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腹部手術後喝咖啡是否能促進腸蠕動？

報告日期:2022/03/22

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單位:9A病房



Introduction -1

手術後腸阻塞 (postoperative ileus, POI)

是腹部手術後患者常發生的問題,是一種暫時性胃腸道活動功能障礙 (Chen et al., 2019)

- 約有10%~30% 的腹部手術病人會出現 (Venara et al., 2016)
- 主要的症狀包括噁心、嘔吐、腹脹、腹痛、腸蠕動降低、排便困難及無法忍受固體食物,通常發生的時間短暫,若時間長,可能會導致傷口裂開、腸吻合瘻管、腹腔感染、腸缺血壞死、吸入性肺炎、脫水及電解質不平衡(Venara et al., 2016; Wang et al., 2020)
- 延遲術後恢復、延長住院天數及增加醫療費用的支出 (Liu et al., 2017a)



Introduction -3

術後加速康復療程 (enhanced recovery after surgery, **ERAS**)

這是一種**新醫療觀念**，從術前優化體能、術中麻醉到術後恢復，全程提供完整照護。



Introduction -4

Diagnosis S-Colon Cancer s/p LPS AR + Liver Bx
record intake and output Q8H
record drainage amount Q8H
on J-P drain with care QD
ERAS-24hr內進食 術後當天可以Try water 術後第一天On clear liquid diet for 1-2 days 術後第三天On low residual soft diet(若排氣可提早進食)
ERAS-24hr內移除尿管 術後隔天上午7點移除尿管
ERAS-儘早下床 術後當天就可以下床活動, 最遲隔天一早下床
wound change dressing (小)<10cm QD + PRN (術後第3天沒有滲, 可以改用敷料, 3-5天PRN更換)

Post-OP order
ERAS-LC早期下床 術後當天無頭暈即可下床做床邊活動
ERAS-LC早期進食 術後4小時開始try water如無腹脹不適,可on low fat <50gm soft diet
wound change dressing (小)<10cm 1 QD + PRN
■Norm-Saline 500ml /bag (NS) [0.9% sodium chloride] 健 1.00Bag ASORDER IVD For

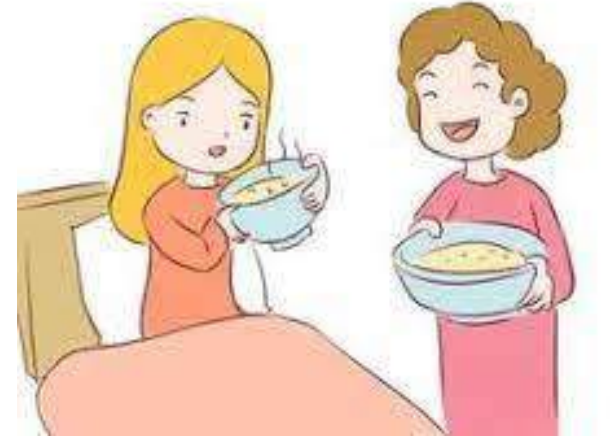
ERAS-CS 儘早下床 術後當天無頭暈即可下床做床邊活動
ERAS-CS 4hrs內進食 術後4hrs開始sip water, 如無腹脹不適,on liquid-->soft-->then as tolerate
ERAS-CS 24hrs內移除尿管 術後 24hrs依醫囑移除尿管



Introduction -2

手術後腸阻塞 (POI) 的預防

早期進食



可以**增加副交感神經**對於胃腸道的刺激,促進術後胃腸道功能恢復;早期進食相對地減少靜脈注射液體,可以減少腸道水腫的機率,進而**降低術後發生 POI 的機率** (Venaraet al., 2016)





Systematic Review

Effect of Postoperative Coffee Consumption on Postoperative Ileus after Abdominal Surgery: An Updated Systematic Review and Meta-Analysis

Jun Watanabe ^{1,2,*} , Atsushi Miki ¹, Masaru Koizumi ¹ , Kazuhiko Kotani ² and Naohiro Sata ¹

期刊資訊

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to perform random-effect meta-analysis. The quality of evidence was assessed using the Cochrane risk-of-bias tool. Caffeinated and decaffeinated coffee were also compared. Results: Thirteen trials (1246 patients) and nine ongoing trials were included. Of the 13 trials, 6 were on colorectal surgery, 5 on caesarean section, and 2 on gynecological surgery. Coffee reduced the time to first defecation (mean difference (MD) -10.1 min; 95% confidence interval (CI) $= -14.5$ to -5.6), POI (risk ratio 0.42; 95% CI $= 0.26$ to 0.69); and LOS (MD -1.5 ; 95% CI $= -2.7$ to -0.3). This trend was similar in colorectal and gynecological surgeries. Coffee had no adverse effects. There was no difference in POI or LOS between caffeinated and decaffeinated coffee ($p > 0.05$). The certainty of evidence was low to moderate. Conclusion: This review showed that postoperative coffee consumption, regardless of caffeine content, likely reduces POI and LOS after colorectal and gynecological surgery.

咖啡為什麼可以增加腸蠕動？



- 咖啡對術後腸阻塞的機制尚不完全清楚。
- 可能影響的因素咖啡物質中的綠原酸（chlorogenic acid），有抗炎症的作用。活化Ca²⁺通道從肌質網釋放Ca²⁺，抑制環磷酸鳥苷（cyclic guanosine monophosphate），促進一氧化氮在內皮細胞中合成並增強咖啡因誘導的內皮依賴性血管舒張。通過此方式促進術後腸胃功能恢復血管舒張。進而可能會降低術後腸阻塞的情形，或縮短住院天數。

PICO-1

研究族群 / 問題 (Problems) 腹部手術的病人(CRS.CS.GS)	
介入措施 (Intervention)	咖啡
比較 (Comparison)	不含咖啡的飲料 (水.茶.安慰劑)
結果 (Outcomes)	主要 1. 第一次排便時間 2. 縮短住院天數 3. 術後腸阻塞發生率 次要 1. 第一次排氣的時間

目的：欲了解咖啡是否可以降低POI及住院天數

PICO-2

P4

Table 1. The characteristics of the included studies.

Authors [Ref. No.]	Year	Country	No.	Age, Year	Male, %	Surgical	Coffee	Volume, mL	Frequency	Control
Müller [21]	2012	Germany	79	61	56	CRS	Caffeine	100	TDS	Water
Dulskas [22]	2015	Lithuania	90	65	53	CRS	Caffeine, Decaf	100	TDS	Water
Piric [23]	2015	Bosnia and Herzegovina	58	63	59	CRS	Caffeine	100	TDS	Tea
Göymen [24]	2016	Turkey	75	50	0	CS	Decaf	100	TDS	Water, no intervention
Güngördük [25]	2017	Turkey	114	55	0	GS	Caffeine	100	TDS	No intervention
Mohamed [26]	2018	Egypt	210	NR	0	CS	NR	NR	NR	No intervention
Rabiepoor [27]	2018	Iran	100	28	0	CS	Caffeine	100	TDS	Water
Hasler-Gehrer [28]	2019	Switzerland	115	66	51	CRS	Caffeine	150	TDS	Tea
Hayashi [29]	2019	Japan	46	77	26	CRS	Caffeine	100	TDS	Water
Bozkurt Koseoglu [30]	2020	Turkey	113	29	0	CS	Caffeine	100	TDS	No intervention
Güngördük [31]	2020	Turkey	96	60	0	GS	Caffeine	150	TDS	Water
Kanza Gül [32]	2021	Turkey	80	28	0	CS	Decaf	NR	TDS	No intervention
Parnasa [33]	2021	Israel	70	56	50	CRS	Caffeine	50 *	TDS	Placebo



PICO-3

Primary

Effect of Postoperative Coffee Consumption after Abdominal Surgery

P4

Patient: Adults after Abdominal Surgery; Setting: In-Patients; Intervention: Coffee; Comparison: Control

Outcomes	Anticipated Absolute Effects * (95% CI)		Relative Effect (95% CI)	Patient Number (Studies)	Certainty of the Evidence (GRADE)	Comments
	Risk with control	Risk with coffee				
Time to first defecation	The median time was 42 h.	MD -10 h (-14 to -5.6)	-	1209 (13 RCTs)	Moderate ^a	Coffee reduced the time to first defecation.
Length of hospital stay	The median stay was 6 days.	MD -1.5 days (-2.7 to -0.3)	-	905 (9 RCTs)	Low ^{a,b}	Coffee reduced the length of hospital stay.
Postoperative ileus	165 per 1000.	69 per 1000 (43 to 114)	RR 0.42 (0.26 to 0.69)	913 (8 RCTs)	Low ^{a,b}	Coffee reduced postoperative ileus.

Secondary

Effect of Postoperative Coffee Consumption after Abdominal Surgery

P5

Patient: Adults after Abdominal Surgery; Setting: In-Patients; Intervention: Coffee; Comparison: Control

Outcomes	Anticipated Absolute Effects * (95% CI)		Relative Effect (95% CI)	Patient Number (Studies)	Certainty of the Evidence (GRADE)	Comments
	Risk with control	Risk with coffee				
Time to first flatus	The median time was 30 h.	MD -4.3 h (-8.5 to -0.07)	-	1113 (12 RCT)	Low ^{a,b}	Coffee reduced the time to first flatus.
Time to first bowel sound	The median time was 10 h.	MD -4.3 h (-7.1 to -1.5)	-	683 (6 RCTs)	Very low ^{a,b,c}	Coffee reduced the time to first bowel sound.
Time to tolerance of solid food	The median time was 48 h.	MD -9.9 h (-14 to -5.9)	-	833 (8 RCTs)	Low ^{a,b}	Coffee reduced the time to first tolerance of solid food.



outcome-1

P6

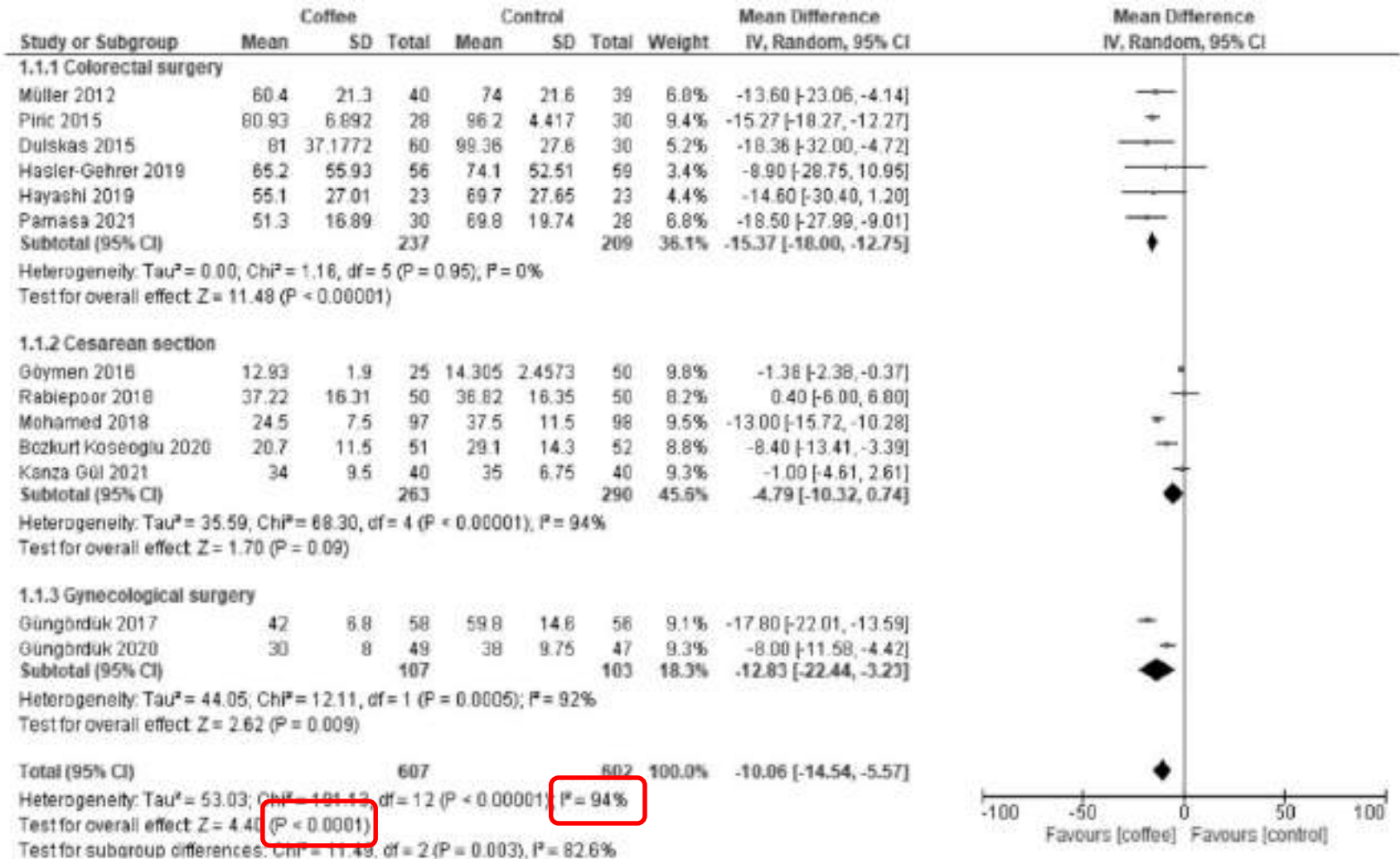


Figure 2. Forest plot of the time to first defecation.

outcome-2

P6

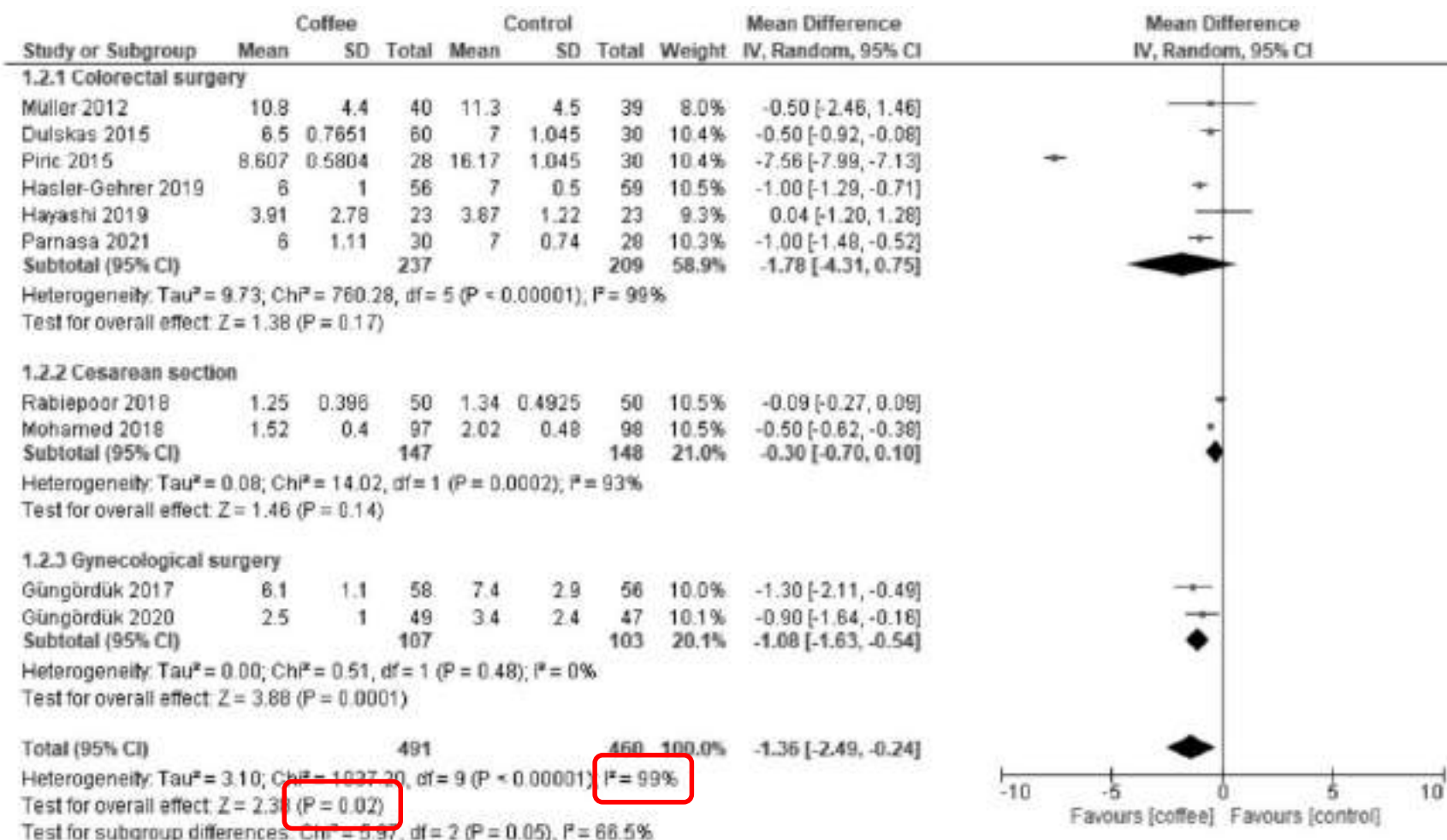


Figure 3. Forest plot of the length of hospital stay.

outcome-3

P6

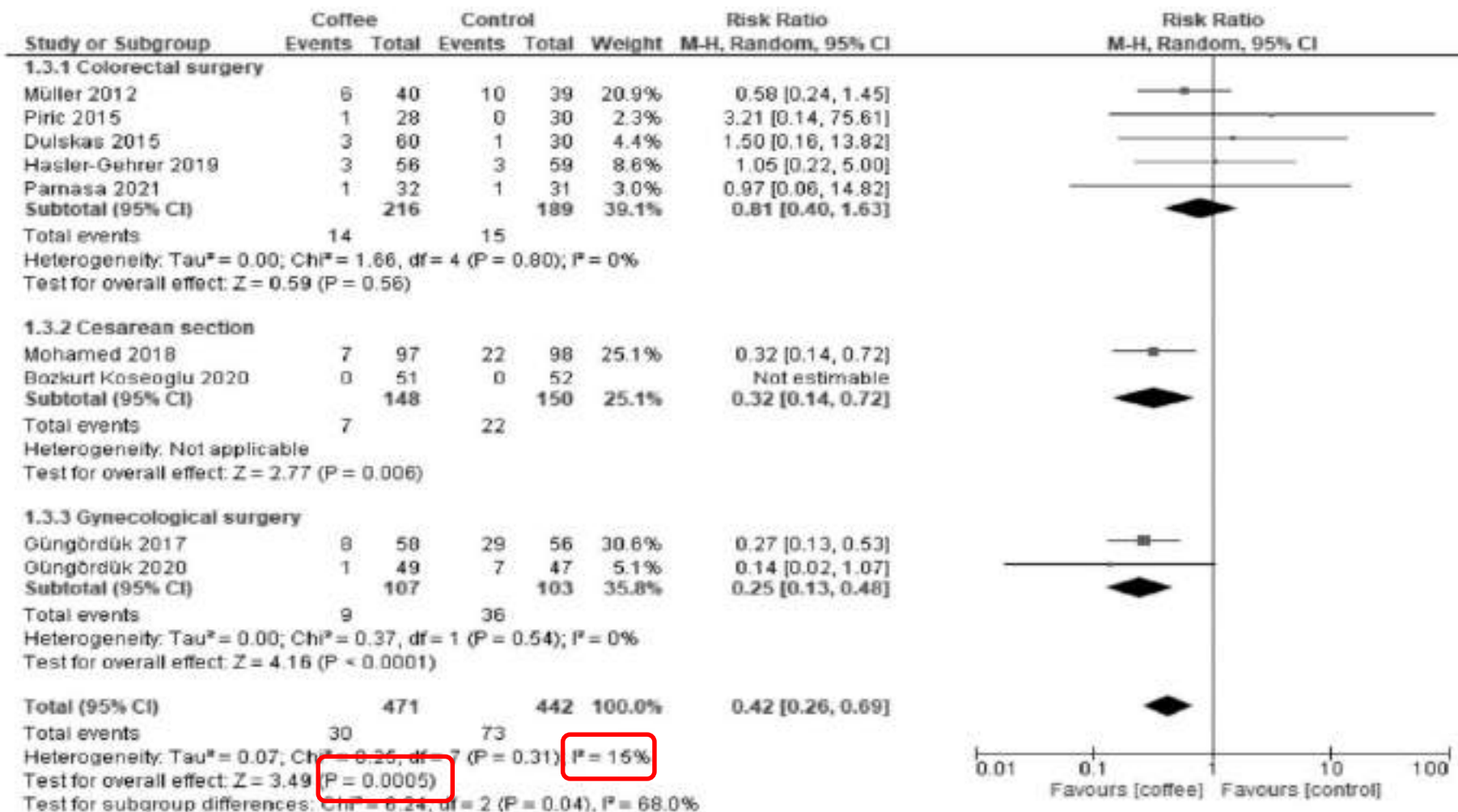


Figure 4. Forest plot of postoperative ileus.

outcome-4

P15

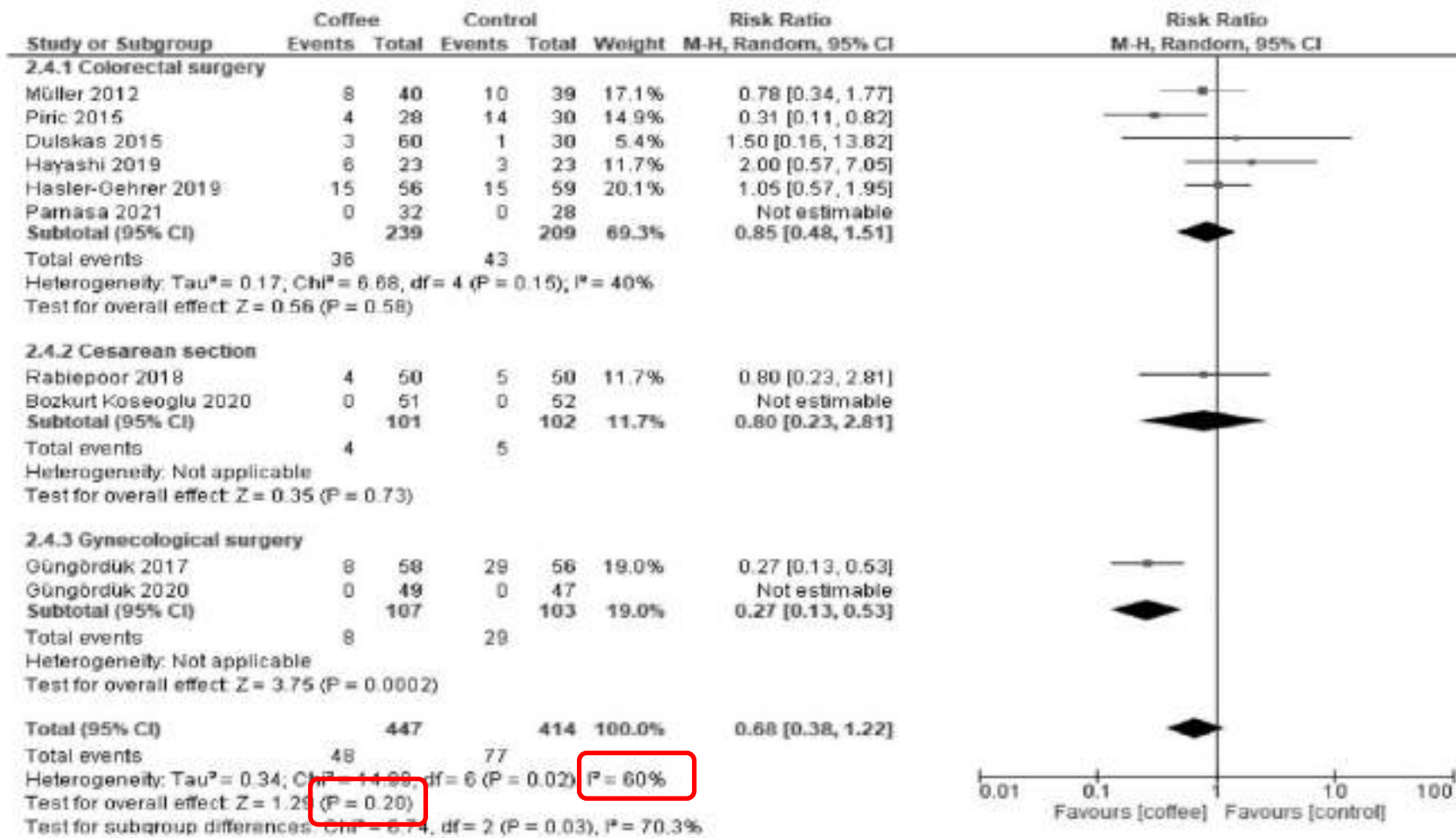


Figure A4. Forest plot of complications/adverse events.

outcome-5

P18

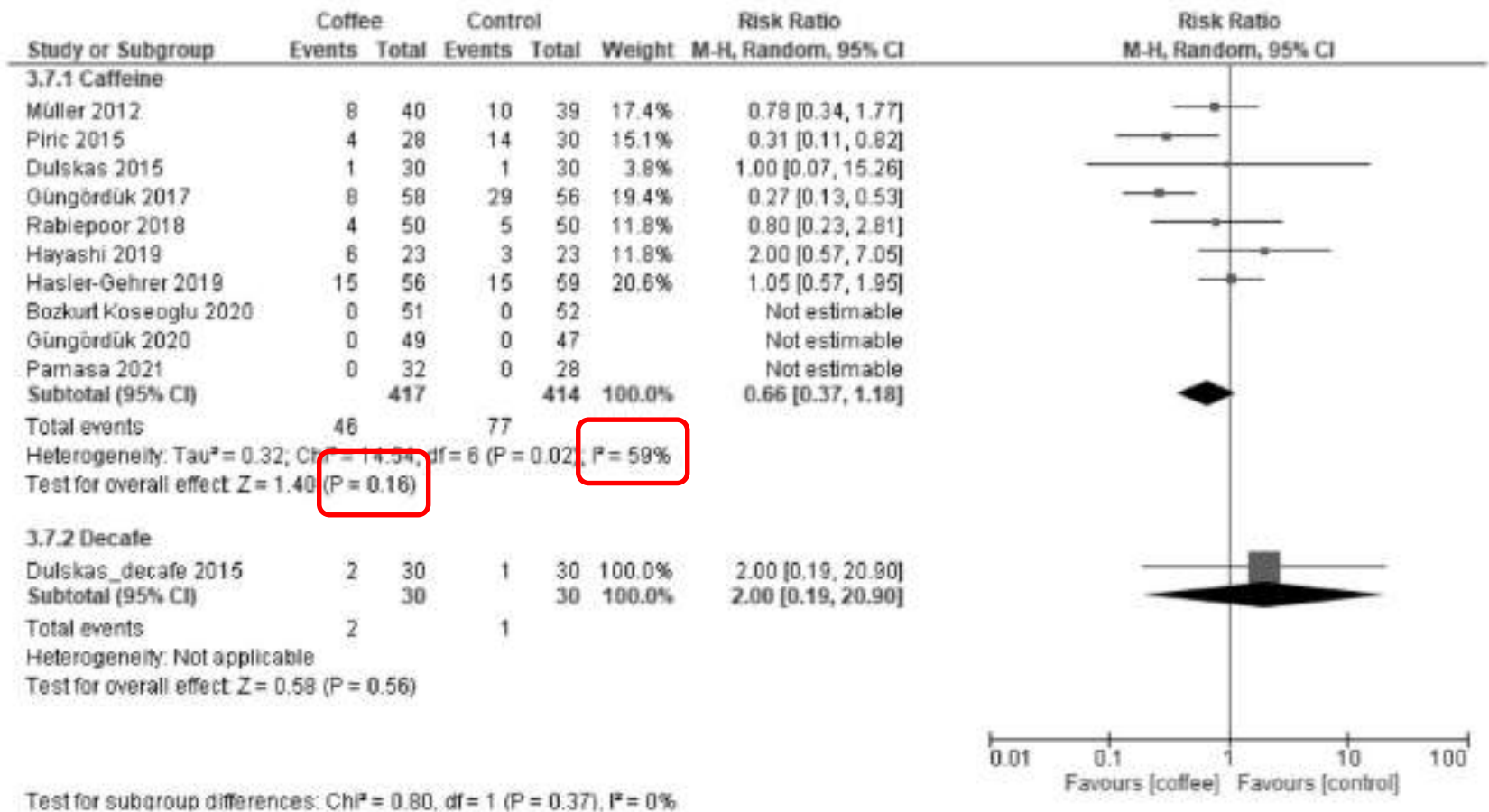


Figure A11. Forest plot of complications/adverse events by coffee types (caffeinated or decaffeinated coffee).

Limitation



咖啡的劑量沒有明確建議

- 納入研究中：100-150ml、每天3次、每次10-20分鐘。

納入本研究收案對象的特性

- 尚未明確提及平日是否有喝咖啡的習慣。

研究結論可能無法推估到所有人

- 咖啡豆的種類、烘培方式、沖泡的方法會影響結果。



評讀工具-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)。

A-文獻是否經過嚴格評讀(Appraisal)?

應根據不同臨床問題的文章類型, 選擇適合的評讀工具, 並說明每篇研究的品質(如針對治療型的臨床問題, 選用隨機分配、盲法、及完整追蹤的研究類型)。

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。

T-作者是否以表格和圖表「總結」(Total up) 試驗結果?

應該用至少 1 個摘要表格呈現所納入的試驗結果。若結果相近, 可針對結果進行統合分析(meta-analysis), 並以「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。



步驟1 研究探討的問題為何？



步驟1 研究探討的問題為何？

腹部手術後喝咖啡是否能促進腸蠕動？

研究族群 / 問題 (Problems)	腹部手術的病人
介入措施 (Intervention)	咖啡
比較 (Comparison)	不含咖啡的飲料 (水.茶)
結果 (Outcomes)	主要 1. 第一次排便時間 2. 縮短住院天數 3. 術後腸阻塞發生率 次要 1. 第一次排氣的時間 2. 第一次腸蠕動音的時間 3. 可吃固體食物的時間





步驟2 系統性文獻回顧的品質如何? (FAITH)



步驟2 系統性文獻回顧的品質如何？

Find-良好的文獻搜尋至少應包括二個主要的資料庫，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)。

2.3. Search Method

P2

The following electronic databases and trial registries were searched: MEDLINE (PubMed), Cochrane Central Register of Controlled Trials (Cochrane Library), EMBASE (Dialog) (Appendix B), the World Health Organization International Clinical Trials Platform Search Portal (ICTRP), and ClinicalTrials.gov (Appendix C). The reference lists were checked for studies, including international guidelines [10,11], as well as reference lists of eligible studies and articles citing eligible studies. The authors of the original studies were asked for unpublished or additional data if necessary.

2.2. Inclusion Criteria

Randomized controlled trials (RCTs) that assessed the effect of postoperative coffee consumption after abdominal surgery were included. No language, country, observation period, or publication year restrictions were applied. Review articles, case series, and case reports were excluded. The intervention of interest was postoperative 100–150 mL coffee consumption, three times per day, for 10–20 min. The control group consumed water, tea,

Appendix B. Search Strategy for Electronic Databases

P12

MEDLINE (PubMed) search strategy

#1. ("coffee"[Mesh] OR "coffee"[tiab]) OR ("caffeine"[Mesh] OR "caffeine"[tiab])

#2. ("abdomen"[Mesh] OR "abdomen"[tiab] OR "abdominal"[tiab]) OR ("surgical procedures, operative"[Mesh] OR "surgical" OR "producer" OR "operation" OR "operative")

#3. #1 AND #2

#4. (randomized controlled trial [pt] OR controlled clinical trial [pt] OR randomized [tiab] OR drug therapy[sh] OR placebo [tiab] OR randomly[tiab] OR trial[tiab] OR groups[tiab]) NOT (animals [mh] NOT humans [mh])

#5. #3 AND #4

CENTRAL (Cochrane Library) search strategy

([mh coffee] OR coffee:ti,ab OR ([mh caffeine] OR caffeine:ti,ab)) AND ([mh abdomen] OR abdomen:ti,ab OR abdominal:ti,ab OR ([mh "surgical procedures, operative"] OR surgical OR producer OR operation OR operative))

EMBASE (Dialog) search strategy

S1 (EMB.EXACT.EXPLODE("coffee") OR (ab("coffee") OR ti("coffee"))) OR EMB.EXACT.EXPLODE("caffeine") OR (ab("caffeine") OR ti("caffeine")))

S2 EMB.EXACT.EXPLODE("abdomen") OR (ab("abdomen") OR ti("abdomen")) OR (ab("abdominal") OR ti("abdominal")) OR (EMB.EXACT.EXPLODE("abdominal surgery") OR (ab("surgical") OR ti("surgical"))) OR (ab("producer") OR ti("producer")) OR (ab("operation") OR ti("operation")) OR (ab("operative") OR ti("operative"))

S3 S1 AND S2

S4 (ab(random*) OR ti(random*)) OR (ab(placebo*) OR ti(placebo*)) OR (ab(double NEAR/1 blind*) OR ti(double NEAR/1 blind*))

S5 S3 AND S4

Appendix C. Search Strategy for Clinical Trial Registries

ICTRP search strategy

(Coffee OR Caffeine) AND (abdomen OR abdominal OR surgical OR producer OR operation OR operative)

ClinicalTrials.gov search strategy

Condition or disease: (abdomen OR abdominal OR surgical OR producer OR operation OR operative)
Intervention: (coffee OR caffeine)

評讀結果： ☐ 是 ☐ 否 ☐ 不清楚



步驟2 系統性文現回顧的品質如何?

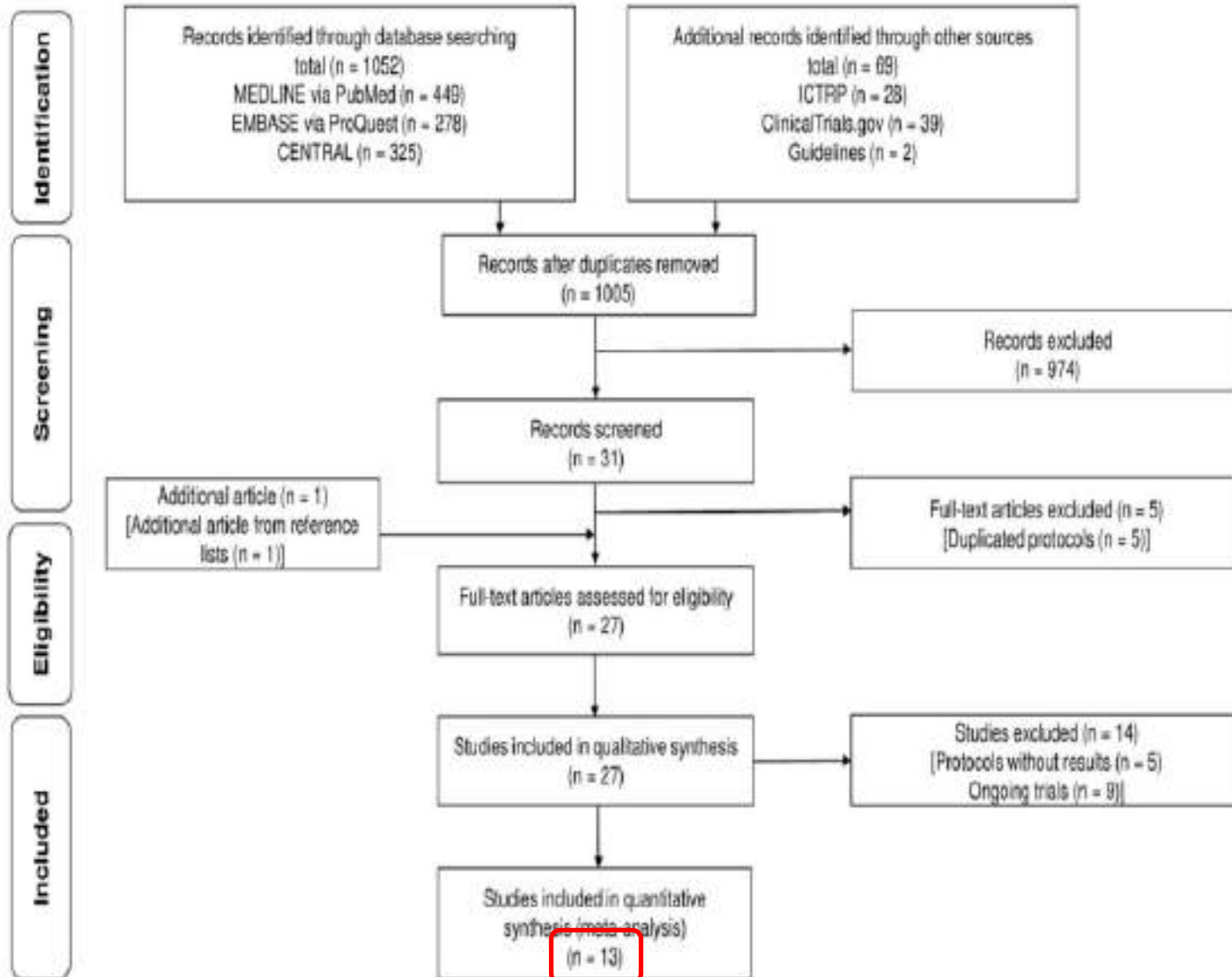


Figure 1. Flow of the study search process.

A - 文獻是否經過嚴格評(Appraisal) ?

應根據不同臨床問題的文章類型，選擇適合的評讀工具，並說明每篇研究的品質(如針對治療型的臨床問題，選用隨機分配、盲法、及完整追蹤的研究類型)

P2

Two independent reviewers (J.W. and A.M.) performed screening, data extraction, and assessment of the risk of bias using the Risk of Bias 2 tool [17] and assessed the quality of evidence based on the Grading of Recommendations Assessment, Development and Evaluation (GRADE) approach [18]. Disagreements between the two reviewers were discussed, and if necessary, a third reviewer (K.K.) was consulted.

評讀結果： ☒ 是 ☐ 否 ☐ 不清楚



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

P4

Table 2. Risk of bias for the eligibility studies for the time to first defecation.

Authors [Ref. No.]	Risk of Bias 2 Tool Assessment					Overall Risk of Bias
	Bias Arising from the Randomization Process	Bias Due to Deviations from Intended Interventions	Bias Due to Missing Outcome Data	Bias in the Measurement of the Outcome	Bias in the Selection of the Reported Results	
Müller [21]	Low	Some concerns	Some concerns	Some concerns	Some concerns	Some concerns
Dulskas [22]	Some concerns	Some concerns	Some concerns	Some concerns	Some concerns	Some concerns
Piric [23]	Some concerns	Some concerns	Some concerns	Some concerns	Some concerns	Some concerns
Göymen [24]	Some concerns	Low	Low	Some concerns	Some concerns	Some concerns
Güngördük [25]	Some concerns	Low	Low	Some concerns	High	High
Mohamed [26]	Some concerns	High	High	Some concerns	Some concerns	High
Rabiepoor [27]	Some concerns	Low	Low	Some concerns	Some concerns	Some concerns
Hasler-Gehrer [28]	Low	Some concerns	Some concerns	Some concerns	Low	Some concerns
Hayashi [29]	Low	Low	Low	Some concerns	Low	Some concerns
Bozkurt Koseoglu [30]	Low	Some concerns	Some concerns	Some concerns	Low	Some concerns
Güngördük [31]	Low	Some concerns	Some concerns	Some concerns	Low	Some concerns
Kanza Gül [32]	Low	Low	Low	Some concerns	Some concerns	Some concerns
Parnasa [33]	Low	Some concerns	Some concerns	Some concerns	Low	Some concerns

評讀結果：□是 ■否 不清楚

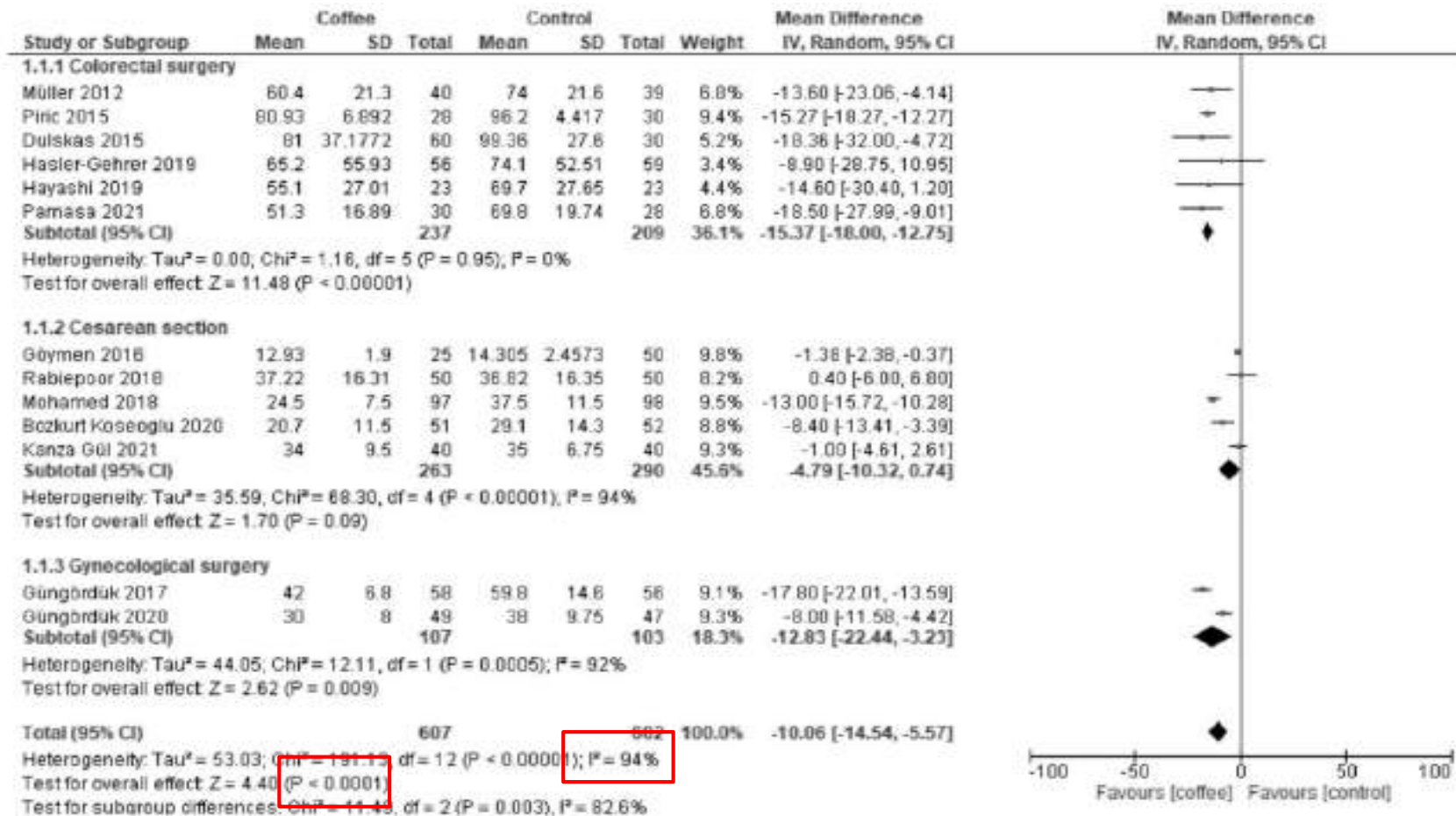


T - 作者是否以表格和圖表「總結」(total up)試驗結果？

應該用至少 1 個摘要表格呈現所納入的試驗結果。若結果相近，可針對結果進行統合分析(meta-analysis)，並以「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。



P5

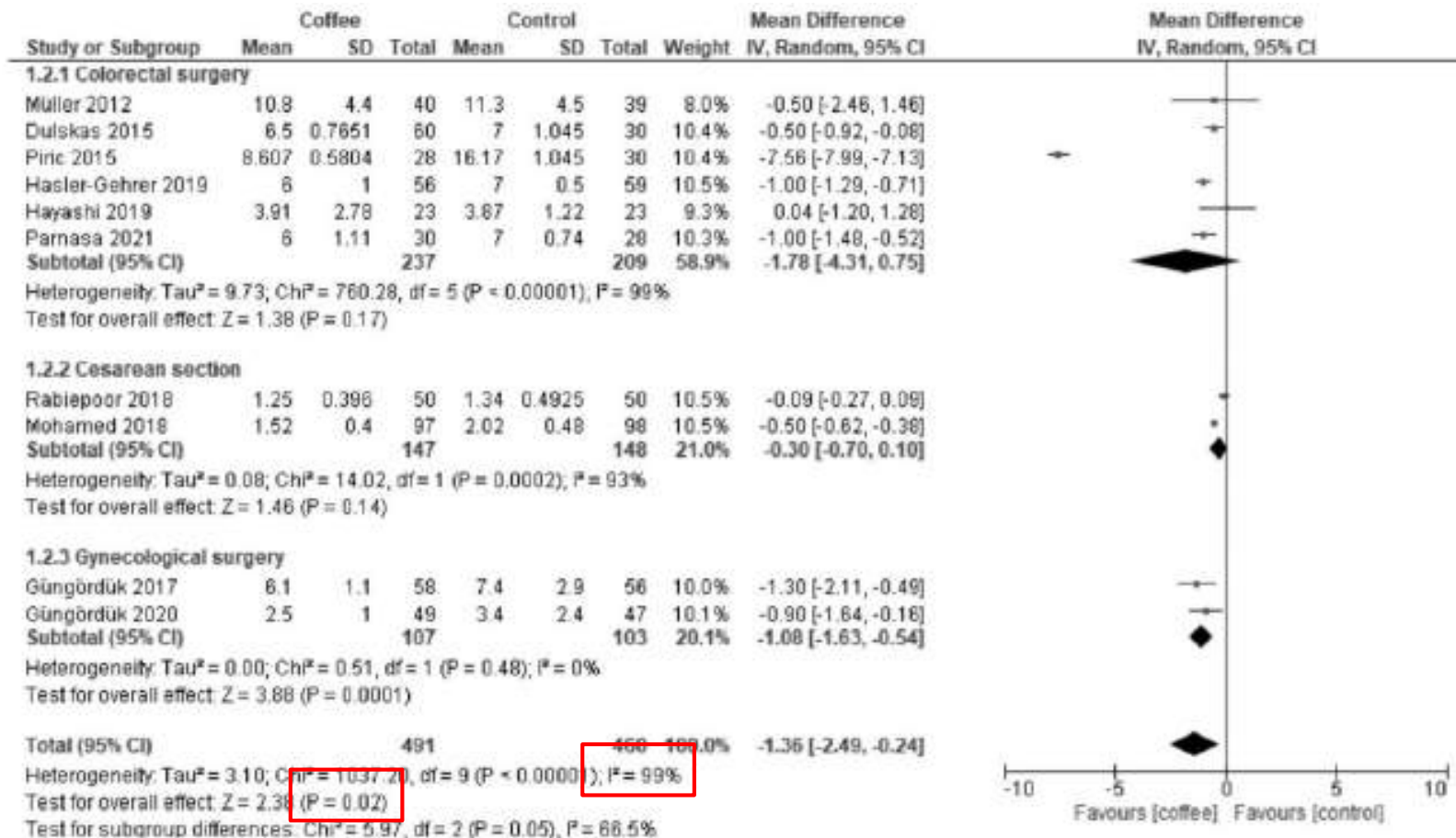
Figure 2. Forest plot of the time to first defecation.

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P6

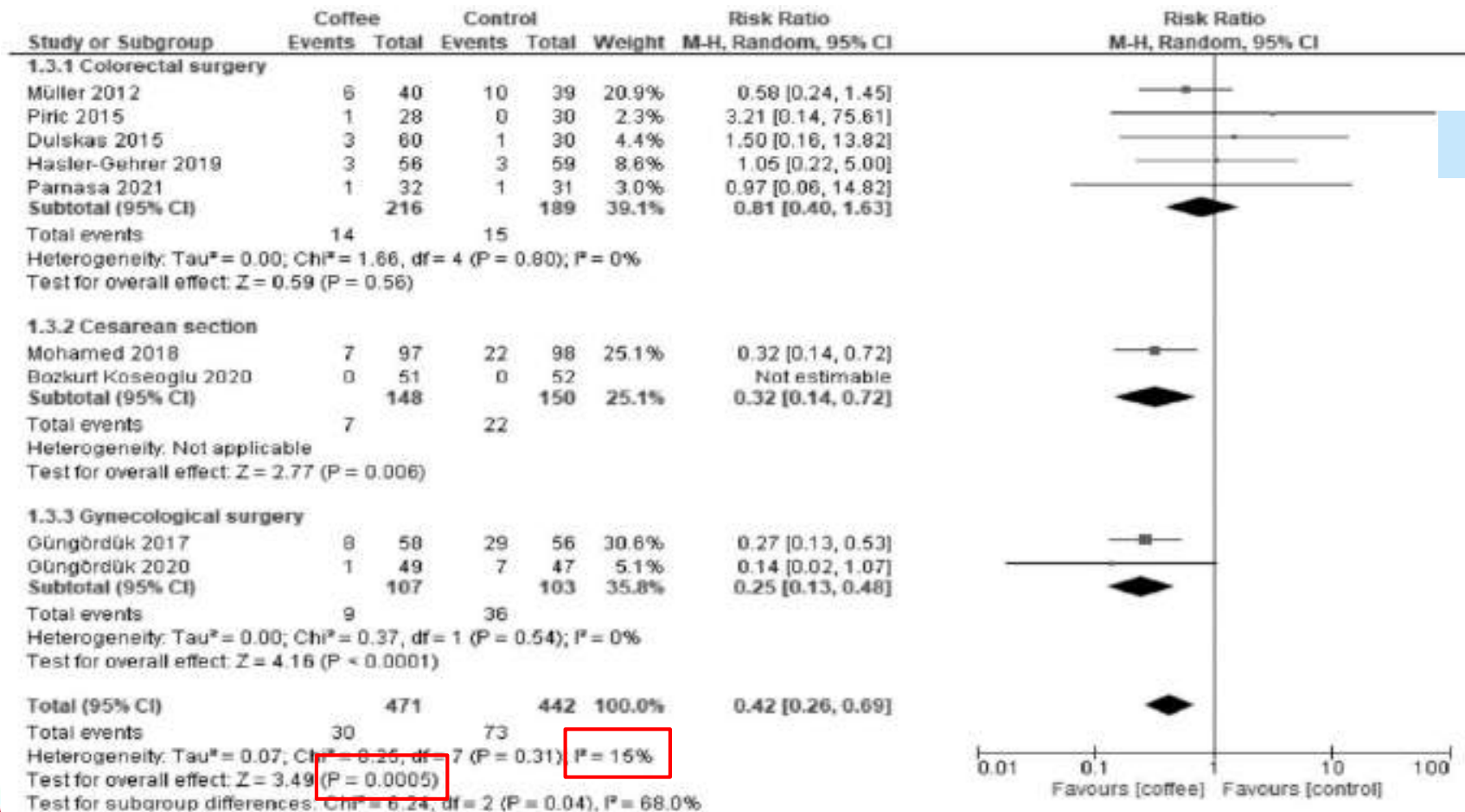
Figure 3. Forest plot of the length of hospital stay.

T - 作者是否以表格和圖表「總結」(total up)試驗結果？

應該用至少 1 個摘要表格呈現所納入的試驗結果。若結果相近，可針對結果進行統合分析(meta-analysis)，並以「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。



P6

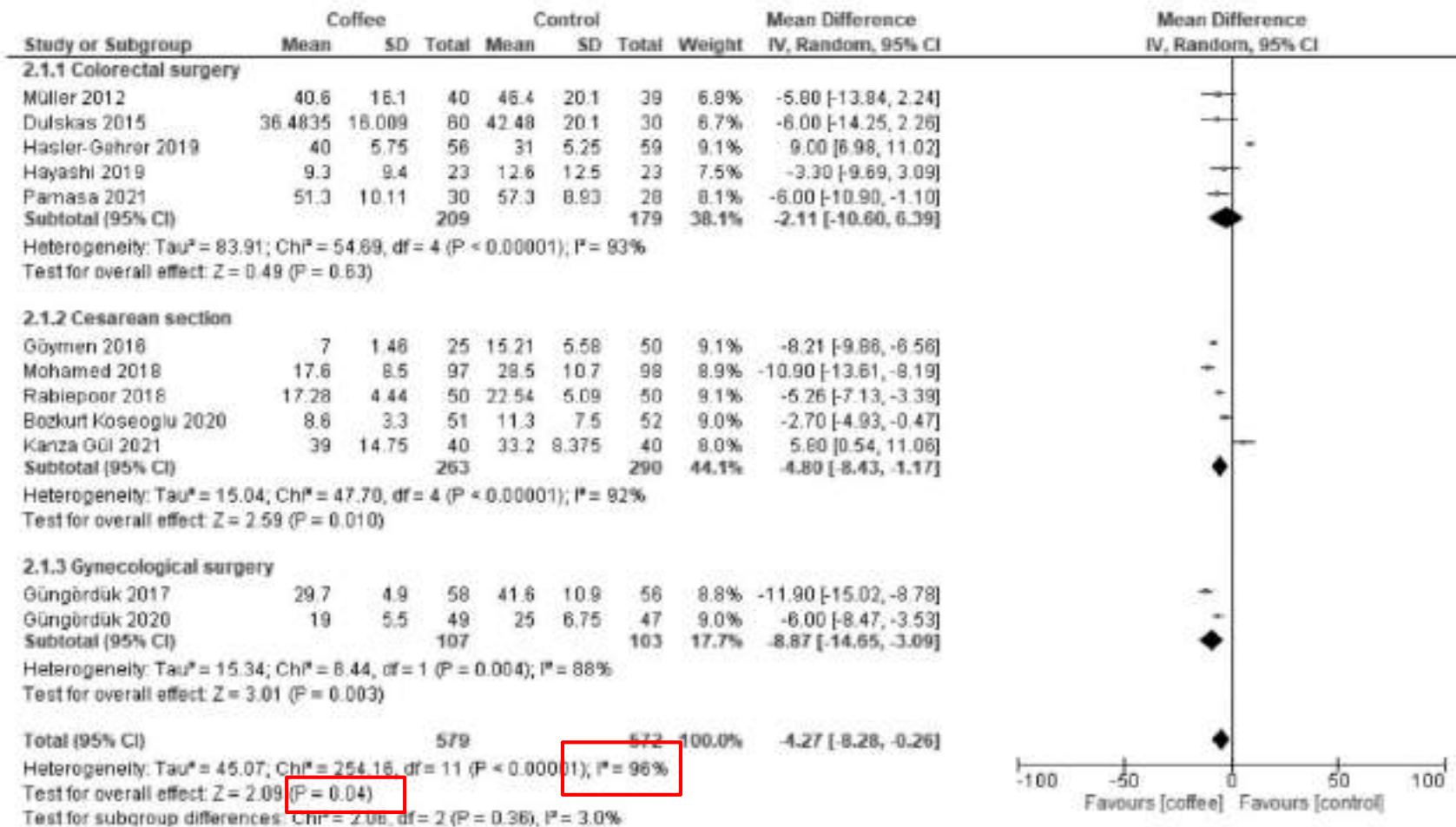
Figure 4. Forest plot of postoperative ileus.

T - 作者是否以表格和圖表「總結」(total up)試驗結果？

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P13

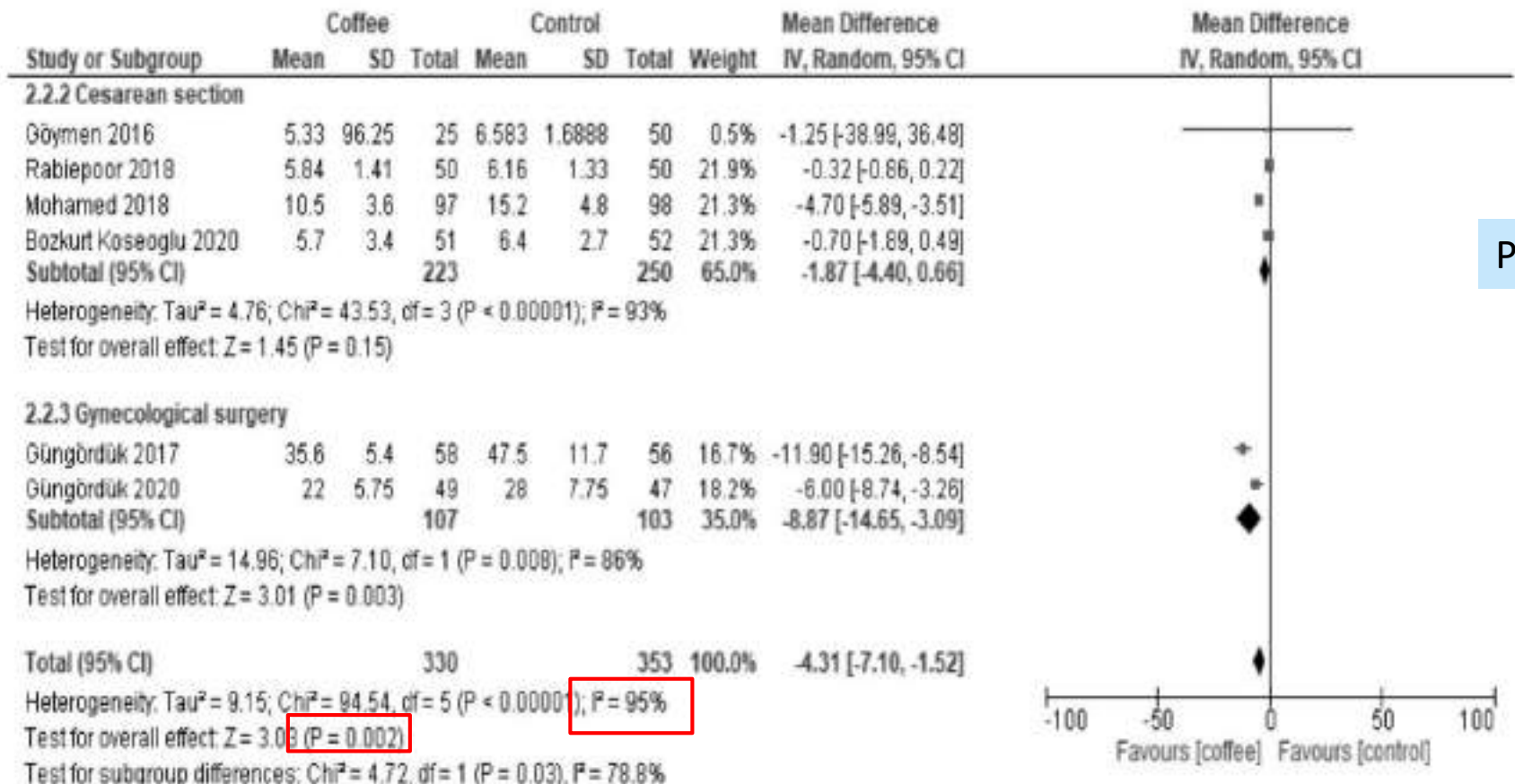
Figure A1. Forest plot of the time to first flatus.

T - 作者是否以表格和圖表「總結」(total up)試驗結果？

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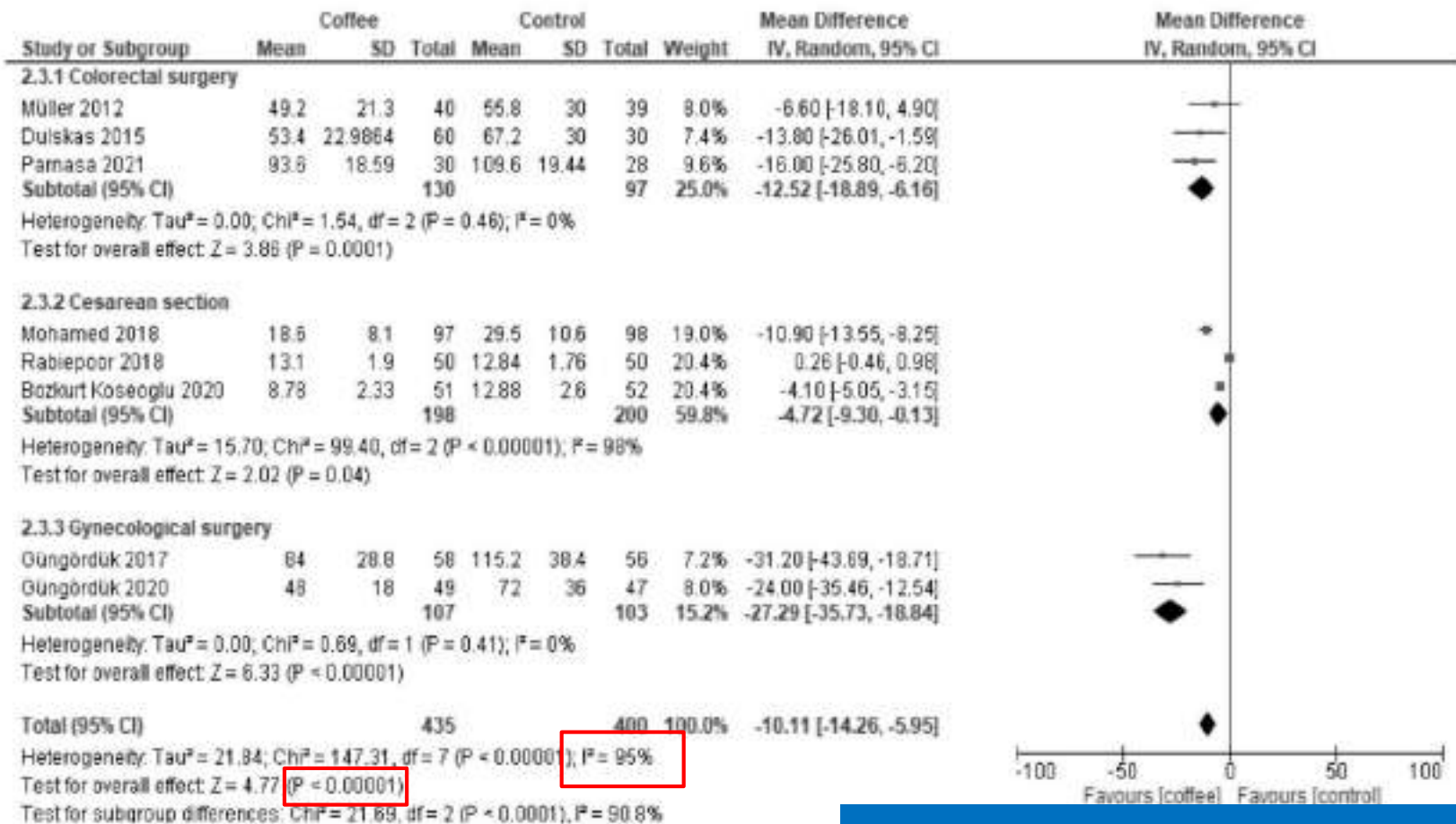
P14

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P14

評讀結果： ☒ 是 ☐ 否 ☐ 不清楚



FAITH總結

項目	評讀結果
F-研究是否找到 (Find) 所有的相關證據？	是
A-文獻是否經過嚴格評讀 (Appraisal)？	是
I-是否只納入 (Included) 具良好效度的文章？	否
T-作者是否以表格和圖表「總結」 (Total up) 試驗結果？	是
H-試驗的結果是否相近-異質性 (Heterogeneity)？	是

Conclusion

無論咖啡因的含量如何，術後喝咖啡，
可減少直腸和婦科手術後的腸阻塞和
住院天數。



討論時間



討論：是否贊成本院腹部手術後病人喝咖啡，以促進術後康復？

- ■ 同意 6位
- ■ 待評估 16 位
- ■ 不同意3位

