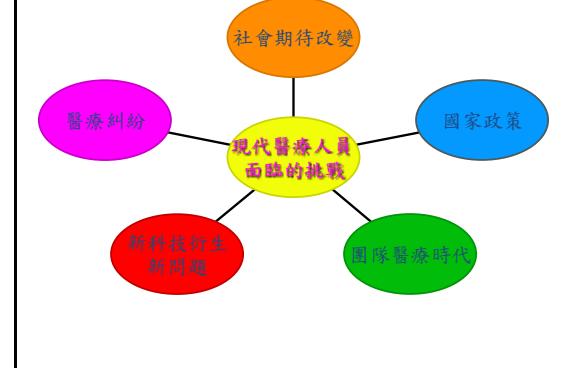


## EBM: acupuncture for Herpes zoster neuralgia

R2 蔡孟言  
指導醫師：陳星諭 醫師



### EBM (Evidence-based Medicine)

#### • 實證醫學

- 從龐大的醫學資料庫中 **搜尋** 相關文獻
- 以流行病學及統計學方法 **過濾** 出值得信賴的文獻
- 再經過嚴格 **評讀** 及綜合分析後
- 將獲取之 **最佳研究證據 (evidence)**、**臨床經驗 (experience)** 及**患者期望 (expectation)** 相互 **整合**
- **配合診療情境** 後制定出一套最佳的臨床醫療決策，並可用來協助醫護人員進行終身學習。

### Scenario

- 60 y/o female, suffered from **Ic** for 3 days, went to Acupuncture for help
  - Is acupuncture **effective** for pain control? How about the efficacy when **compared with standard western medicine treatment**?
  - Could it used **for prevention**?
  - How about the **cost**?



### Herpes zoster

- The presenting clinical manifestations of herpes zoster are usually characterized by **rash and acute neuritis**.
- The **thoracic and lumbar dermatomes** are the most commonly involved sites of herpes zoster.
- **Recurrence** of clinical zoster in the immunocompetent host is **rare**, but does occur in the immunosuppressed host.
- The most common complication of herpes zoster is **postherpetic neuralgia**. Other complications include herpes zoster ophthalmicus or oticus, acute retinal necrosis, aseptic meningitis, and encephalitis.



### Herpes zoster

- **Immunocompromised hosts** are at risk for cutaneous and visceral dissemination.
- **The diagnosis is usually made clinically**; available diagnostic techniques include viral culture, direct fluorescent antibody testing, and the polymerase chain reaction assay.
- The principle other main infectious agent to consider in the differential diagnosis of vesicular lesions is **herpes simplex**.



## Postherpetic neuralgia

- Tricyclic antidepressants
- Anticonvulsants
- Opioids
- Capsaicin
- Botulinum toxin
- Intrathecal glucocorticoids
- Topical lidocaine
- NMDA receptor antagonists
- Cryotherapy
- Surgery
- Other

## 執行實證醫學五大步驟

- 提出問題(Ask: PICO)
  - Formulate an answerable question
- 搜尋證據(Acquire)
  - Track down the best evidence
- 嚴格評議(Appraisal: VIP)
  - Critically appraise the evidence
- 恰當應用(Apply: 3E)
  - Integrate with clinical expertise and patient values
- 評估結果(Audit)
  - Monitoring your performance



### Step 1: Asking

提問

Therapy/Prevention 治療/預防的問題	研究治療或預防方法的有效性
Diagnosis 診斷問題	研究檢查方法或臨床表徵對疾病診斷的有效性
Harm/Etiology 危害/病因問題	研究暴露的危害或疾病的原因
Prognosis 預後	建立疾病預後的預測模式

### Step 1: Asking

提問

P roblem 病人問題	Postherpetic neuralgia
I ntervention 介入處置	Acupuncture
C omparison 對照的處置	Standard pharmacological treatment (ST)
O utcome 臨床結果	VAS score, recurrent rate

### Step 2. 尋找文獻證據

提問

搜尋

### Step 2: Acquire

提問

搜尋



## 研究設計分類 (A taxonomy of clinical research)

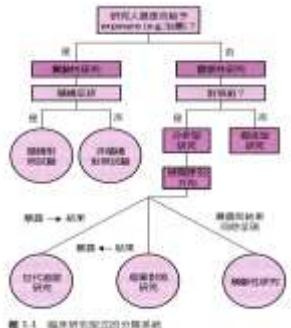


圖 1-1 研究設計分類系統

## 證據等級

Oxford Centre for Evidence-based Medicine Levels of Evidence (March 2009)  
<http://www.cebm.net/index.aspx?o=1025>

等級	研究單/非單 獨立/多方 隨機化研究	隨機化對照 的試驗	隨機化對照 的文獻	隨機化對照 並移行到 有別於它的 中心	隨機化對照 並移行到 有別於它的 中心
1a	明確 RCT II阶段的 同質性分析 (ORI II) of RCTs	多個獨立研 究所執行的隨 機化試驗(SR of randomised trials)	SR of level-1 prospective cohorts; CDR with 1b studies done different clinical centers	SR of prospective cohorts studies	SR of level-1 nonrandomized studies
1b	單獨 RCTs 對於單一 的問題或問 題	有好的隨機 選擇單一對比 研究 ≥60%	Prospective, cohort study with good follow-up	用隨機：單項 的或本項目單 獨的合併的分 析研究	
2a	All or none	All or none CDR-III trials	UpToDate All or none case-series	All or none case-series	Absolute best evidence meta-analysis
2b	用多個世 代研	SR of	SR of level-2	SR of 2b and	SR of level-2

## 證據等級(續)

等級	單臂 研究 非對照 研究	retrospective cohort cohort	Diagnostic studies	治癒 studies	Diagnostic studies
2b	單獨 cohort 且 無品別的 RCT cohort	Retrospective cohort study or prior follow-up prospective cohort study	用臨上轉換 的結果來回應 的問題或 一切研究。		
2c	Outcome research methodological research		Ecological studies	Arbitrary intervention research	
3a	SR of case-control studies		SR of 2b	SR of 3b	SR of 3b
3b	偏倚 case-control studies		Non-comparative study	SR of 3b	
4	Co-ordinating power quality case-control studies	Case-control study or one-intervened reference studies	Case-control or intervention analysis		
5	沒有經過充 分評議的 研究 評議醫學大 獻 的肯定意見。 的肯定意見。	沒有經過充 分評議的 評議醫學大 獻 的肯定意見。	沒有經過充 分評議的 評議醫學大 獻 的肯定意見。	沒有經過充 分評議的 評議醫學大 獻 的肯定意見。	

Table: Steps in Rating evidence ('Level') for different types of question					
Developed by: The Thomas Coates Ltd, UK. Last updated: 2009/01/10. For reference: 2009, The Thomas Coates (PCCM), 40-400, Newbury, Berks, RG14 5JL, UK. Email: Thomas@cebm.net					
<b>New</b>					
<b>Rating:</b> Step 1 Level 1 Level 1a Level 1b Level 2 Level 3 Level 4 Level 5					
<b>Question:</b> Step 1 Level 1a Level 1b Level 2 Level 3 Level 4 Level 5					
<b>1. Single question:</b> Step 1 Level 1a Level 1b Level 2 Level 3 Level 4 Level 5					
<b>2. Multi question:</b> Step 1 Level 1a Level 1b Level 2 Level 3 Level 4 Level 5					
<b>3. Mixed question:</b> Step 1 Level 1a Level 1b Level 2 Level 3 Level 4 Level 5					
<b>4. Mixed question:</b> Step 1 Level 1a Level 1b Level 2 Level 3 Level 4 Level 5					
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<b>88. Mixed question:</b> Step 1 Level 1a Level 1b Level 2 Level 3 Level 4 Level 5					
<b>89. Mixed question:</b> Step 1 Level 1a Level 1b Level 2 Level 3 Level 4 Level 5					
<b>90. Mixed question:</b> Step					

## DynaMed

**Key words :**  
Acupuncture 、zoster

## EBM ALL

**Key words :**  
Herpes zoster 、  
Acupuncture

**RESULT :**  
Review(0)

## EBM ALL

**Key words :**  
Acupuncture 、herpes zoster  
**RESULT :** Review(0)

## Pubmed

**Key words :**  
Acupuncture 、zoster 、  
randomized trial  
**RESULT:** (6)

## Pubmed

**1. Economic evaluation of treating Herpes zoster with various methods of acupunture and moxibustion.**  
Li XW, Yang YK, Xie XM, Bai LN, Zheng HS.  
J Tradit Chin Med. 2012 Mar;32(1):125-6.  
PMID: 22584145 [PubMed - indexed for MEDLINE] - Free Article  
Recent articles

**2. A noninferiority controlled trial of a multi-modality integrated complementary-alternative therapy for chronic herpes zoster-associated pain.**  
Hsu P, Boyle E, Vayalil E, Ohman E.  
Altern Ther Health Med. 2012 May;18(5):53-4.  
PMID: 22950073 [PubMed - indexed for MEDLINE] - Free Article  
Recent articles

**3. Acupuncture for the treatment of severe acute pain in herpes zoster: results of a nested, open-label, randomized trial in the VZV Pain Study.**  
Ugnat T, Tamburini M, Manzoli L, Polis E, Rabuzzi C, Gargiulo G, Di Profio S, Toto PM, Coniceto A, Manzoli U, Loguda S, D'Amato C, Di Stefano C, Parrati G, Protti L; VZV Pain Study Group.  
BMC Complement Altern Med. 2011 Jun 21;11:48. doi: 10.1186/1475-7366-11-48.  
PMID: 21683947 [PubMed - indexed for MEDLINE] - Free PMC Article  
Recent articles

**Step 3. 嚮格評讀文獻**

（1）Acupuncture for the treatment of severe acute pain in Herpes Zoster: **results of a nested, open-label, randomized trial in the VZV Pain Study**

（2）**Economic Evaluation** of Treating Herpes Zoster with Various Methods of Acupuncture and Moxibustion

Ugali H et al. BMC Complementary and Alternative Medicine 2011, 11:94  
http://www.biomedcentral.com/1472-6882/11/94

**RESEARCH ARTICLE** Open Access

Acupuncture for the treatment of severe acute pain in Herpes Zoster: results of a nested, open-label, randomized Pain Study

Teresa Urtini<sup>1</sup>, Monica Tomassonati<sup>1</sup>, Lamberto B. Sora Di Proto<sup>2</sup>, Paola Marani-Tiro<sup>2</sup>, Augusta Coli<sup>2</sup>, Claudio D'Amato<sup>2</sup>, Carla Gonnella<sup>3</sup>, Giustino Perna<sup>2</sup>

The flowchart illustrates a nested study design. It starts with a large box labeled 'In "VZV Pescara Study" + Clinical Dx'. From this, two paths lead to 'Excluded (n=402)'. One path leads to 'VAS ≥ 7' (number of patients = 162), which then branches into 'Allocated to Acupuncture (n=82)' and 'Allocated to Standard care (n=80)'. Both groups have 'Lost to follow-up (n=1)' and 'Switched to the other group (n=1)' boxes. The 'Standard care' group also has a 'Refused allocated intervention (n=10)' box. The 'Acupuncture' group has a 'Refused allocated intervention (n=10)' box. Both groups then lead to 'Analysed (n=82)' and 'Dropout (n=22)' boxes.

## Step 3: Appraisal



- Critical appraisal sheet of CEBM, university of Oxford

– Are the results of the review valid?

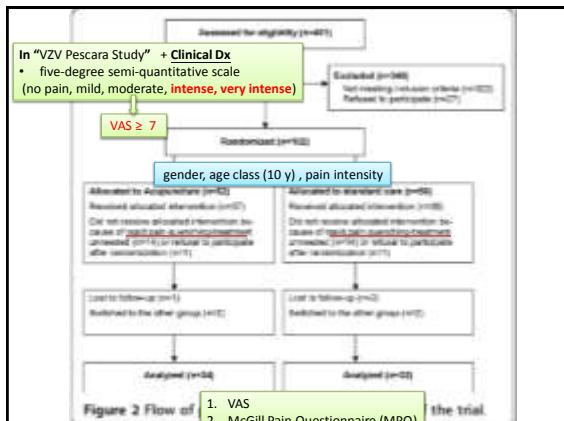
- 單一原始研究證據(RCT)之評讀
- papers appraised : Critical appraisal sheet of CEBM, university of Oxford
- Level of Evidence : [?]

## 一、此文献之研究目的 (purpose)

- What question did the study ask?
- Data on the potential efficacy of acupuncture (AC) [Intervention] in controlling intense or very intense pain in patients with Herpes Zoster (HZ) [Patients] has not been so far adequately assessed in comparison with standard pharmacological treatment (ST) [Comparison] by a controlled trial design.

→ Outcome(s): ?

## 二、此文献之研究設計 (THE STUDY DESIGN)



Randomize...

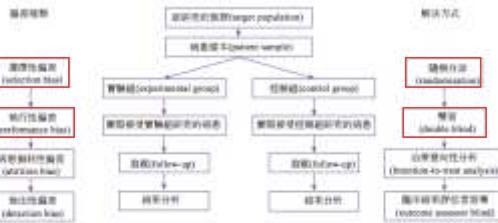
None of the investigators had any role in the allocation of patients.

Table 1 Demographic and clinical characteristics of treated patients, by group

Characteristics	Standard therapy (n = 32)	Acupuncture therapy (n = 34)	p*
Male gender, %	40.6	52.9	.05
Mean age in years (SD)	65.5 (13.5)	67.1 (15.8)	.06
Carries smoking, %	57.0	58.8	.32
High school or higher educational level, %	38.1	35.3	.05
Depression (Hibar) diagnosis, %	0.0	5.9	.02
HIV-positive, %	0.0	0.0	.05
Mixed analgesic dependence, %	15.6	17.6	.08
Non-steroidal anti-inflammatory dependence, %	30.0	29.0	.05
Abuse (Dadis) %	28.1	48.5	.01
Alcohol abuse, %	28.1	39.4	.02
Therapeutic use of VZV up to 6 months before enrollment, %	10.9	10.6	.05
Surveillance interview at the time of withdrawal 6 months before enrollment, %	52.4	55.9	.05

Table 1 Demographic and clinical characteristics of treated patients, by group			
Characteristic	Standard Therapy (n = 32)	Grapefruit juice (n = 34)	p*
<b>Site of lesion</b>			
Total	94	235	0.12
Cervix	63	88	0.7
Thrust	53.1	44.1	0.5
Lateral	21.2	25.6	0.8
<b>Extents of disease</b>			
Subclinical cervical	20.1	36.5	0.05
Districtal cervical	59.4	67.6	0.05
Middistrictal cervical	12.5	5.9	0.02
<b>Adverse events</b>			
Acute:	40.0	52.9	0.05
Transient:	3	19	0.02
Adhesive:	31.3	29.4	0.05
Invasive:	9.4	11.8	0.2
Other adverse:	5.1	2.9	0.05
Mixed adverse/undesirable:	13.6	17.6	0.2

### RCT研究的偏差來源及解決方法



RCT的論文如果沒有adequate allocation concealment，則 treatment effect會容易膨脹 35-40%。

#### 此文献之研究設計 (the study design)

<b>Is... B - Was the assignment of patients to treatments randomized?</b>	
<b>What is it?</b>	Where do I find the information?
Computer randomization is ideal and often used in multi-centre trials. Smaller trials may use an independent person (e.g., the hospital pharmacist) to "do the randomization".	The Methods should tell you how patients were allocated to groups and whether or not randomization was concealed.
This paper: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unclear <input type="checkbox"/>	
Comment:	

1. 病人的治療分派是隨機的嗎？  
隨機分派過程是否隱匿？

None of the investigators had any role in the allocation of patients.

## 此文献之研究設計 (t)

**5b. R - Were the groups similar at the start?**

What is best?  
If the randomization process worked (that is, achieved comparable groups) the groups should be similar. The more similar the groups the better it is.  
There should be some indication of whether differences between groups are statistically significant ( $p$ , a  $\chi^2$  value).

This question: Yes  No  Uncertain

AC arm		ST arm		
治療		適應症	藥物	劑量
<b>Traditional Chinese Acupuncture</b>	治癒 twice weekly	All	pregabalin	75 mg/d ~needs (maximum dose: 600 mg/d)
			local anaesthesia	4-7 ml of chirocaine(1.5 mg/mL)
頻率	8 sessions	lumbar or sacral localization	intermittent peridural neural blockade	
次數			intermittent perineural peripheral blockade	
取穴	中脘、關元 合谷、內關 曲池、血海 內庭、行間	uncontrolled pain	Local anaesthesia	Every second day, up to 5 administrations
施術者	by 2 experienced acupuncture physicians	very intense or refractory pain	opioids	1. transdermal buprenorphine (35-90 mcg/h) 2. oral oxycodone(50-400 mg daily)
For <b>immediate pain relief</b> :				
i.v. or oral <b>paracetamol</b> (250 to 1000) was allowed up to 3 times daily in both study arms.				
The duration planned for both treatments was 4 weeks.				

## 此文献之研究設計 (the study design)

**2b. A - Were all patients who entered the trial accounted for? and were they analysed in the groups to which they were randomised?**

What is meant?  
Losses to follow-up should be minimal – preference was less than 20%. However, if no patients from the outcome of interest, then even small losses to follow-up can take the results. Patients should also be analysed in the groups to which they were randomised – ‘Allocation-to-clear analysis’.

This question is asking you to check the following:  
 • The abstract states it would say how many patients were randomised (eg. Baseline Characteristics table) and how many patients were actually included in the analysis. You will need to read the Results section to clarify the number and reason for losses to follow-up.  
 • Loss of F/U: 3/37=8%, 4/36=11% <20%

That's right: Yes  No  Unsure

Comments:

2. 病患有接受完整追蹤嗎？  
是否分折時有按照病原原本分批的分步子一在八折嗎？

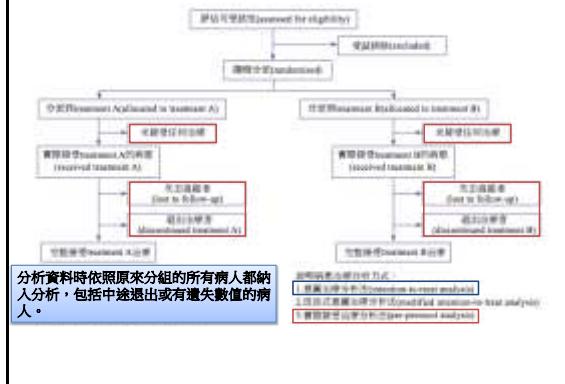
  - Loss of F/U: 3/37=8%, 4/36=11% <20%
  - Switch to other group: n=2

而且分析時有按照病患原

而三者皆可作为判断标准，以决定其是否为真。



## ☒ RCT研究的偏差來源及解決方法



## ☒ 依治療意願分析(intention to treat analysis)

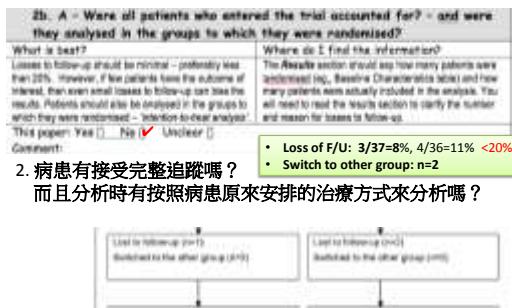
- 分析資料時依照原來分組的所有病人都納入分析，包括中途退出或有遺失數值的病人。

• 好處

- 依治療意願分析是為了維持隨機化的意義。 achieved by randomization.
- 減少因遺失數值missing values所產生的偏誤，可能造成研究結果扭曲。

• 壞處: 低估治療效果

## 此文献之研究設計 (the study design)



## 此文献之研究設計 (the study design)



遮盲對象	潛在效益
參試者	<ul style="list-style-type: none"> <li>較不可能對治療的心理或生理反應懷有成見</li> <li>較可能順從試驗藥物用法</li> <li>較不可能找尋其他的附屬治療</li> <li>較不可能未提供結果資料，說半途離開試驗導致期間樣本流失</li> </ul>
研究者	<ul style="list-style-type: none"> <li>較不可能將他們的傾向或態度轉移至參試者</li> <li>較不可能差別實施輔助治療</li> <li>較不可能差別調整劑量</li> <li>較不可能差別地鼓勵或勸阻參試者持續參加試驗的進行</li> </ul>
評估者	<ul style="list-style-type: none"> <li>較不可能懷有成見地影響結果評定，尤其是對主觀評定的試驗結果</li> </ul>

### 三、What were the results?

#### 1. 治療效果有多大？多重要？

- 決定研究中所描述的治療可能利益(或傷害)是否重要.
- 使用統計分析比較介入處置是否有統計差異.

##### 1. How large was the treatment effect?

Most often results are presented as dichotomous outcomes (yes or no) outcomes that happen or don't happen) and can include such outcomes as cancer recurrence, myocardial infarction and death. Consider a study in which 10% (5/50) of the control group died and 10% (3/30) of the treatment group died after 2 years of treatment. The results can be expressed in many ways as shown below:

#### 2. 治療效果的估計有多精確？

Table 2 Comparison of the outcomes of treatments under evaluation

Outcomes	Intervention Therapy (n = 33)	Placebo therapy (n = 30)	$p^*$
Primary outcomes			
Mean PHN score at baseline	4.03 (1.06)	4.01 (1.06)	.999
Mean PHN score after 3 months	1.67 (2.00)	1.70 (2.00)	.836
Mean change in PHN score (95% CI)	-2.35 (2.05)	-2.31 (2.05)	0.113
Mean PHN score at 3 months (95% CI)	1.63 (1.06)	1.70 (2.00)	.366
Secondary outcomes			
Mean VAS scores at baseline (95%)	3.31 (1.06)	3.30 (1.15)	.997
Mean VAS scores after therapy (95%)	0.96 (0.61)	1.00 (0.75)	.441
Mean change in VAS score (95% CI)	-2.35 (0.60)	-2.00 (0.88)	.198
For headache, % (95% CI)	46.4 (20.0, 70.8)	46.0 (20.0, 70.8)	.999
For therapeutic, % (95% CI)	16.1 (5.0, 27.2)	16.0 (5.0, 27.2)	.999
For headache, % (95% CI)	16.2 (5.0, 27.2)	16.1 (5.0, 27.2)	.999
Mean VAS during follow-up (95% CI)	0.99 (0.06)	1.02 (0.07)	.999

### Result

1. Both interventions were largely effective.
2. No significant differences were observed in
  - response rates
  - mean reduction of VAS
  - mean reduction of MPQ scores
  - incidence of PHN after 3 months
  - mean AUC during follow-up
3. No serious treatment-related adverse event was observed in both groups.

### Result-2

- Patients with intense or very intense pain at presentation showed a significant and similar degree of pain relief using acupuncture and standard pharmacological therapy.
- Also, no differences between treatments were observed in the incidence of severe adverse events.
- Given that patients treated with acupuncture carry a lower risk of cumulative drug toxicity.

### Discussion

#### (1) First RCT: acupuncture in acute HZ patient

- Sample size estimation(Min=34 per group, 80% statistical power)

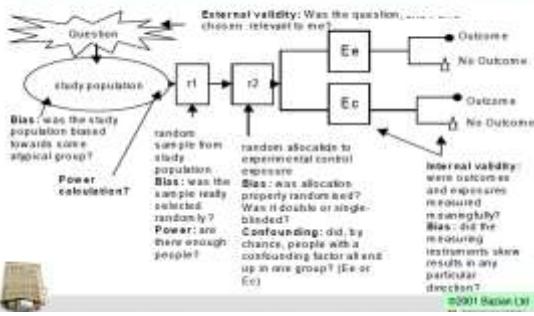
$p < 0.05$  實質只代表該論文的研究結果具有統計學上意義。  
統計學上的有意義並不代表臨床上的有意義

#### (2) Adequate allocation: good

- Gender, age , drug/therapy, HIV(-)

#### (3) Standard evaluation(VAS) and therapy

### 臨床研究處處可以有偏誤、干擾及錯誤



### Limitation

#### (1) Relatively small sample of treated patient(n=66)

- VAS>7, refused, rapid pain reduction(n=28)

#### (2) Without intention to treat analysis: rare

- severe pain, rapid pain reduction?

#### (3) Lack both control arm:

- mock acupuncture, short acting analgesics

Grade	US Preventive Task Force	NHS R&D Center for ESR
A	This is <input checked="" type="checkbox"/> evidence in support of recommendation	1a: All of RCT (with narrow confidence interval) 1b: individual RCT (with narrow confidence interval) 1c: All or some studies
B	There is fair evidence to support the recommendation	2a: SR of cohort studies (with heterogeneity) 2b: individual cohort study or low-quality RCT ( $n < 60$ ); follow-up 2c: outcome research - ecological studies 2d: SR of case-control study 2e: Individual case-control study
C	There is insufficient evidence for or against the recommendation, thus no grade can be made on other grounds	Case series and poor quality cohort/case-control studies
D	There is fair evidence to exclude the recommendation	Expert opinion without explicit clinical appraisal, or from an bench research
E	There is good evidence to exclude the recommendation	

#### 四、Will the results help me in caring for my patient?

- 研究的背景：是在醫學中心還是社區醫院？
- 病患選擇：年紀、性別
- 病患特徵：在國外發表的研究由於其病患族群不同，研究結果不一定適用於我國的病患。
- Difference between trial protocol and routine practice：平常你所做的正規治療和此項研究的治療是否有明顯差別？
- Adverse effects of treatment：此篇研究的adverse effects是否也會發生在我的病患身上（人種有差別時副作用會有差別嗎？）

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Theoretical Research

**Economic Evaluation of Treating Herpes Zoster with Various Methods of Acupuncture and Moxibustion**

LI Xue-wen 李雪雯, YANG Yun-xuan 杨云宣, XIE Xi-mei 谢西梅, JIU Lin-na 仇琳娜, ZHANG Xiao-chu 张晓抒

CRITICAL APPRAISAL SKILLS PROGRAMME  
Making sense of evidence

#### (A) Is the economic evaluation likely to be usable?

##### 3. Was a well-defined question posed?

Yes  Can't tell  No

NOTE: Is it clear what the authors are trying to achieve?

- What is the problem?
- Are many options are compared?
- Are both costs and consequences considered?
- What is the time horizon?

[Method] To analyze the **cost effect** of surrounding acupuncture plus electric acupuncture, cotton-sheet moxibustion, puncturing with red-hot needles, tapping plus cupping on herpes zoster.

**(A) Is the economic evaluation likely to be usable?**

2. Was a comprehensive description of the competing alternatives given?  Yes  Can't tell  No

HINT: Can you tell who did what to whom, where and how often?

Five hundred patients with herpes zoster were **randomly** divided

surrounding acupuncture	cotton-sheet moxibustion	puncturing with red-hot needles	tapping cupping	Western medicine	Valacyclovir 300mg BID
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Table:

Item	Group A	Group B	Group C	Group D	Group E	Relative weight	P value
Age	41.76±15.34	48.96±13.61	45.26±15.86	44.53±15.07	46.51±15.36	2.7166	0.5876
Diabetes mellitus (n)	6 (15±1.1)	3 (9±1.0)	7 (6±2.70)	5.77±3.09	5.24±2.12	2.7981	0.6332
Postherpetic neuralgia	0.34±2.22	4.62±3.52	4.44±2.57	4.99±2.71	4.0±2.52	1.2484	0.8707
Grip strength (n)	3.78±1.09	3.38±1.58	3.46±1.77	3.56±1.07	3.48±1.39	7.5298	0.1304
n	98	100	97	96	98		

#### (A) Is the economic evaluation likely to be usable?

##### 3. Does the paper provide evidence that the programme would be effective

Yes  Can't tell  No

NOTE: Evidence:  
• Is an RCT or systematic review used; if not, consider how strong the evidence is.

[Economic evaluation: Possibly have to integrate different types of knowledge coming from different study designs.]

<p><b>(A) Is the economic evaluation likely to be usable?</b></p> <p>4. Were the effects of the intervention identified, <input checked="" type="checkbox"/> Yes <input type="checkbox"/> Can't tell <input type="checkbox"/> No measured and valued appropriately?</p> <p>MEU (Effects) can be measured in natural units (e.g. years of life), or more complex units (e.g. point identified for quality of life such as QALYs) or monetary measures of the health gained (e.g. £).</p>	<p><b>(B) How were consequences and costs assessed and compared?</b></p> <p>5. Were all important and relevant resources required and health outcome costs for each alternative identified, measured in appropriate units and valued credibly? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> Can't tell <input type="checkbox"/> No</p> <p>MEU (Effects) can be measured in appropriate units prior to valuation. Important outcomes for health gains: - Number of patients treated, cases of disease etc.</p> <p>MEU (Value measured): - How relevant is it? - How does it feel? (Impact) - How appropriate is it over time? (Discounting?)</p> <p>成都、武漢等大醫院</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th style="text-align: center;">Group</th> <th style="text-align: center;">Cost (£M)</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>19.45</td> </tr> <tr> <td>B</td> <td>19.32</td> </tr> <tr> <td>C</td> <td>19.53</td> </tr> <tr> <td>D</td> <td>19.55</td> </tr> <tr> <td>E</td> <td>19.53</td> </tr> </tbody> </table> <p>6. Were costs and consequences adjusted for different times at which they occurred? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> Can't tell <input type="checkbox"/> No (Discounting?)</p>	Group	Cost (£M)	A	19.45	B	19.32	C	19.53	D	19.55	E	19.53
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<p><b>(B) How were consequences and costs assessed and compared?</b></p> <p>7. Was an incremental analysis of the consequences and cost of alternatives performed? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> Can't tell <input type="checkbox"/> No</p> <p>N (comprehensive index of curative effect)  <math display="block">= (\text{accumulated score before treatment} - \text{accumulated score after treatment}) / \text{accumulated score before treatment} \times 100\%.</math></p> <p>8. Was an adequate sensitivity analysis performed?</p> <p>MEU (Value measured):  <ul style="list-style-type: none"> <li>If certain parameters of uncertainty were considerably changing the estimate of the results and</li> <li>looking at them this would change the result of the economic evaluation.</li> </ul> </p>	<h2>DISCUSSION</h2> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th colspan="6">Table 1: Cost-effectiveness analysis (MEU)</th> </tr> <tr> <th>Group</th> <th>Cost</th> <th>Rate of change effect</th> <th>t<sup>2</sup></th> <th>P value</th> <th></th> </tr> </thead> <tbody> <tr> <td>A</td> <td>94</td> <td>81</td> <td>86.17</td> <td>7.88</td> <td>0.96</td> </tr> <tr> <td>B</td> <td>94</td> <td>78</td> <td>79.47</td> <td>-</td> <td>-</td> </tr> <tr> <td>C</td> <td>91</td> <td>78</td> <td>81.32</td> <td>-</td> <td>-</td> </tr> <tr> <td>D</td> <td>95</td> <td>77</td> <td>75.79</td> <td>-</td> <td>-</td> </tr> <tr> <td>E</td> <td>95</td> <td>68</td> <td>72.63</td> <td>-</td> <td>-</td> </tr> </tbody> </table> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th colspan="7">Table 2: Components of the cost-effectiveness analysis</th> </tr> <tr> <th>Group</th> <th>Cost (RM) (MEU)</th> <th>Unadjusted effect (days)</th> <th>Adjusted health (days)</th> <th>QALY</th> <th>Incremental cost</th> <th>Incremental ratio</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>298.68</td> <td>6.4591.83</td> <td>18.80±11.82</td> <td>21.99</td> <td>16.92</td> <td>1.55</td> </tr> <tr> <td>B</td> <td>294.52</td> <td>7.87±1.89</td> <td>11.84±24.45</td> <td>21.87</td> <td>37.76</td> <td>2.80</td> </tr> <tr> <td>C</td> <td>221.76</td> <td>6.16±1.82</td> <td>8.53±23.73</td> <td>20.89</td> <td>-</td> <td>-</td> </tr> <tr> <td>D</td> <td>222.56</td> <td>6.21±2.15</td> <td>11.85±22.65</td> <td>28.23</td> <td>4.8</td> <td>0.22</td> </tr> <tr> <td>E</td> <td>371.68</td> <td>7.4991.83</td> <td>-</td> <td>-</td> <td>199.02</td> <td>-</td> </tr> </tbody> </table>	Table 1: Cost-effectiveness analysis (MEU)						Group	Cost	Rate of change effect	t <sup>2</sup>	P value		A	94	81	86.17	7.88	0.96	B	94	78	79.47	-	-	C	91	78	81.32	-	-	D	95	77	75.79	-	-	E	95	68	72.63	-	-	Table 2: Components of the cost-effectiveness analysis							Group	Cost (RM) (MEU)	Unadjusted effect (days)	Adjusted health (days)	QALY	Incremental cost	Incremental ratio	A	298.68	6.4591.83	18.80±11.82	21.99	16.92	1.55	B	294.52	7.87±1.89	11.84±24.45	21.87	37.76	2.80	C	221.76	6.16±1.82	8.53±23.73	20.89	-	-	D	222.56	6.21±2.15	11.85±22.65	28.23	4.8	0.22	E	371.68	7.4991.83	-	-	199.02	-
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<p><b>(C) Will the results help in purchasing for local people?</b></p> <p>10. Is the programme likely to be equally effective in your context or setting? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> Can't tell <input type="checkbox"/> No</p> <p>Notes: Context sensitive:  <ul style="list-style-type: none"> <li>An economic evaluation for one setting is not necessarily relevant to another setting.</li> <li>one intervention may be different in different settings.</li> </ul> </p> <p>11. Are the costs transferable to your setting? <input type="checkbox"/> Yes <input type="checkbox"/> Can't tell <input checked="" type="checkbox"/> No</p> <p>12. Is it worth doing in your setting? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> Can't tell <input type="checkbox"/> No</p>	<p style="text-align: right;">附錄 1</p> <p>第四部 中醫</p> <p>第四章 肝炎治療：全民健康保險醫療服務給付項目及支付標準</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th>編號</th> <th>給付項目</th> <th>支付點數</th> </tr> </thead> <tbody> <tr> <td>B41</td> <td>肝炎治療費(含材料費)</td> <td>-</td> </tr> <tr> <td>-</td> <td>— 胃內內服藥</td> <td>210</td> </tr> <tr> <td>B42</td> <td>— 末期內服藥</td> <td>210</td> </tr> <tr> <td>B43</td> <td>電動治療</td> <td>-</td> </tr> <tr> <td>-</td> <td>— 胃內內服藥</td> <td>210</td> </tr> <tr> <td>B44</td> <td>— 末期內服藥</td> <td>210</td> </tr> </tbody> </table> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th>藥名</th> <th>克數</th> <th>劑型</th> <th>點數</th> <th>劑量</th> </tr> </thead> <tbody> <tr> <td>Acetaminophen</td> <td>300mg</td> <td>錠劑</td> <td>0.25</td> <td></td> </tr> <tr> <td>Pregabalin</td> <td>75mg</td> <td>錠劑</td> <td>23.5</td> <td>75mg/d Max: 600mg/d</td> </tr> <tr> <td>lidocaine</td> <td>1.5mg</td> <td>針劑</td> <td>3.92</td> <td></td> </tr> <tr> <td>buprenorphine</td> <td>0.2mg</td> <td>針劑</td> <td>87</td> <td>35-90 mcg/h</td> </tr> <tr> <td>Surgery</td> <td></td> <td></td> <td>?</td> <td></td> </tr> </tbody> </table>	編號	給付項目	支付點數	B41	肝炎治療費(含材料費)	-	-	— 胃內內服藥	210	B42	— 末期內服藥	210	B43	電動治療	-	-	— 胃內內服藥	210	B44	— 末期內服藥	210	藥名	克數	劑型	點數	劑量	Acetaminophen	300mg	錠劑	0.25		Pregabalin	75mg	錠劑	23.5	75mg/d Max: 600mg/d	lidocaine	1.5mg	針劑	3.92		buprenorphine	0.2mg	針劑	87	35-90 mcg/h	Surgery			?	
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## Discussion

- 健保給付
- 未依照 Standard treatment
- 嚴謹度不足（施術者，副作用未提及, etc）
- 替代方案的可能性考量

## STEP 4. 應用



## Step 4: Apply

1. 我們的病人是否與研究中的病人類似？
  - 有。
2. 此治療目前是否可行？
  - 可行
3. 我們的病人是否可以從該項治療中獲益？
  - 若病患因其它考量不想使用西藥時，可以考慮使用針刺治療替代，且相關副作用多屬輕微
4. 我們的病人如何看待此治療結果？
  - 正向，可參考

## STEP 5. 評估



## 回到最初的Scenario

- 60 y/o female, suffered from lower back pain for 3 days, went to Acupuncture department for help
  - Is acupuncture effective for pain control? How about the efficacy when compared with standard western medicine treatment? ✓
  - Could it used for prevention? ✓
  - How about the cost? ✓

## 自我評估

- Step1:
  - 1. 我有提出任何臨床問題嗎？Yes
  - 2. 我提出的是結構完整的問題？Yes
- Step 2:
  - 1. 我知道在我的臨床領域中現有的最佳證據來源？Yes
  - 2. 在搜尋方面我變得更有效率？Yes
- Step 3:
  - 1. 對我而言，應用此研究證據之評讀指引變得更簡單？Yes
  - 2. 我可以更正確、更有效率的使用一些審慎評估度量工具？Yes
- Step 4:
  - 1. 我盡力將審慎評估之結果融入診療中？Yes
  - 2. 為了適用於我的病人，我在調整一些嚴格評讀的度量值。方面越來越精準及有效率？Yes