

針灸和穴位按壓能有效降低尿毒症 病人皮膚搔癢的程度嗎

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日期:107年9月4日



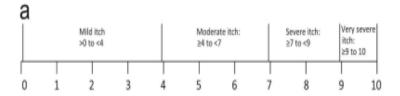
Shapour, B. A., Ravanshad, Y., Azarfar, A., Mehrad-Majd, H., Torabi, S., & Ravanshad, S. (2018). A systematic review and meta-analysis of using acupuncture and acupressure for uremic pruritus. Iranian Journal of Kidney Diseases, 12(2), 78-83.



## Introduction

- Uremic pruritus is a common symptom in patients with end-stage renal disease(ESRD). About 42% of patients reported moderate to severe pruritus.
- Pruritus is an unpleasant sensory and emotional experience associated with an actual or perceived disruption to the skin that produces a desire to scratch.
- Acute pruritus is a daily experience that can usually be abolished by briefly scratching near the area of pruritus. However, chronic pruritus can be debilitating, and local scratching often provides little relief and can instead exacerbate the problem.

#### Visual Analogue Score (VAS)



0表示沒有瘙癢,10 表示非常強烈的瘙癢。

1.	<b>Duration</b> : Dur	ing the las	st 2 weeks, how	w many h	ours a day ha	ve you bee	n itching?
	Less	than 6hrs/o	lay 6-12 hrs/day	12-18 hrs	s/day 18-23	hrs/day	All day
2.	Degree: Pleas	se rate the	intensity of yo	ur itching	over the pas	t 2 weeks	
	N	lot present	Mild 	Modera 	ate Se	vere	Unbearable
3.	<u>Direction</u> : Ov previous mont		t 2 weeks has	your itchi	ng gotten bet	ter or worse	e compared to the
	C	completely resolved	Much better, bu still present	t Little bit but still p		anged	Getting worse
4.	Disability: Raweeks	ate the imp	pact of your itc	hing on th	-		
	af Sleep	Never fects sleep	Occasionally delays falling asleep	Freque delay falling a	ntly and occurs wakes	lling asleep asionally a s me up night	Delays falling asleep and frequently wakes me up at night
		N/A	affects	Rarely affects is activity	Occasionally affects this activity	Frequently affects this activity	affects
	Leisure/Social		Image: Control of the				
	Housework/ Errands			2	3	4	5
	Work/School			2		4	5
5.	over the last 2 anatomically.	2 weeks. It	a body part is				rts of your body closest
	Head/Scalp	ļ	Soles			H	

5-D Pruritus Scale

根據瘙癢的嚴重程度,頻率和分佈, 以及睡眠時間和夜間醒來,進行瘙癢 評分

Tops of Hands/Fingers

Points of Contact w/ Clothing

Forearms Upper Arms

Chest

Abdomen

## 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)	Uremia pruritus patient
介入措施 (Intervention)	Acupuncture and Acupressure
比較 (Comparison)	medical treatement
結果 (Outcomes)	Reduce the degree of itching

#### 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)。

We searched the **PubMed**, Cochrane Library, Science Direct, Scopus, and Web of Science (updated up to January 2017). Search terms were ' '(acupuncture or acupressure) AND (UP OR mpruritus OR itch OR itching OR chronic renal disease OR chronic renal failure OR chronic kidney disease OR chronic kidney failure OR ESRD OR hemodialysis OR peritoneal dialysis).

We had limitations for translation from Chinese language, so we did not search Chinese databases.



• F-研究是否找到 (Find) 所有的相關證據?

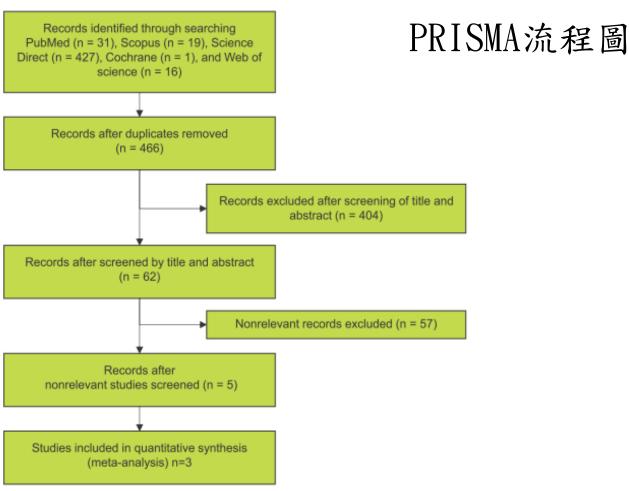


Figure 1. Flow diagram of study selection process.

#### A-文獻是否經過嚴格評讀 (Appraisal)?

#### **Data Extraction and Quality Assessment**

Two independent reviewers extracted data from the articles according to the selection criteria. Disagreements were resolved by discussion between the two reviewers considering the opinion of a 3rd reviewer. The quality of randomized controlled trial studies was assessed using the Jaded score system: (1) randomization (the study was described as randomized), (2) double blinding (participant masking and researcher masking), (3) reporting of the number of dropouts and reasons for withdrawal, (4) allocation concealment, and (5) generation of random numbers (by using computer, random numbers table, shuffled cards, or tossed coins).<sup>7</sup>

The following information were abstracted from each included study: first author and year of publication, design of study, sample size, mean age of patients, intervention regime, follow-up duration, concomitant treatment, tools for assessment pruritus, and outcome measures for each group. All the analyses were based on previously published studies, thus no ethical approval or patient consent was required.

#### Jadad品質評量表

共有5個評讀細項:

- 1. 隨機化
- 2. 雙盲
- 3. 報告退出人數和原因
- 4. 分配隱藏
- 5. 隨機分組序列產 生的方法 符合一項得1分,得 分從0分到5分

Table 1. Characteristics of Published Clinical Trials Included in Systematic Review

	Publication		Sam	ple size	Mear	n Age, y	Intervention	Intervention	Follow-up,	Concomitant	Jaded
Study	Year	Design	Case	Control	Case	Control	Regime Case	Regime Control	mo	Treatment Used for Both Groups	Score
Duo <sup>7</sup>	1987	Cross-over clinical trial	6	3	50.5		Electro acupuncture, 3 times weekly	Superficial electrical stimulation, n = 3	1	Sleeping pills (n = 2)	1

#### Electrical needle therapy of uremic pruritus (1987)

Table 2. Outcomes of Clinical Trials

Study	Publication Year	Assessment Tool	Mean Visual Analogue Scale Score		Intergroup Results	Within Group Results	
	rear		Case	Control			
Duo <sup>y</sup>	1987	Pruritic score scale	***	111	***	Decreased pruritic scores and increased sleeping hours (6 of 6)	

#### RESULTS

Duo7 designed a cross-over study. Electroacupuncture was conducted 3 times a week during a mean of 24.7 days per 1 course of treatment. Three patients received 3 courses of treatment and 2 had 1 course. In all the patients, electro-acupuncture alleviated UP symptoms and improved the number of sleep hours during and after the treatment, whereas superficial electrical stimulation failed to do so.

Table 1. Characteristics of Published Clinical Trials Included in Systematic Review

## Acupuncture in haemodialysis patients at the Quchi (LI11) acupoint for refractory uraemic pruritus (2005)

Che-Yi et al<sup>8</sup> 2005 Randomized 20 20 62.4 63.2 Acupuncture, 1 hour 3 times Sham acupuncture 3 Antihistamines and 2 clinical trial weekly for 4 weeks (penetrating, no acupuncture point)

IG:每週三次,透析時在曲池 穴位(LI11)單側針灸1小時, 持續4週

CG:透析時針對曲池穴2cm外側非穴位處施用針刺(假針灸) 1小時,每週三次,持續4週 Acupuncture in refractory uraemic pruritus

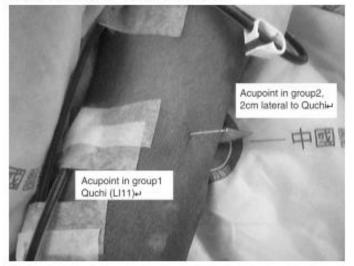


Fig. 1. The location of the Quchi (LII1) acupoint in group 1, and the non-acupoint used in group 2 (control group).

Table 2, Outcomes of Clinical Trials



#### Acupuncture in haemodialysis patients at the Quchi (LI11) acupoint for refractory uraemic pruritus (2005)

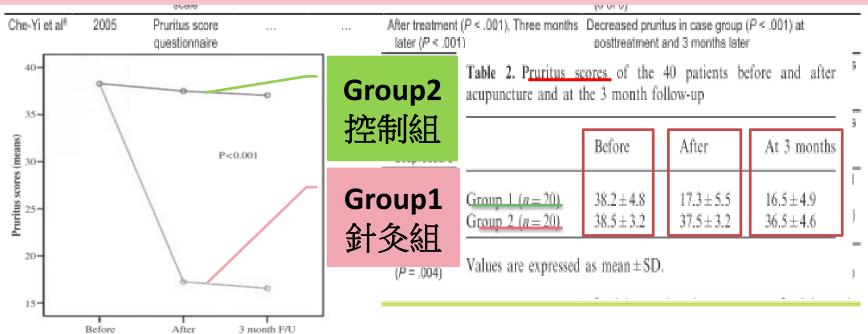


Fig. 2. The plot of mean pruritus scores before and after acupuncture and at the 3 month follow-up in groups 1 and 2.

結論:曲池穴(LI11)針灸是一種簡單、安全,並能有效 緩解尿毒症瘙癢

Table 1. Characteristics of Published Clinical Trials Included in Systematic Review

Study

Publication Year

Design

Sample size

Case Control

Mean Age, y

Case Control

Intervention Regime Case Intervention Regime Control Follow-up, mo Concomitant Treatment Used for Both Groups

Jaded Score

## Effect of Acupressure on Patients in Turkey Receiving Hemodialysis Treatment for Uremic Pruritus (2013)

Akca et al<sup>5</sup>

2013

Nonrandomized clinical trial

40

47.5 44.5

Transcutaneous electrical nerve stimulation, acupressure apparatus, 3 times weekly for 6 week

None

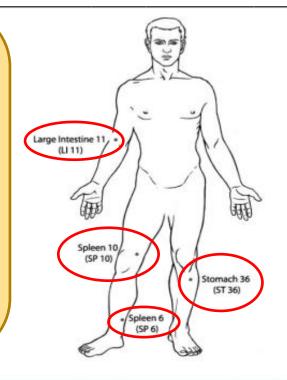
.5

Antihistaminic tablets

ds 1

IG:使用經皮神經電刺激 (TENS)針灸設備,於4個針灸點施予微弱電流刺激,每週3次、持續6週,共18次

CG: 沒有任何治療



Study

ublication Year

Assessment Tool

Mean Visual Analogue Scale Score

Intergroup Results

Within Group Results

## Effect of Acupressure on Patients in Turkey Receiving Hemodialysis Treatment for Uremic Pruritus 2013

Akca et al<sup>5</sup>

2013 Vis

Visual Analogue Scale and a pruritus score 2.66 ± 1.96 4.98 ± 1.69

Follow-up Wk

9 Significant different between case group and control group in visual analogue scale scores at 18 weeks (P < .001)</p> Significant decrease in visual analogue scale and pruritus scores of both case and control groups at 18 weeks (P < .001)

搔癢程度在第六週 顯著下降,且在第

顯者下降,且在**弟** 12、18週顯示穩定 一四八細熱

#### VAS and Pruritus Scores of the Individuals in the Intervention and Control Groups at

Test

	降的趨勢		(First follow-up)	(Second follow-up)	(Third follow-up)			Wilcoxon Rank-Sum Test With
	Severity of Pruritus	Mean ± SD (Median)	Mean ± SD (Median)	Mean ± SD (Median)	Mean ± SD (Median)	Friedman	P Value	Bonferroni's Correction
	VAS 1G (n = 38)	7.58 ± 1.57 (8.0)	2.00 ± 1.36 (2.0)	2.21 ± 1.82 (2.0)	2.66 ± 1.96 (3.0)	75.128 (SD = 3)	<.001	a > b,c,d
	CG (n = 40)	6.78 ± 1.46 (6.0)	5.68 ± 1.37 (6.0)	1.65 ± 1.85 (0.5)	4.98 ± 1.69 (5.0)	73.508 (SD = 3)	<.001	a > b,c,d c < b,d
	Test Value	$t^1 = 2.344$	$U^2 = 41.500$	U = 621.500	U = 291.000			
	P Value	.22	<.001	.154	<.001			
(	Pruritus Score							
	IG (n = 38)	23.58 ± 10.59 (22.0)	4.79 ± 4.63 (3.0)	4.37 ± 3.65 (4.0)	5.42 ± 4.44 (4.0)	79.369 (SD = 3)	<.001	a > b,c,d
	CG (n = 40)	20.23 ± 10.86	13.08 ± 7.13 (12.0)	3.83 ± 4.40 (2.0)	14.25 ± 7.42 (13.0)	71.137 (SD = 3)	<.001	a > b,c,d c < b,d
	Test Value	U = 612.500	U = 192.000	U = 613.500	U = 225.500			
	P Value	.139	<.001	.104	<.001			

Abbreviations: a = pruritus score of wk 1; b = pruritus score of wk 6; c = pruritus score of wk 12; d = pruritus score of wk 16; t = t test; U = Mann-Whitney U test.

結論:經皮神經電刺激 (TENS) 可有效降低尿毒症搔癢症的頻率和嚴重程

Table 1. Characteristics of Published Clinical Trials Included in Systematic Review

Study

Publication Year

Design

Sample size

Case Control

Mean Age, y

Intervention Regime Case Intervention Regime Control Follow-up, mo Concomitant Treatment Used for Both Groups

Jaded Score

# Effect of Auricular Acupressure on Uremic Pruritus in Patients Receiving Hemodialysis Treatment: A Randomized Controlled Trial (2015)

Yan et al<sup>9</sup>

2015

Randomized clinical trial

每週三次,持續六週。

d :

30

54.00

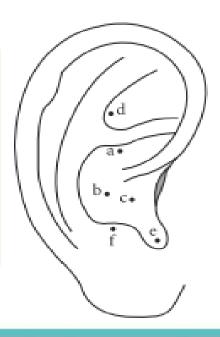
Auricular acupressure treatment, 3 times a week for 6 weeks

None

1.5 Routine medications

- 9

IG: 耳穴貼壓於六個耳穴a: 腎臟(CO10), b: 肺(CO14), c: 心臟(CO15), d: 神門(TF4), e: 內分泌(CO18), f: 皮質下(AT4), 每個耳朵點施加壓力1-2分鐘。



Study Publication Year Assessment Tool Score Intergroup Results Within Group Results

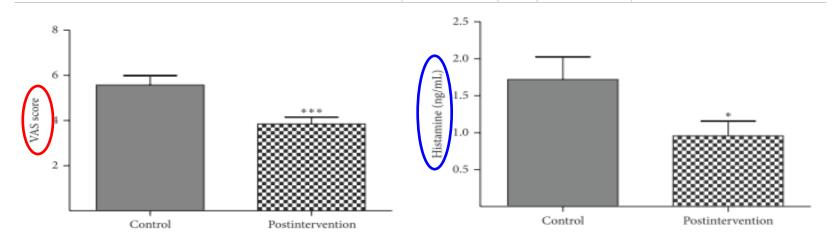
### 結論: 耳穴貼壓法可有效降低尿毒症搔癢症的 頻率和嚴重程度

Yan et al<sup>p</sup>

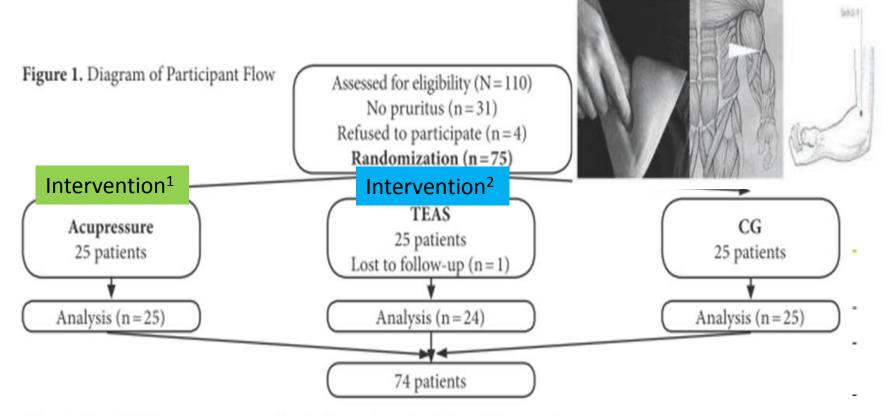
2015

Visual Analogue Scale 3.844 ± 1.687 5.567 ± 2.285

Significant difference in mean visual analogue scale scores between the acupressure and control (P < .001) Significant decrease in visual analogue scale and pruritus scores of both case and control groups at 18 weeks in their follow-up assessment



實施六週後, 耳穴貼壓組的VAS 分數下降(P<0.001) 耳穴貼壓實施六週後,血清組織胺的變化與對照組相比。下降幅度明顯高於對照組(P < 0.05)。



Abbreviations: TEAS, transcutaneous electrical acupoint stimulation; CG, control group.

## Acupressure and Transcutaneous Electrical Acupoint Stimulation for Improving Uremic Pruritus: A Randomized, Controlled Trial (2016)

Akca et al <sup>1</sup>	2016	Randomized clinical trial	24	25	48.08	45.84	Transcutaneous electrical acupoint stimulation, 3 times per week	Normal clinical treatment	1	Antihistaminic tablets	2
Akca et al <sup>1</sup>	2016	Randomized clinical trial	25	25	55.24	45.84	Acupressure, 3 times per week	Normal clinical treatment	1	Antihistaminic tablets	2

Table 3. Distribution of the Averages of the Pre- and PostinterventionVAS scores for Patients in the Intervention Groups and the Control Group

		Groups		Test
	Acupressure	TEAS	Control	
	(n=25)	(n=24)	(n=25)	$F^{i}$
VAS Score	Mean ± SD	Mean ± SD	Mean ± SD	(P value)
Preintervention pruritus VAS	6.84 ± 1.70	$7.37 \pm 1.31$	6.92 ± 1.41	0.918 (>.05)
Postintervention pruritus VAS	3.36 ± 2.37	$3.12 \pm 2.15$	$5.08 \pm 1.55$	6.672 (<.05)
Test value <sup>b</sup> (P value)	t=5.346 (<.001)	t=7.936 (<.001)	t=3.942 (<.05)	

One-way ANOVA.

<sup>b</sup>Paired sample t test.

Abbreviations: VAS, visual analogue scale; TEAS, transcutaneous electrical acupoint stimulation; SD, standard deviation; ANOVA, analysis of variance.

acupressure group, 36.0% (n=9) presented with severe pruritus, and 60.0% (n=15) had general pruritus (ie, all over the body). On the day that the hemodialysis sessions ended, 32.0% (n=8) of the group had the condition with the duration of the pruritus after the end of treatment being  $5.24 \pm 2.35$  days.

Of the patients in the TEAS group, 54.2% (n = 13) had severe pruritus, and 62.5% (n = 15) had general pruritus (ie, all over the body). On the day that the hemodialysis sessions ended, 29.2% (n = 7) had the condition, which lasted for  $4.67\pm2.28$  days.

Of the patients in the control group, 44.0% (n = 11) had severe pruritus, and 52.0% (n = 13) had general pruritus (ie, all over the body). On the day that the hemodialysis session ended, 16.0% had the condition, which lasted for

**Table 4.** Distribution of the Mean Differences Between the Pre- and Postintervention VAS Scores for Patients in the Intervention Groups and the Control Group

VAS Score	Mean Difference	P Value <sup>a</sup>
Acupressure vs TEAS VAS	0.23	1.000
Acupressure vs Control VAS	-1.72	.013
TEAS vs Control VAS	-1.95	.004

<sup>a</sup>Bonferroni test.

Abbreviations: VAS, visual analogue scale; TEAS, transcutaneous electrical acupoint stimulation.

#### 結論:穴位按壓和TEAS用於治療血液透析病人之尿毒症瘙癢症 均有效

Akca et al <sup>1</sup>	2016	Visual Analogue Scale	3.12 ± 2.15	5.08 ± 1.55	Transcutaneous electrical acupoint stimulation group versus control group (P = .01)	Transcutaneous electrical acupoint stimulation group had significant reductions from baseline to posttreatment in their levels of discomfort from uremic pruritus ( $P < .001$ ) compared with control group ( $P < .05$ )
Akca et al <sup>1</sup>	2016	VAS scores	3.36 ±2.37	5.08 ± 1.55	Acupressure group versus control group (P = .004)	Significant reductions from baseline to posttreatment in levels of discomfort from uremic pruritus of acupressure group (P < .001) compared with control group (P < .05).

• A-文獻是否經過嚴格評讀 (Appraisal)?

Table 1. Characte	edistics of Published	Clinical Trials	Included in	Systematic Review
HOMERON IN CONTROLLED	ALIONIUG WI E WWINGINGW	TOTAL PROPERTY.	III PORTUGUICO III II	MANAGEMENT LABORITOR

Study	Publication Year	Design	Sam	ple size Control	Mear	Age, y	Intervention Regime Case	Intervention Regime Control	Follow-up, mo	Concomitant Treatment Used for Both Groups	Jadeo Score
Duo <sup>7</sup>	1987	Cross-over clinical trial	6	3	50.5		Electro acupuncture, 3 times weekly	Superficial electrical stimulation, n = 3	1	Sleeping pills (n = 2)	1
Che-Yi et al <sup>®</sup>	2005	Randomized clinical trial	20	20	62.4	63.2	Acupuncture, 1 hour 3 times weekly for 4 weeks	Sham acupuncture (penetrating, no acupuncture point)	3	Antihistamines and phosphate binders	2
Akca et al <sup>6</sup>	2013	Nonrandomized clinical trial	38	40	47.5	44.5	Transcutaneous electrical nerve stimulation, acupressure apparatus, 3 times weekly for 6 week	None	1.5	Antihistaminic table s	1
Yan et al <sup>9</sup>	2015	Randomized clinical trial	32	30	54.00	56.63	Auricular acupressure treatment, 3 times a week for 6 weeks	None	1.5	Routine medications	2
Akca et al <sup>1</sup>	2016	Randomized clinical trial	24	25	48.08	45.84	Transcutaneous electrical acupoint stimulation, 3 times per week	Normal clinical treatment	1	Antihistaminic tablets	2
Akca et al <sup>1</sup>	2016	Randomized clinical trial	25	25	55.24	45.84	Acupressure, 3 times per week	Normal clinical treatment	1	Antihistaminic tablets	2

#### 共納入5篇文章(包括6項試驗)

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。

在文章的方法章節, 可以找到文章評估 的方式,以及是由 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 and Quality Assessment**

Two independent reviewers extracted data from the articles according to the selection criteria. Disagreements were resolved by discussion between the two reviewers considering the opinion of a 3rd reviewer. The quality of randomized controlled

#### **Quantitative Data Synthesis and Data Analysis**

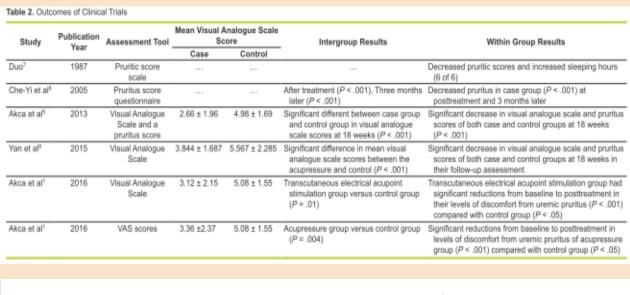
We extracted data and then used comprehensive meta-analysis to pool them for summary estimates. To facilitate studying the outcomes, we divided them into 2 types of intergroup and within group outcomes. For intergroup outcomes, we compared pruritus grade between the cases and the controls, and for the within group outcomes, we compared outcomes in the cases or the controls with their baselines.

We expressed the results for continuous outcomes as weighted mean difference, with 95% confidence intervals. We checked heterogeneity among our studies by the chi-square-based Cochran Q and the  $I^2$  statistics to measure the proportion of total variation due to heterogeneity beyond chance. If I<sup>2</sup> was greater than 50%, heterogeneity was considered significant and data was analyzed using a random effect model. Otherwise, the fixed-effects model was applied as the preferred method. We used fixed effects model in this study, and a P value less than .05 was considered significant.

評讀結果:

#### T一作者是否以表格和圖表「總結」(Total up)試驗結果?

應該用至少 1 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



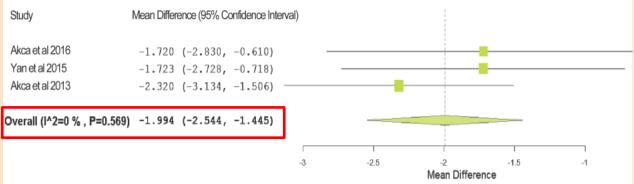


Figure 2. Forest plot of studies reporting changes in visual analogue scale scores for pruritus following treatment with acupuncture.

評讀結果: 是□否 □不清楚

#### 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。 在文章的結果章節,可 以找到研究結果是否具 異質性,及造成異質性 可能的原因探討。森林 圖中可以找到異質性的 卡方檢定結果。

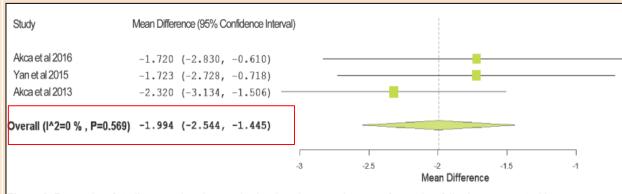


Figure 2. Forest plot of studies reporting changes in visual analogue scale scores for pruritus following treatment with acupuncture.

Due to disparity in assessing tools and type of interventions, only 3 of the selected articles included in the meta-analysis. We combined the VAS score results of 3 studies, <sup>1,5,9</sup> and as illustrated in Figure 2, we calculated low heterogeneity. We therefore used a fixed effect model for our study. The final mean difference was significant (mean different, -1.994; 95% confidence interval, -2.544 to -1.445).

評讀結果: ■是 □否 □不清楚



## 結果為何?

使用何種評估方式,療效有多大(是否來自隨機效果)?

#### 結論:

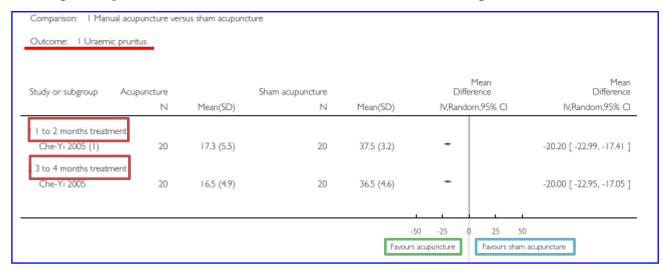
本篇所納入之研究結果均顯示針灸及穴位按壓治療能有效降低尿毒症之搔癢。作者認為大多數納入的文獻存在較高風險的偏差,證據不足,建議仍需要進一步的研究。



## Acupuncture and related interventions for symptoms of chronic kidney disease (Review) 2016

- 背景:慢性腎病病人會出現各種身體和心理症狀。針灸被廣泛用於治療慢性病患者的常見症狀,如疼痛、疲勞、憂鬱情緒、睡眠障礙。
- 納入了24項研究,共1787名參與者。對象:CKD 3~5期、HD&PD病人。
- 結果:對於接受常規血液透析的患者,以手法 穴位按摩作為疲勞、抑鬱、睡眠障礙和尿毒症 瘙癢的輔助措施的短期效果證據非常少。

## Acupuncture and related interventions for 補充資料 symptoms of chronic kidney disease (Review) 2016



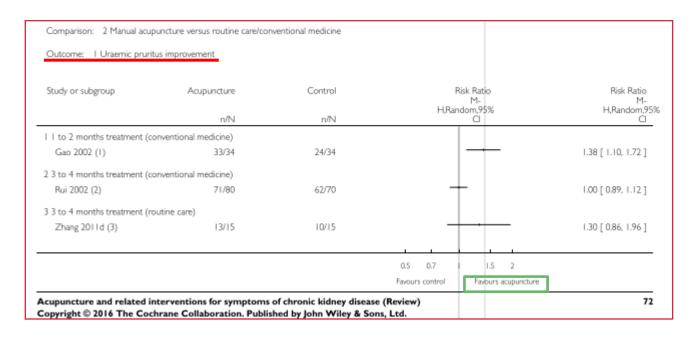
Che-Yi 2005: 針灸顯著改善 尿毒症瘙癢

itudy or subgroup	Point stimulation		Control		Mean Difference	Mean Difference
	N	Mean(SD)	Ν	Mean(SD)	IV,Random,95% C	CI IV,Random,95% CI
I to 2 months Jedras 2003 (I)	30	1.07 (1.91)	30	7.57 (2.03)	-	-6.50 [ -7.50, -5.50 ]
2 3 to 4 months Jedras 2003	30	1.9 (2.07)	30	5.88 (3.94)	-	-3.98 [ -5.57, -2.39 ]
5 to 6 months Jedras 2003	30	0.98 (1.64)	30	5.78 (3.63)	-	-4.80 [ -6.23, -3.37 ]
					-10 -5 0 5	10

Jedras 2003: 穴位按摩對尿 毒症瘙癢症顯 著改善

#### 補充資料

## Acupuncture and related interventions for symptoms of chronic kidney disease (Review) 2016



Gao 2002:針灸優於 第一代口服抗組胺藥 和局部瘙癢的藥膏

Rui 2002:針灸效果 與口服藥效果類似

Zhang 2011:針灸結 合透析,尿毒症瘙癢 無明顯改善

總結:針灸對尿毒症搔癢症的緩解是不顯著的。針灸相關 傷害缺乏完整的報告以致無法評估針灸及相關介入措施 的安全性。

# 針灸和穴位按壓能有效降低尿毒症病人皮膚搔癢的程度嗎



綠(同意):16人

黄(需討論):22人

紅(不同意):0人