



NONPHARMACOLOGIC PEDIATRIC PAIN MANAGEMENT IN EMERGENCY DEPARTMENTS: A SYSTEMATIC REVIEW OF THE LITERATURE

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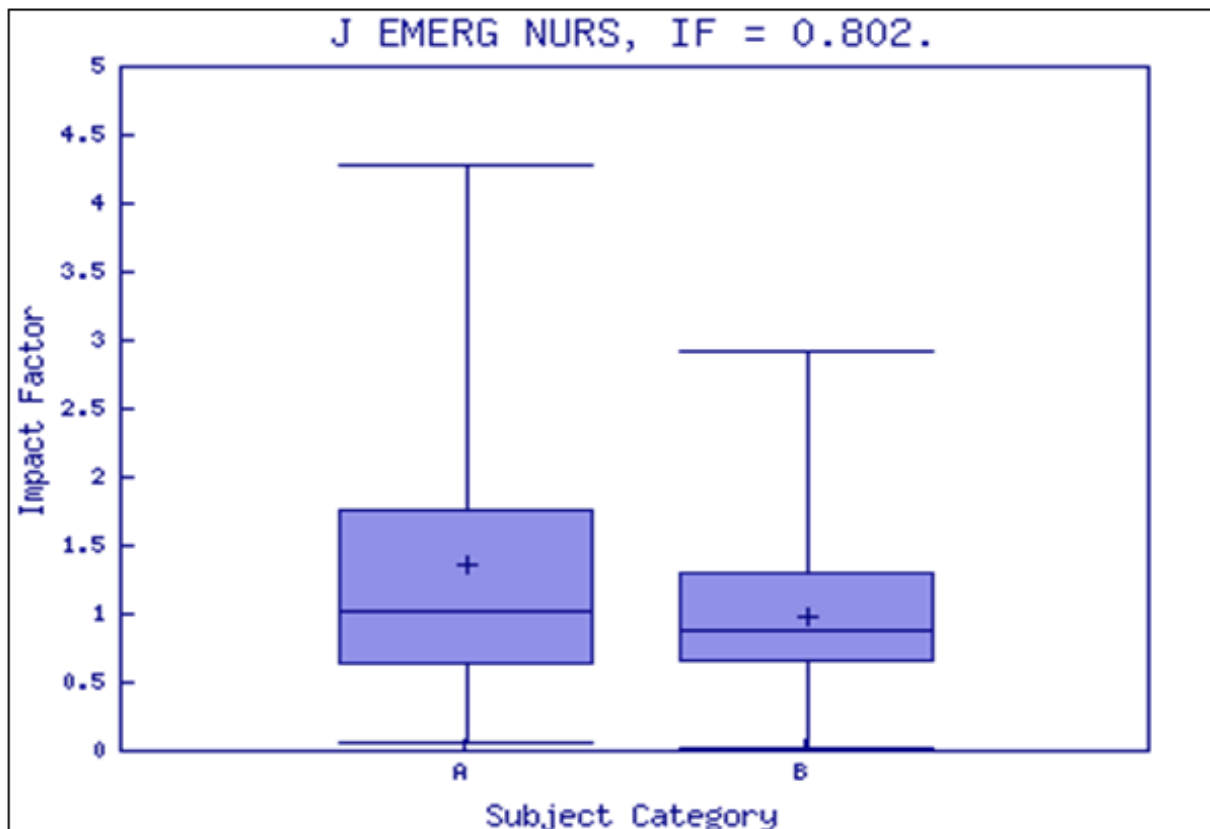
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Category Name	Total Journals in Category	Journal Rank in Category	Quartile in Category
EMERGENCY MEDICINE	25	18	Q3
NURSING	106	62	Q3



Key

A - EMERGENCY MEDICINE

B - NURSING

非藥物方式運用對疼痛管理是否有效？



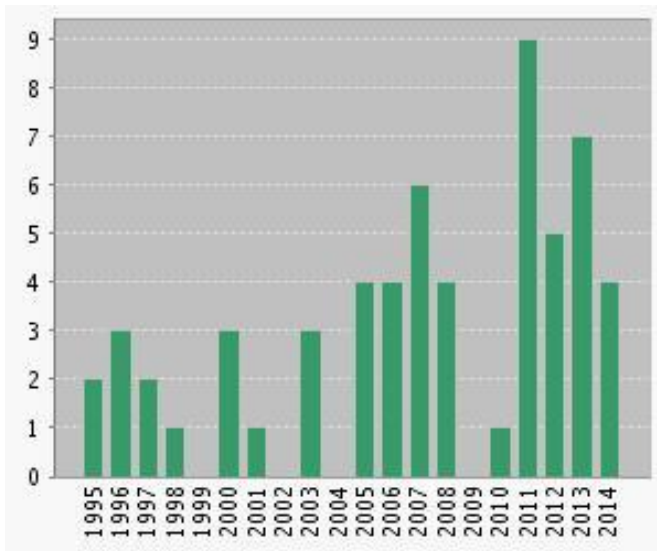
Introduction¹

- 兒科急診多項醫療處置造成兒童疼痛和焦慮
- 繁忙又吵雜的急診環境，疼痛管理是很重要的一項措施
- 此篇文章主要針對兒童在急診運用非藥物方式疼痛管理的分析

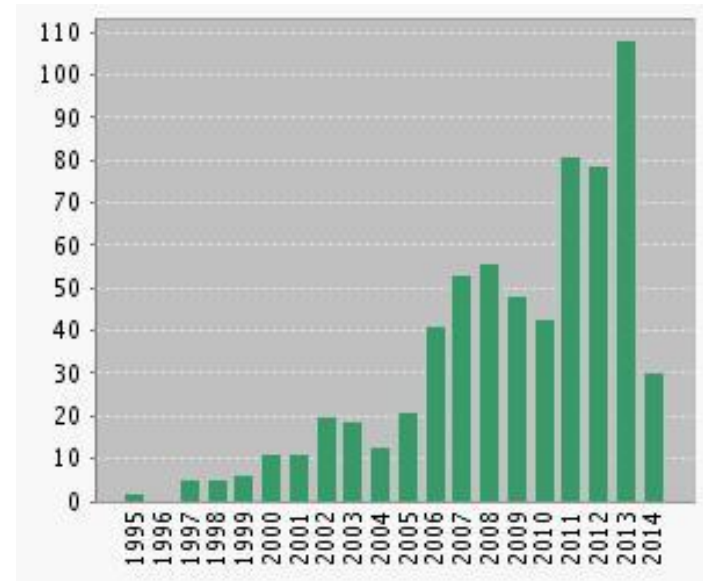
Introduction²

關鍵字：nonpharmacologic、pain management and pediatric

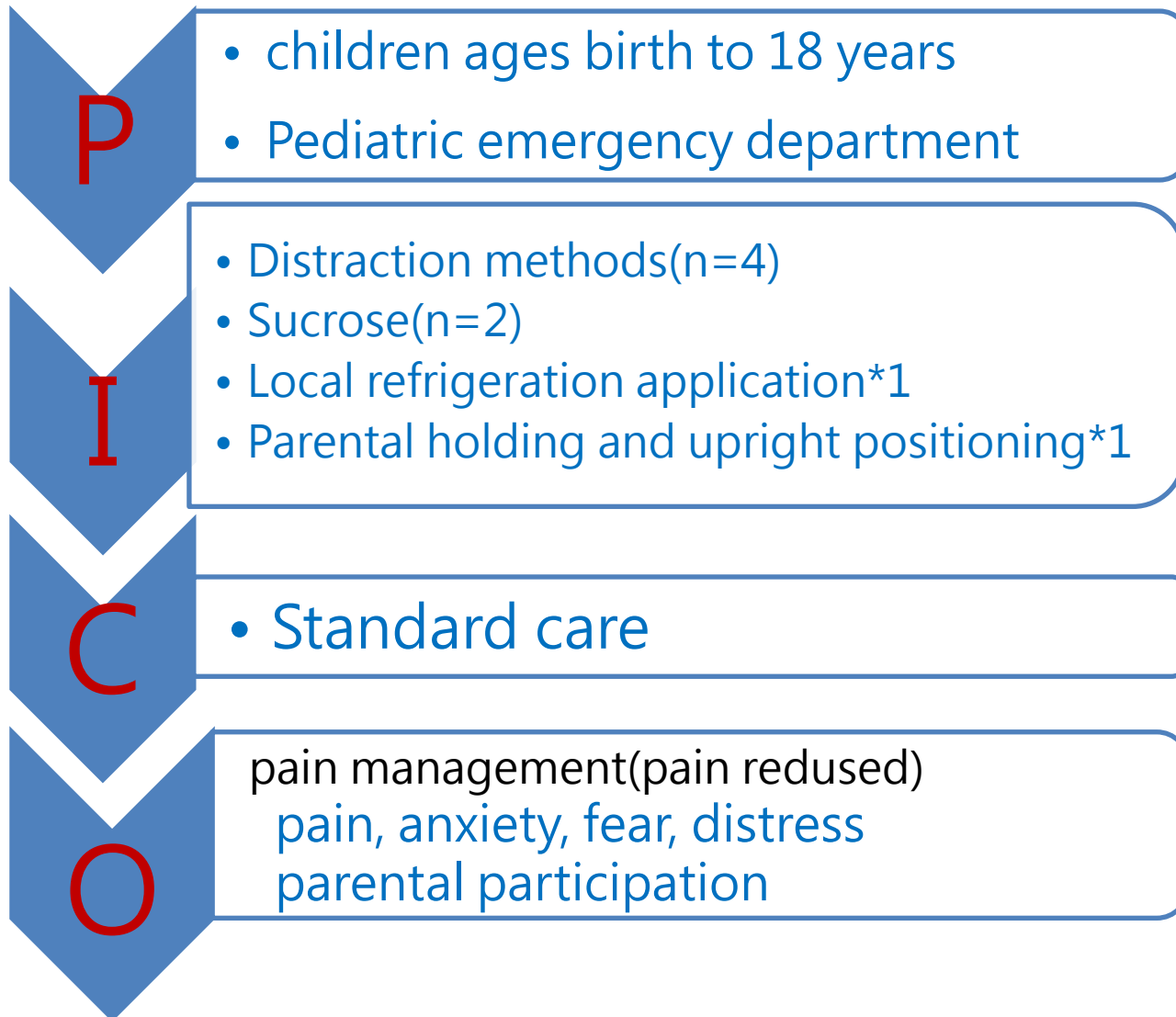
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步驟 1：系統性文獻回顧探討的問題為何？



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？

最好的狀況是？

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)。

Data Sources and Searches → P141

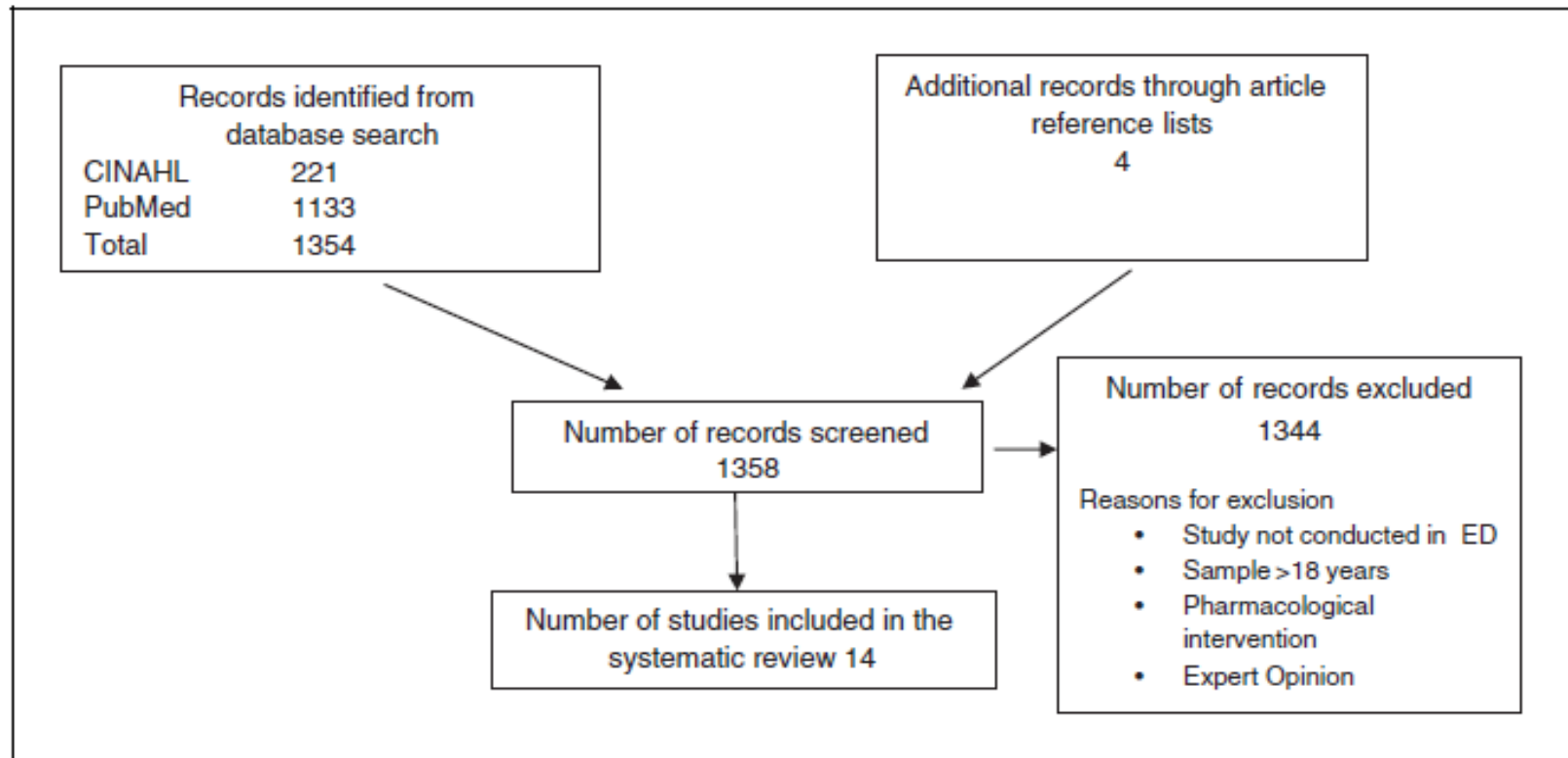
CINAHL (Cumulative Index to Nursing and Allied Health Literature), PubMed, and the Cochrane database were searched.

To capture pain management practices after the release of the Agency for Healthcare Policy and Research (now known as the Agency for Healthcare Research and Quality) guideline, 20 articles were limited to those published between January 1, 1995, and December 1, 2010. (n=14)

資料庫勉強有，但缺乏關鍵字，也沒有說明是否使用 MeSH 字串及一般檢索詞彙

評讀結果：□ 是 □ 否 ■ 不清楚

The Figure displays the search process.



excluded if they were not published in English, focused solely on pharmacologic interventions, included adults only, and/or addressed prehospital or inpatient pain strategies.

步驟 2：系統性文獻回顧的品質如何？(FAITH)

A - 文獻是否經過嚴格評讀 (Appraisal) ?

最好的狀況是？

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)。

Data Extraction and Quality Assessment→P142-P148

Seven of these studies used an experimental randomized controlled design, five used a quasi-experimental design, and two were descriptive studies.

評讀結果：□是 □否 ■不清楚

步驟 2：系統性文獻回顧的品質如何(FAITH)

I - 是否只納入 (included) 具良好效度的文章？

最好的狀況是？

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。

Study Selection → P142

RCT(N=7)

評讀結果：■是 □否 □不清楚

步驟 2：系統性文獻回顧的品質如何(FAITH)

T - 作者是否以表格和圖表「總結」(total up) 試驗結果？

最好的狀況是？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。

→P142-147

Author	Type of intervention	Type of procedure	Type of study	Sample	Outcome variables	Instruments	Results
Press et al ³¹ (2003)	Active distraction via music combined with uncertainty reduction	Venipuncture	Randomized controlled design	94 children, aged 6-16 y	Pain and procedure duration	VAS combined with pain face scale	There was no significant difference between experimental and control groups after controlling for confounding variables of age and pain threshold. No difference in duration of procedure was found between groups. Interactions identified that in the experimental group, female patients reported lower pain levels than girls in the control group ($P < .01$); children in the experimental group reported lower pain levels than controls only in children with higher sensitivity to pain ($P < .05$); and children with a white blood cell count of $< 12,000$ in the experimental group reported significantly lower pain than those in the control group ($P < .05$).
Rogers et al ³⁸ (2006)	Sucrose	Bladder catheterization	RCT, randomized double blinded	80 infants, aged < 90 d	Pain, crying time, and behavior	DAN scoring system, a measure of infant behavioral responses to pain	Overall, no significant difference was found between the placebo and control groups in pain scores and crying time. Subgroup analysis showed that infants aged 1 to 30 d had less pain ($P = .035$), were significantly less likely to cry during the procedure ($P = .008$), and returned to baseline behavior sooner ($P = .04$) after catheter removal compared with the placebo group. For infants aged > 30 d, there was no difference.

評讀結果：□ 是 ■ 否 □ 清楚

步驟 2：系統性文獻回顧的品質如何(FAITH)

H - 試驗的結果是否相近 - 異質性 (Heterogeneity) ?

最好的狀況是？

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。

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，文章內容可以做分析但作者未作分析

評讀結果：☐ 是 ☒ 否 ☐ 不清楚

Summary of articles included in systematic review ¹

介入措施	處置	研究種類/評值項目	樣本數/ 年齡	結果
分散注意力	抽血 靜脈輸液	Randomized/pain、 fear	384/ 4-18歲	不顯著
分散注意力	抽血 靜脈輸液	Experimental/pain、 fear	43/ 4-11歲	顯著
分散注意力	抽血	Randomized/distress	100/ 4-15歲	顯著
分散注意力	抽血 靜脈輸液	Randomized/distress	40/ 0-7歲	顯著
分散注意力	抽血	RCT/pain	94/ 6-16歲	不顯著
分散注意力	簡單縫合	Randomized/pain、 distress and anxiety	240/ 6-18歲	<10歲pain不顯著 distress顯著 >10歲distress不顯著
分散注意力	簡單縫合	Quasi- experimental/distress	57/ 1-6歲	不顯著

Summary of articles included in systematic review ²

介入措施	處置	研究種類/評估項目	樣本數/年齡	結果
冷敷 分散注意力	肌肉骨骼創傷	3group/pain	76/ 5-17歲	顯著
分散注意力	*	Descriptive	13 staff	*
分散注意力	*	Descriptive	*	*
冰敷	抽血	Quasi- experimental/ pain.生命徵象	80/ 6-12歲	疼痛顯著
糖水	抽血	RCT/pain	84/ 0-6月	不顯著
糖水	膀胱穿刺	RCT/pain	80/ <90天	不顯著
擁抱	靜脈注射	experimental	118/ 9-47月	顯著

研究結果及臨床應用之討論¹

- 本文提及非藥物的疼痛管理方式，包括：分散注意力、餵食糖水、局部冷敷、固定姿勢、擁抱...
- 對於不同年齡層兒童，可配合其發展階段，提供不同的措施分散注意力的措施(音樂、遊戲、卡通...)，但對於減低兒童急性疼痛，效果不顯著($P = .01$)
- 有兩篇針對新生兒進行侵入性措施時餵食糖水的研究，結果表明，對於降低疼痛的表現達顯著差異($P = .008$)
 - 本院鼓勵新生兒哺餵純母乳
 - 不符合母嬰親善醫療院所認證規範



研究結果及臨床應用之討論²

- 兒童靜脈穿刺給予冷敷等措施，對於降低疼痛所造成之行為反應、及自述式疼痛評分達顯著差異($P=.0011$, $P=0.0097$)
 - 局部冷敷具經濟、方便、非侵入性的特性
 - 是否需要開立醫囑？
 - 冷敷後血管收縮，影響靜脈注射成功率？
 - 臨床實際應用效果分享



討論

□ 局部冰敷是否適合用於臨床，以降低兒童在處置過程中所造成的疼痛？

- ✓ 同意：21人
- ✓ 懷疑：1人
- ✓ 不同意：1人



Thank you!

