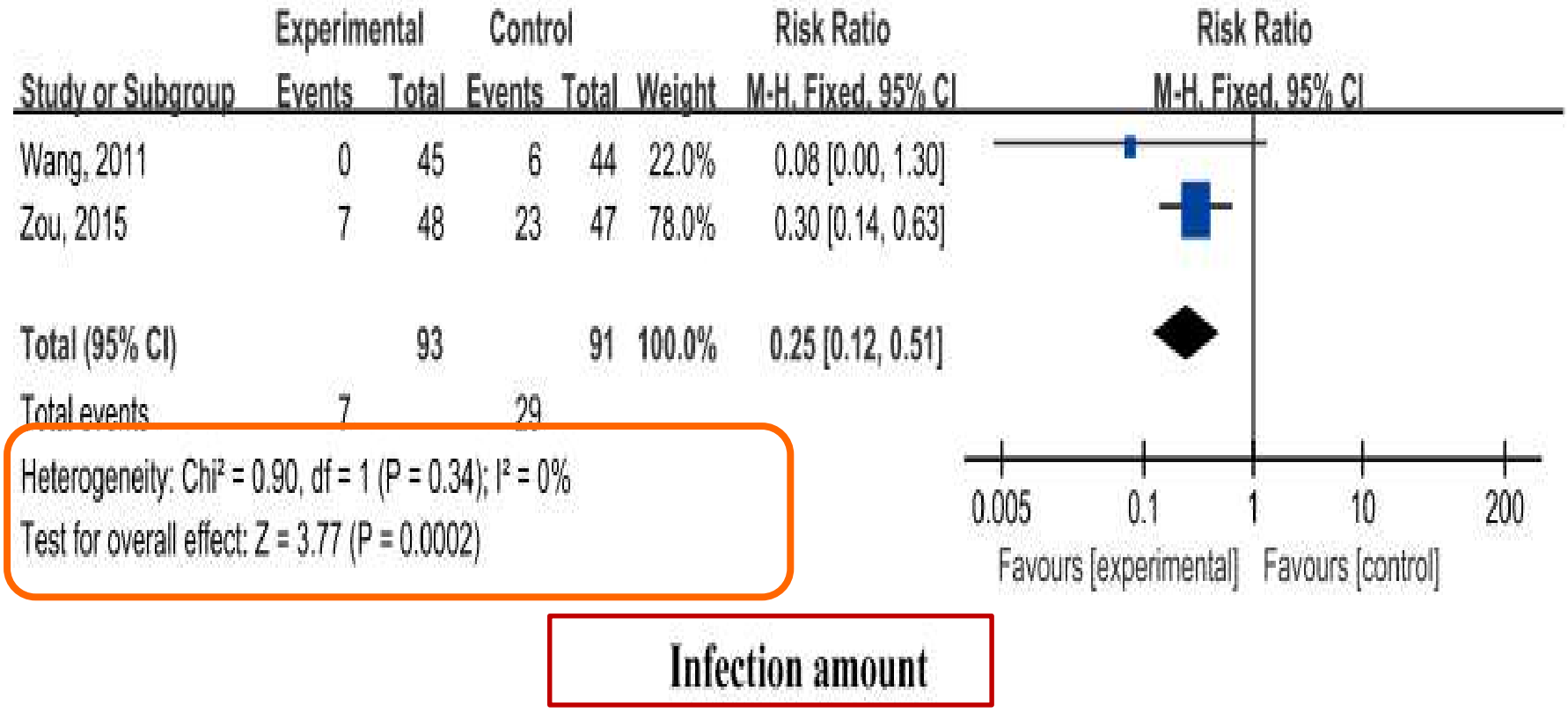
Test for overall effect: $Z = 3.37$ ($P = 0.0007$)

KPS improvement

FIGURE 4 | Forest plots of CHM + chemotherapy vs. WM + chemotherapy.

Appraisal FAITH步驟 2：系統性文獻回顧的品質如何 (T-H)

【T】作者是否以表格和圖表「總結」(Total up) 試驗結果？
【H】試驗的結果是否相近 - 異質性 (Heterogeneity)？

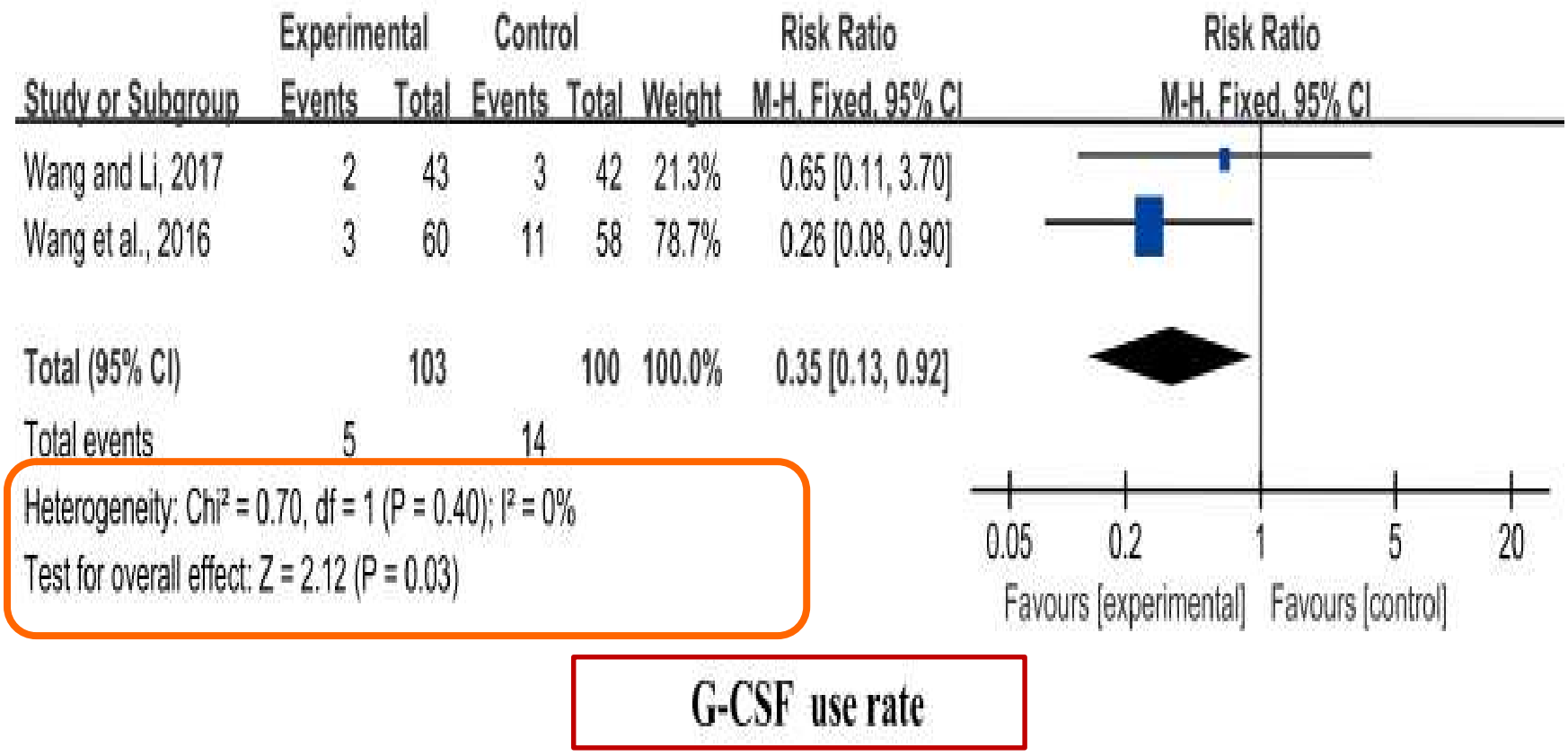


Infection amount

FIGURE 4 | Forest plots of CHM + chemotherapy vs. WM + chemotherapy.

Appraisal FAITH步驟 2：系統性文獻回顧的品質如何 (T-H)

【T】作者是否以表格和圖表「總結」(Total up) 試驗結果？
【H】試驗的結果是否相近 - 異質性 (Heterogeneity)？

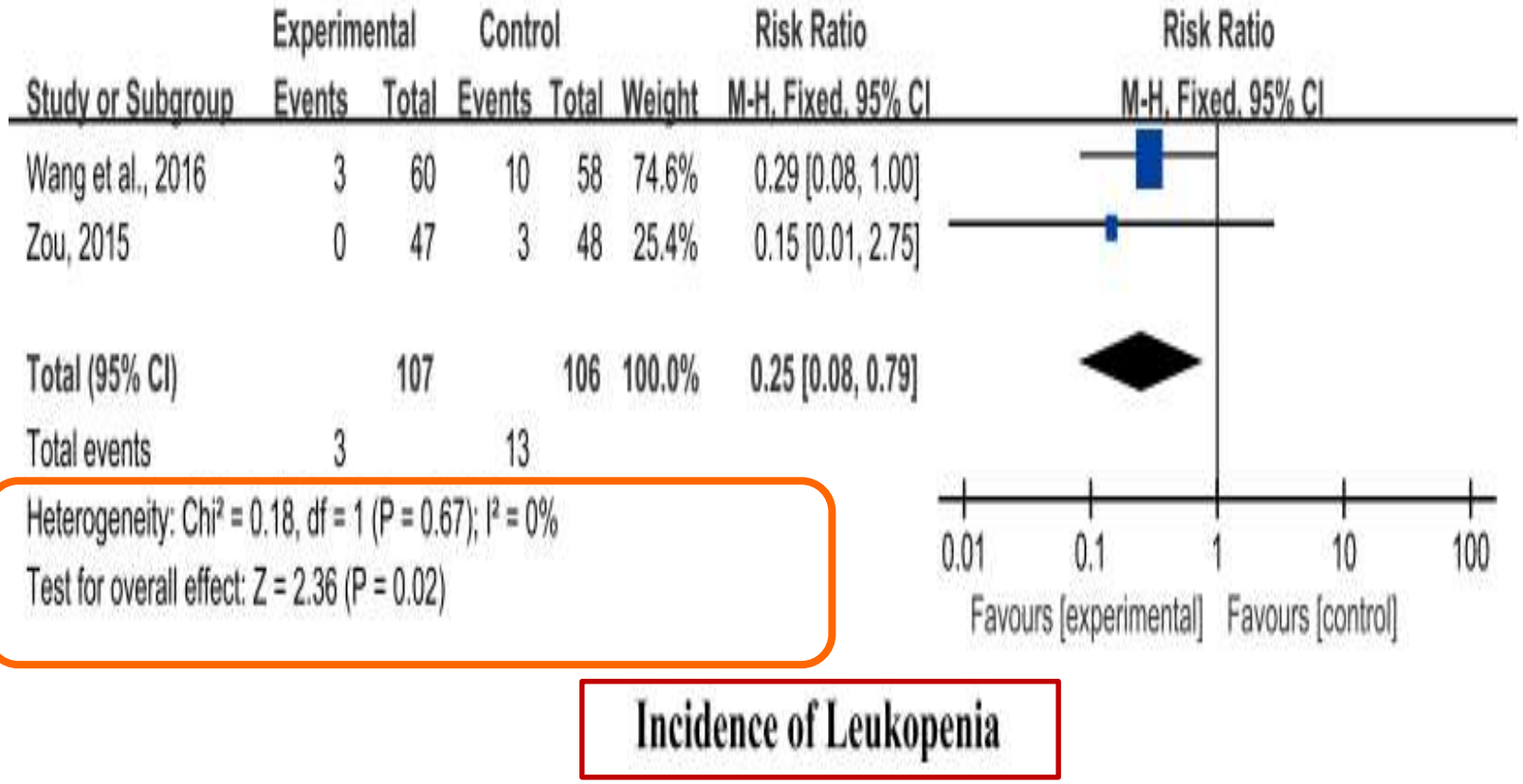


G-CSF use rate

FIGURE 4 | Forest plots of CHM + chemotherapy vs. WM + chemotherapy.

Appraisal FAITH步驟 2：系統性文獻回顧的品質如何 (T-H)

【T】作者是否以表格和圖表「總結」(Total up) 試驗結果？
【H】試驗的結果是否相近 - 異質性 (Heterogeneity)？



Incidence of Leukopenia

FIGURE 4 | Forest plots of CHM + chemotherapy vs. WM + chemotherapy.

評讀結果：●是 ○否○不清楚

總結

系統性文獻回顧的品質	評讀結果
研究是否找到(Find) 所有的相關證據？	是
文獻是否經過嚴格評讀(Appraisal)？	是
是否只納入(Included)具良好效度?	是
作者是否以表格和圖表「總結」(Total up) 試驗結果？	是
試驗的結果是否相近 - 異質性(Heterogeneity)？	是

Appraisal sheets(FAITH)

- Appraisal Tool
  - [統合分析 Meta-analysis]
    - 步驟1：研究探討的問題為何 (PICO)
    - 步驟2：研究的品質如何 (內在效度)
    - **步驟3：研究結果之意義為何 (效益)**

結論

- CHM in combination with chemotherapy could improve clinical symptoms of CIL when compared with chemotherapy alone or Western medicine + chemotherapy, except when comparing with PBO + chemotherapy.

- While CHMs were generally safe and exerted no severe side effects in all 14 RCTs, larger sample sizes and high-quality RCTs are required to reduce study heterogeneity.

限制

- 檢索文獻中文居多，有潛在選擇偏差。
- 因中藥湯味道不同，難進行充分盲法。

謝謝聆聽
敬請指教

問題

中藥輔助療法能成為化療引起之白血球低下症的另一種治療選擇嗎？

- 同意：8
- 待評估：11
- 不同意：1