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Journal Club

音樂治療能預防重症病人的譫妄？

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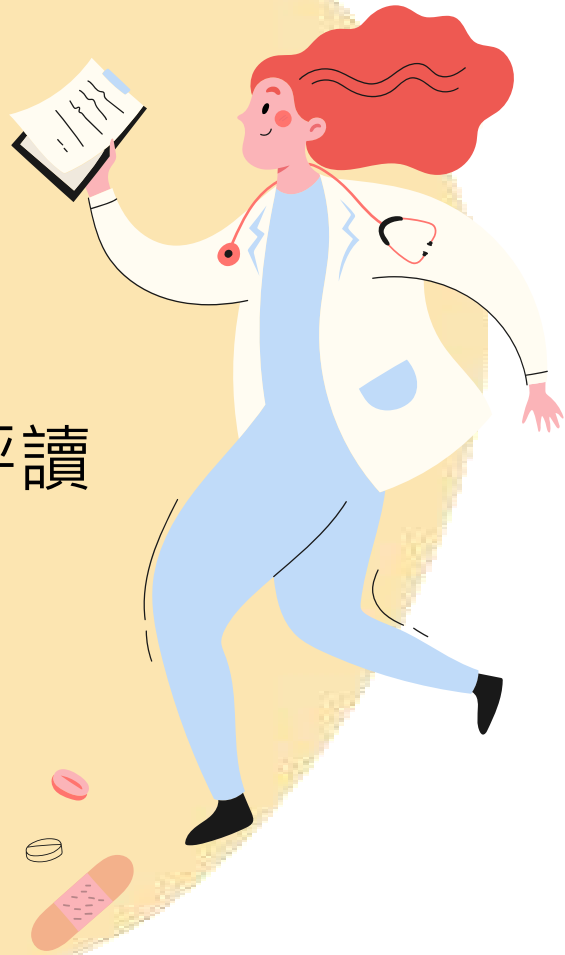
111.12.06

分享大綱

- 臨床情境與問題
- 選用文獻
- 系統性文獻回顧-FAITH評讀
- 議題討論



譫妄(delirium)

- 譫妄（Delirium）為急性發作的認知混亂症候群，其症狀可以持續幾小時到數天，通常不超過5天。
- 注意力明顯減弱，思考過程混亂，大多為可逆性。
- 好發於加護病房及內科病房；加護病房病人發生率高達八成，而國內成人加護病房譫妄發生率為40-76%。
- 急性認知障礙可能原因為神經傳遞物質失衡、炎症介質反應增加或氧化代謝受損，導致網狀激活統遭受破壞，目前病理生理文獻顯示沒有明確的單一病因，皆為多層因素相互影響的結果。
- 即時評估及預防重症病人發生譫妄，可降低住院天數與醫療成本支出。(劉等，2021)

臨床情境 Clinical Situation

表 3、鎮靜程度評估表 (RASS，Richmond Agitation-Sedation Scale)

步驟	評估重點	計分方式	得分
1	觀察病人狀況	觀察病人是清醒、平靜、是否有攻擊性	0-4
2	如果病人不清醒，大聲呼喚病人名字，並叫病人睜開眼睛看著叫喚者	病人能醒來，且能持續注視叫喚者超過10 秒	-1
		病人能醒來，但注視叫喚者不超過 10 秒	-2
		病人對聲音有反應	-3
3	如果病人對聲音無反應，可試著晃動病人肩膀或是揉病人胸口給予刺激	病人對身體刺激有反應	-4
		病人對聲音及身體刺激都沒有反應	-5

得分	鎮靜程度	評估描述
+4	有攻擊性	有暴力行為
+3	非常躁動	試著拔除呼吸管、鼻胃管或靜脈點滴
+2	躁動焦慮	身體激烈移動，無法配合呼吸器
+1	不安焦慮	焦慮緊張、但身體只有輕微移動
0	清醒平靜	清醒，自然狀態
-1	昏昏欲睡	沒有完全清醒，但聲音刺激可維持清醒/眼神接觸超過十秒
-2	輕度鎮靜	聲音刺激可叫醒/眼神接觸，但無法維持清醒超過十秒
-3	中度鎮靜	對聲音有反應，但無眼神接觸
-4	重度鎮靜	對聲音刺激無反應，對身體刺激有反應
-5	昏迷	對聲音及身體刺激都沒有反應

表 4、ICU 譫妄評估表 The Confusion Assessment method for the ICU (CAM-ICU)

[不適用於RASS -4～-5的病人]

請記得協助病人戴上眼鏡或助聽器 (如果平常常規使用的話)

特徵 1: 精神狀態改變的急性發作或變動的進程

有無任何從基本精神狀態的急性改變?

或

在過去 24 小時中病患變動的精神狀態是否有鎮靜指數 (RASS)、昏迷指數 (GCS)、或CAM-ICU變化為變動的依據?

NO → CAM-ICU Negative 沒有譫妄

YES ↓

特徵 2: 注意力不集中

用注意力篩檢測驗評估注意力---數字 (聽力) 或圖片 (視覺)

注意力篩檢測驗數字: 隨機數字 "1"測試

若病患可以握手: 對病患說，"我要對你請一個十個數字的序列。無論何時你聽到數字"1"，就握住我的手"。用正常的音調且每個數字間隔3 秒鐘，從以下的數字序列中請出數字。

8 1 7 5 4 1 1 3 6

當病患沒有在 "1" 時握住手或當病患在不是 "1"握住手時，都算是錯誤。

注意力篩檢測驗圖片: 視覺/ 圖片認知

適用於病患無法握手的情況；指引與分數置於圖片盒內。

0-2 錯誤 → CAM-ICU Negative 沒有譫妄

>2 錯誤 ↓

特徵 3: 意識程度改變

評估病人的RASS

RASS不為"0" → CAM-ICU Positive 有譫妄

RASS 為0 ↓

特徵 4: 沒有組織的思考

1. 是/否問題: 一次只用一組問題，可用 A或 B組，若需要連續天數時可交替使用. 若病患無法言語，則請它們點頭/搖頭表示意見.

A組	B組
1. 石頭會浮在水面上嗎?	1.葉子會浮在水面上嗎?
2. 海裡會有魚嗎?	2.海裡會有大象嗎?
3. 一公斤是否比兩公斤重?	3.兩公斤是否比一公斤重?
4. 你可以用鐵鎚釘釘子嗎?	4.你可以用鐵鎚砍木頭嗎?

計分:每當病人回答錯了一個問題，則計為錯誤一次。

2. 對病人下指令: 對病患說:

第一步: "舉出這麼多隻手指" (檢查者在病患面前舉出兩隻手指)

第二步: "現在用另一隻手做一樣的事" (不要用手示範，也不要說出手指數目)。如果病患只能移動一側的手，則在第二步時請病人 "再加上一隻手指"

計分: 若病人無法完成整個指令，則計為錯誤一次。

如果綜合 (問題 + 命令) 錯誤數>1 → CAM-ICU Positive 有譫妄

如果綜合 (問題 + 命令) 錯誤數 0-1 → CAM-ICU Negative 沒有譫妄

臨床情境 Clinical Situation

分類	學名/商品名/單位劑量	建議劑量	注意事項
譫妄藥品	Quetiapine	起始劑量: 25 mg BID PO; 在老人以及具QTc prolongation危險因子者，建議由較低劑量開始(12.5 mg BID PO) 增加劑量: 可視需求每天增加50 mg twice daily 最大劑量: 200 mg BID PO	1. 譫妄處置的優先選擇藥物 2. 相對較少extrapyramidal symptoms (EPS)及QTc prolongation. 3. 相對較強的鎮靜效果 4. 建議給予相對較大的夜間劑量以模仿睡眠周期
	Haloperidol	起始劑量: 0.5-5 mg IV 增加劑量: 每15-30 分鐘，可重複給予bolus dose 或加倍起初的bolus dose直到病人穩定。 然後可以開始Q6H 給予最後使病人穩定下來的bolus dose的25%劑量 最大劑量: 10 mg IV	1. 在使用scheduled quetiapine的病人，可加上haloperidol PRN作為突發性躁動的治療 2. 相對較多的extrapyramidal symptoms (EPS) 及QTc prolongation 3. 盡量避免使用於本身有QTc prolongation或心律不整的病患； 盡量避免併用可導致QTc prolongation的藥物 4. 避免突然停藥: 應每天逐漸減低haloperidol 劑量

臨床情境 Clinical Situation

- 首要任務是預防譫妄發生。
- 留意藥物產生副作用。
- 充足的睡眠與休息、保持每日規律的運動。
- 注意攝取足夠的營養，並維持體內電解質的平衡。
- 已有聽覺或視覺問題的人，多使用助聽器、眼鏡，減少溝通障礙。
- 多用**非藥物方式**處理，例如家人的陪伴、懷舊照片、聽音樂、感官訓練等。(Brancatisano O. et al., 2020)

臨床情境 Clinical Situation

- 音樂能降低腎上腺素能活性進而達到其抗焦慮作用
- 邊緣系統也可以受到音樂的刺激，導致腦內啡的釋放
- 腦內啡是一種神經遞質，具有止痛、抗憂鬱...等好處

- 幾十年來，有許多人員研究音樂治療對不同病人的影響，例如住院、癡呆症、腦損傷和重症患者，也分別有不同結果的影響，止痛、抗焦慮、預防譫妄、減少住院時間和增加患者滿意度等。
  (Sibanda, A. et al., 2019)

使用音樂治療到底能不能改善重症病人的譫妄發生率呢？？？

選用文獻 Literature selection

Systematic Review

Music Interventions and Delirium in Adults: A Systematic Literature Review and Meta-Analysis

Jelena Golubovic [1,2,*], Bjørn Erik Neerland [3], Dagfinn Aune [4,5,6,7] and Felicity A. Baker [1,2]

brain sciences

MDPI

Systematic Review

Music Interventions and Delirium in Adults: A Systematic Literature Review and Meta-Analysis

Jelena Golubovic [1,2,*], Bjørn Erik Neerland [3], Dagfinn Aune [4,5,6,7] and Felicity A. Baker [1,2]

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Abstract: Delirium is a neuropsychiatric syndrome represented by an acute disturbance in attention, awareness and cognition, highly prevalent in older, and critically ill patients, and associated with poor outcomes. This review synthesized existing evidence on the effectiveness of music interventions on delirium in adults, and music interventions (MIs), psychometric assessments and outcome measures used. We searched MEDLINE, PsychINFO, SCOPUS, Clinical Trials and CENTRAL for quantitative designs comparing any MIs to standard care or another intervention. From 1150 studies 12 met the inclusion criteria, and 6 were included in the meta-analysis. Narrative synthesis showed that most studies focused on prevention, few assessed delirium severity, with the majority of studies reporting beneficial effects. The summary relative risk for incident delirium comparing music vs. no music in postsurgical and critically ill older patients was 0.52 (95% confidential interval (CI): 0.20–1.35, I^2 = 79.1%, heterogeneity <0.0001) for the random effects model and 0.47 (95% CI: 0.34–0.66) using the fixed effects model. Music listening interventions were more commonly applied than music therapy delivered by credentialed music therapists, and delirium assessments methods were heterogeneous, including both standardized tools and systematic observations. Better designed studies are needed addressing effectiveness of MIs in specific patient subgroups, exploring the correlations between intervention-types/dosages and delirium symptoms.

Keywords: music interventions; music therapy; delirium; acute confusion; treatment; prevention; systematic review; meta-analysis

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brain sciences

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步驟１：系統性文獻回顧探討的問題為何？

Abstract: Delirium is a neuropsychiatric syndrome represented by an acute disturbance in attention, awareness and cognition, highly prevalent in older, and critically ill patients, and associated with poor outcomes. This review synthesized existing evidence on the effectiveness of music interventions on delirium in adults, and music interventions (MIs), psychometric assessments and outcome measures used. We searched MEDLINE, PsychINFO, SCOPUS, Clinical Trials and CENTRAL for quantitative designs comparing any MIs to standard care or another intervention. From 1150 studies 12 met the inclusion criteria, and 6 were included in the meta-analysis. Narrative synthesis showed that most studies focused on prevention, few assessed delirium severity, with the majority of studies reporting beneficial effects. The summary relative risk for incident delirium comparing music vs. no music in postsurgical and critically ill older patients was 0.52 (95% confidential interval (CI): 0.20–1.35, $I^2 = 79.1\%$, heterogeneity <0.0001) for the random effects model and 0.47 (95% CI: 0.34–0.66) using the fixed effects model. Music listening interventions were more commonly applied than music therapy delivered by credentialed music therapists, and delirium assessments methods were heterogeneous, including both standardized tools and systematic observations. Better designed studies are needed addressing effectiveness of MIs in specific patient subgroups, exploring the correlations between intervention-types/dosages and delirium symptoms.

Outcomes

Population

Intervention

Comparison

Population

Critically Ill Patients

Intervention

Music Interventions

Comparison

No Music Therapy

Outcomes

Delirium Incidence

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？

2.1. Data Sources and Eligibility Criteria

We searched MEDLINE, PsychINFO, SCOPUS, ClinicalTrials.gov and Cochrane Central Register of Controlled Trials. Primary search terms were music and delirium in combination. Other terms commonly used to describe delirium symptoms and to describe music were also searched. We included free terms and MeSH terms, or the database's own controlled vocabulary/thesaurus. Truncations and expanded functions were used where available (Supplementary Method S1).

No filters or limitations in the search engines of the databases were used. Search dates were for available quantitative studies from 1946 to present. The studies were uploaded to the online software Rayyan (https://rayyan.ai/cite) [23] for screening and selection and duplicates were identified and removed. Supplementary Method S2 illustrates our eligibility criteria.

(TITLE-ABS-KEY (delir*) OR TITLE (confus*) OR TITLE-ABS-KEY ("acute confusional state*" OR "toxic confus*" OR "altered mental status" OR "acute psychosis" OR "acute psychotic" OR "icu psychosis" OR ("intensive care unit*" AND psychosis) OR "clouded state" OR "clouding of consciousness" OR "toxic confus*" OR "exogenous psycho*" OR "toxic psycho*" OR "acute encephalopathy" OR "acute brain failure" OR "acute organic psychosyndrome")) AND (TITLE-ABS-KEY (music* OR song* OR sing OR sings OR sing-ing* OR singer* OR chant* OR melod* OR "acoustic stimulation*" OR "auditory stimula-tion*" OR "rhythmic vocalization*" OR piano OR guitar* OR violin*) OR TITLE (vocal* OR sound* OR auditory OR whistl* OR rhythm*))

至少二個主要的資料庫並且加上試驗登錄資料
使用MeSH字串及一般檢索詞彙text words
數據庫搜索引擎中的沒有特別設定任何限制

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？

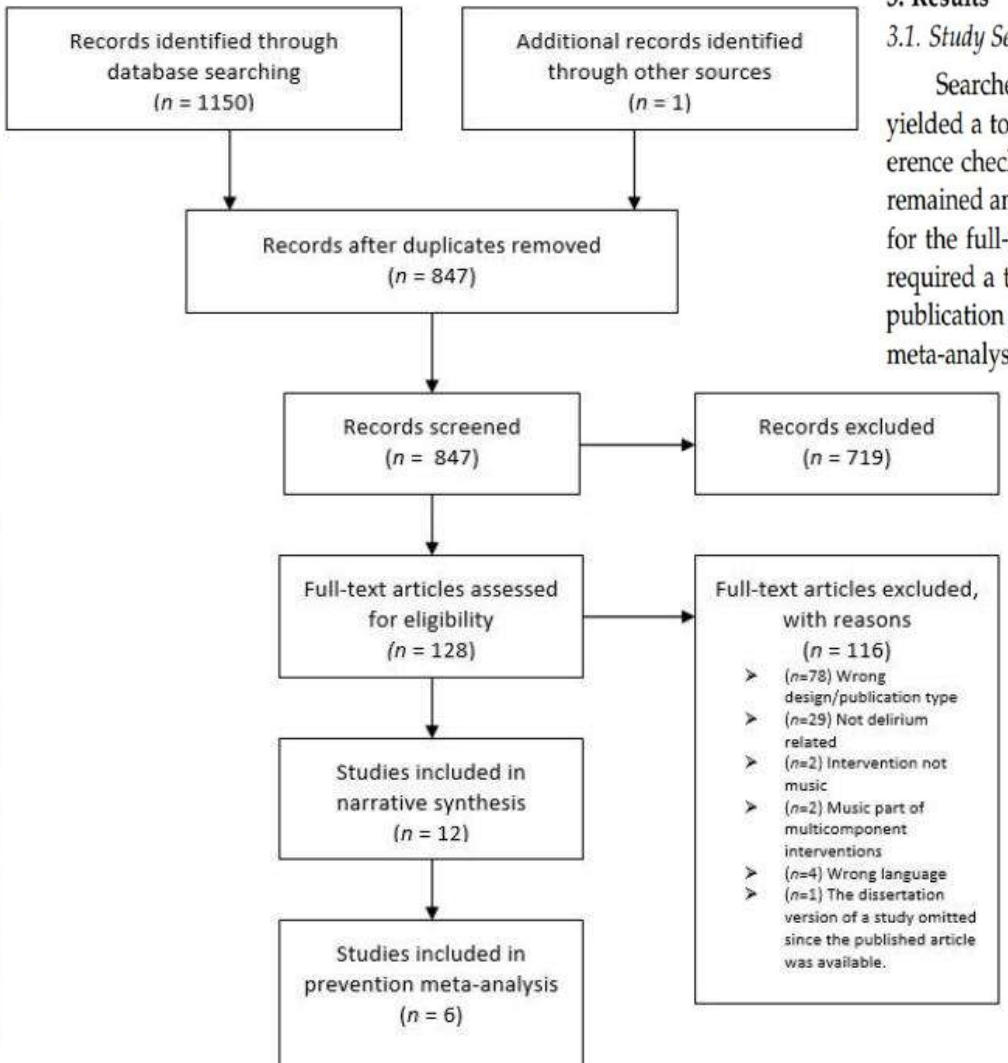
Supplementary method S2. Eligibility criteria

	INCLUSION	EXCLUSION
Participants	Adults (≥18) with or at risk of developing delirium, across medical settings and levels of care	Younger adults (≤18)
Music intervention	Any type of music intervention (including listening to live or pre-recorded music, music making, singing, playing, improvising, music and movement, music and dance, relaxation to music, music therapy etc.).	Music is a component of an intervention, and the impact of music is not reported separately.
	Music interventions delivered and administered by either the medical staff, trained music therapists, musicians, or others.	The effects on the outcome measures for delirium cannot be clearly attributed to the music interventions.
Comparator	No limitations on the type of comparators, expected to find the studies in which the comparator is mainly "the usual care" or another intervention	
Outcome measures	Incidence, severity and/or duration of delirium, any changes and improvements in general well-being related to delirium. Delirium data is reported, regardless of whether the aim of the study was to investigate prevention or treating, and regardless of whether delirium was the main focus of the study. Studies with mixed diagnoses where outcomes were reported separately for delirium;	Delirium or acute confusion not explicitly mentioned;
Methodology	Randomized controlled trials, controlled trials, and quasi-experimental studies, as well as observational studies;	Qualitative studies, program descriptions, surveys, systematic reviews or editorials
Publications	Full papers in peer-reviewed journal, those published as reports, higher degree theses and dissertations;	Ongoing studies, partially published research, studies that were informally reported and/or unpublished, book chapters and books where data was not reported.
Language	Studies in English, Norwegian, Swedish, Danish, Serbian (Croatian, Bosnian), Spanish and Italian.	

文獻有列出納入與排除的原因。

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？



3. Results

3.1. Study Selection

Searches performed on the 16 October 2020, and updated on the 5 October 2021, yielded a total of 1150 studies. One additional study was identified during manual reference checking and citation tracking. After the duplicates were removed, 847 studies remained and after the first screening of the titles and abstracts, 128 studies were selected for the full-text review. After the full text review by 2 reviewers, a further 14 studies required a third reviewer. Our final selection consisted of 12 studies [31–42], with the publication years ranging from 2004 to 2020, and six of the studies were included in the meta-analysis [31,33,34,36,38,42] (Figure 1).

有詳細搜尋策略的說明
包含搜索年限
以及文獻納入與排除的數量

呈現PRISMA的流程圖

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？

Table 1. Characteristics of the included trials.

Study [1] and Design	Setting and Participants	Mean Age (±SD) [2,]	Enrolment Criteria (Delirium-Related)	Number of Participants
Khan et al., 2020 [31] RCT (3 gr.)	Medical and surgica ICU (mechanically ventilated patients)	Total: 57.4 (±14.2)	Delirium risk (not diagnosed at enrolment)	Enrolled: $n = 56$ Data analyzed: 52
Giovagnoli et al., 201 [32] RCT (2 gr.)	LTC facilities or outpatient hospitals moderate Alzheime s patients)	M-AMT: 74.3 (±5.7) M:72.0 (±7.3)	Probable dementia, delirium symptom o dvancing dementia)	Enrolled: $n = 45$ Data analyzed: 43
McCaffrey and Locsi 2006 [36] RCT (2 gr.)	Postoperative orthopedic unit (hip/knee patients)	Total: 75.7 (±6.1) EG:76.8 (±5.1) CG:77.3 (±5.4)	Delirium risk (not diagnosed at enrolment)	Enrolled: $n = 126$ Data analyzed: 124
McCaffrey 2009 [35] RCT (2 gr.)	Postoperative orthopedic unit (hip/knee patients)	EG:74.5 (±4.8) CG:75.9 (±1.2)	Delirium risk (not diagnosed at enrolment)	Enrolled: $n = 22$ Data analyzed: 22
Kim et al., 2020 [33] RCT (3 gr.)	Postoperative ICU postsurgical patients	IMT:74.6 (±5.2) PML:72.3 (±4.7) CG:74.1 (±6.7)	Delirium risk (not diagnosed at enrolment)	Enrolled: 147 Data analyzed: 133
Johnson et al., 2018 [34 RCT (2 gr.)	TICU and TOU postsurgical patients	Total: 71.8 (±9.2)	Delirium risk (not diagnosed at enrolment)	Enrolled: $n = 40$ Data analyzed: 40
Browning et al., 2020 [42] Prospective cohort study (2 gr.)	Medical ICU (mechanically ventilated patients)	MLG: 64 (±12.96) CG:71 (±4.51)	Delirium risk (not diagnosed at enrolment)	Enrolled: $n = 6$ Data analyzed: 6
Correa et al., 2020 [39 Quasi-experimental study (2 gr.)	LTC institutions (patients with dementia/probable dementia)	IGPM: 85.1 (±8.7) CGCM: 85.3 (±7.6)	Probable dementia; delirium symptom o dvancing dementia)	Enrolled: $n = 33$ Data analyzed: 33
McCaffrey and Locsi 2004 [37] RCT (2 gr.)	Postoperative orthopedic unit (hip/knee patients)	Total: 73.3 (±4.8)	Delirium risk (not diagnosed at enrolment)	Enrolled: $n = 66$ Data analyzed: 66
Cheong et al., 2016 [40 One-sample, within-subject	ACU (patients with elirium and dementi)	Total: 86.5 (±5.7)	Dementia with or without delirium	Enrolled: $n = 25$ Data analyzed: 25 (8 had delirium)
Sharda et al., 2019 [38 Pre-experimental (2 static gr.)	POSH clinic (postsurgical inpatients)	POSH: 75.0 CALM:74.6 (SD not reported)	Delirium risk (not diagnosed at enrolment)	Enrolled: $n = 109$ Data analyzed: 45
Helmes and Wiancko 2006 [41] One-sample, within-subject (multiple case study)	ACU (geriatric ssessment ward an amily medicine war patients)	Total: 82.7 (±7.4)	iagnosis of dementia and delirium	nrolled: $n = 9$, (2 had delirium) Data analyzed: 7 (including 2 with

摘要表格呈現所納入的試驗結果並進行統合分析

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

A - 文獻是否經過嚴格評讀 (Appraisal)？

2.2. Study Selection

Titles and abstracts were assessed for inclusion by at least two masked reviewers. Where the abstract and the title did not provide sufficient information to confirm inclusion/exclusion, the studies were included in the full text review. The decisions were made by at least two reviewers, with a third reviewer recruited to resolve disagreements. All decisions regarding the study selection and the reasons for exclusion were recorded in Rayyan software.

2.3. Data Extraction

One reviewer extracted the data using a tailored data extraction form which was informed by our review questions (Supplementary Method S3). Two reviewers independently checked the data for accuracy, and any discrepancies and disagreements were discussed and resolved between the reviewers.

標題和摘要由兩位人員審查，當意見不同時會由第三位人員審查。

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)？

評讀工具介紹：

PEDro
Physiotherapy Evidence Database

1. eligibility criteria were specified — no ❑ yes ❑
2. subjects were randomly allocated to groups (in a crossover study, subjects were randomly allocated an order in which treatments were received) — no ❑ yes ❑
3. allocation was concealed — no ❑ yes ❑
4. the groups were similar at baseline regarding the most important prognostic indicators — no ❑ yes ❑
5. there was blinding of all subjects — no ❑ yes ❑
6. there was blinding of all therapists who administered the therapy — no ❑ yes ❑
7. there was blinding of all assessors who measured at least one key outcome — no ❑ yes ❑
8. measures of at least one key outcome were obtained from more than 85% of the subjects initially allocated to groups — no ❑ yes ❑
9. all subjects for whom outcome measures were available received the treatment or control condition as allocated or, where this was not the case, data for at least one key outcome was analysed by "intention to treat" — no ❑ yes ❑
10. the results of between-group statistical comparisons are reported for at least one key outcome — no ❑ yes ❑
11. the study provides both point measures and measures of variability for at least one key outcome — no ❑ yes ❑

評讀結果：

■是 □否 □不清楚

步驟 2：系統性文獻回顧的品質如何？ F A I T H

I - 是否只納入 (Included) 具良好效度的文章？

3.2.1. Research Designs

Two studies in our selection had a within-subject design [40,41], whereas 10 involved between-group comparisons. Seven studies were randomized controlled trials (RCTs), one an observational, prospective cohort study [42] and two non-randomized studies comparing an experimental group with a historical control group [38,39]. Five RCTs had a two-arm design involving one experimental condition [32,34–37] and two were three-armed trials comparing two experimental interventions with a control group [31,33]. All the included trials were feasibility studies (Table 1).

納入的文章有12篇，prospective cohort study、
non-randomized studie及shistorical control group各一篇
兩篇within-subject design，七篇RCTs

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？

2.4. Quality Assessment (Risk of Bias)

Each article meeting the inclusion criteria was subjected to a quality appraisal using the 11-item PEDro scale [24,25]. Points were awarded for items 2–11 if the criteria were clearly and undoubtedly satisfied, and no points were awarded to item 1 (Supplementary Table S1).

Supplementary table S1. Risk of bias assessment and PEDro-scale criteria

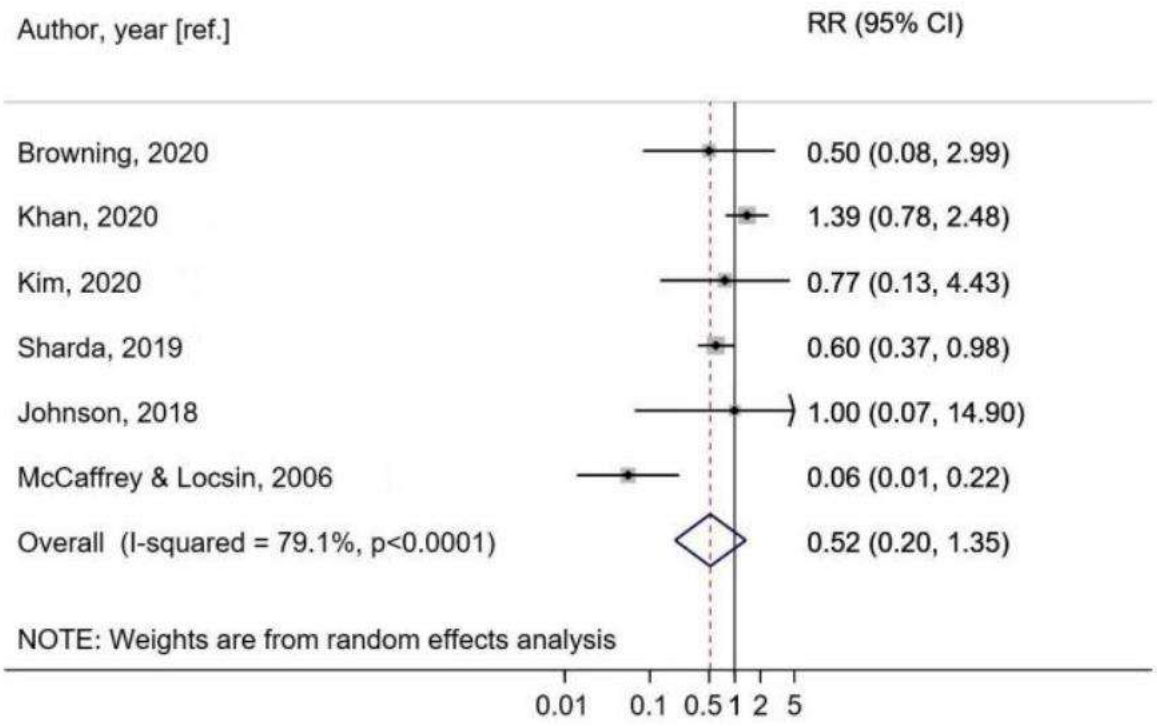
	PEDro item number [a] ✓✗											
Reference	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	11	Total (/12)
Khan et al., 2020	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓	9
Giovagnoli et al. 2018	✓	✓	✓	✓	✗	✗	✓	✓	✓	✓	✓	8
McCaffrey & Locsin 2006	✓	✓	✓	✓	✗	✗	✗	✓	✓	✓	✓	7
McCaffrey 2009	✗	✓	✓	✓	✗	✗	✗	✓	✓	✓	✓	7
Kim et al., 2020	✓	✓	✗	✓	✗	✗	✗	✓	✓	✓	✓	6
Johnson et al., 2018	✓	✓	✗	✓	✗	✗	✗	✗	✓	✓	✓	5
Browning et al., 2020	✓	✓	✗	✗	✗	✗	✗	✓	✓	✗	✓	4
Correa et al., 2020	✓	✗	✗	✗	✗	✗	✗	✓	✓	✓	✓	4
McCaffrey & Locsin, 2004	✓	✓	✓	✗	✗	✗	✗	✗	✗	✓	✗	3
Cheong et al., 2016	✓	✗	✗	✗	✗	✗	✗	✓	✓	✗	✓	3
Sharda et al. 2019	✓	✗	✗	✗	✗	✗	✗	✗	✓	✓	✗	2
Helmet & Wiancko 2006	✗	✗	✗	✗	✗	✗	✗	✗	✓	✗	✗	1

使用PEDro scores來做文獻品質的評估，且結果有列出每篇研究品質的評讀結果。

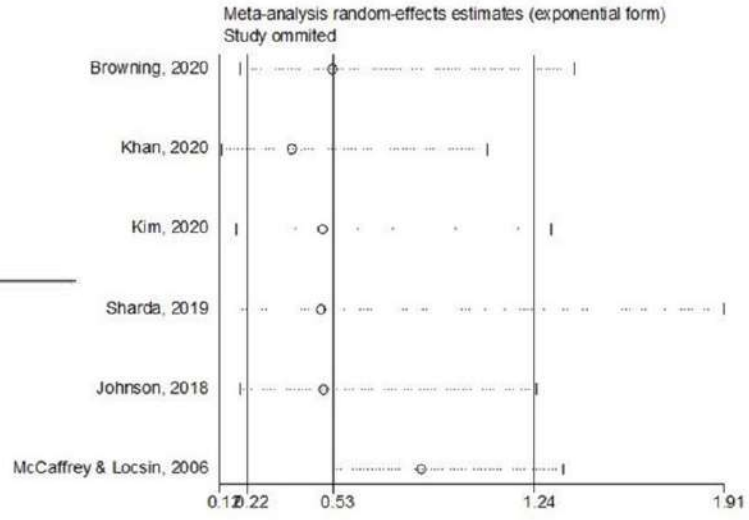
評讀結果：■是 □否 □不清楚

步驟 2：系統性文獻回顧的品質如何？ F A I 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
6篇研究MD=0.52
95%CI 0.20 to 1.35
p<0.0001



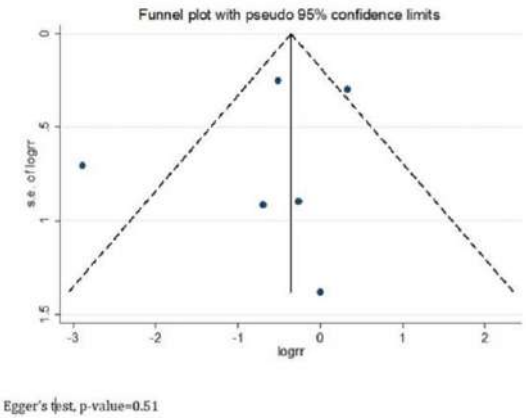
評讀結果：■是 □否 □不清楚

步驟 2：系統性文獻回顧的品質如何？ F A I T H

H - 試驗的結果是否相近-異質性 (Heterogeneity)？

Only six studies were included in our meta-analysis, with allocation concealment and masking lacking in the majority of them, and with one study also lacking randomization; thus, indicating relatively high risk of bias. Given that the power in a meta-analysis depends both on the effect size, variance, heterogeneity, number of studies and sample size in the studies, our meta-analysis may be considered powered to detect a summary effect size. Conducting both the Chi-squared test and the I-squared test to detect heterogeneity and inconsistencies across the studies is a strength, given that the Chi^2 is less powered when few studies with small samples are included, whereas the I^2 test gives an estimate that is less dependent on the number of included studies and more focused on the impact of the heterogeneity on the meta-analysis. The I^2 result of 79.1% shows that the variability in observed effects can be attributed to the substantial heterogeneity among the included studies, and that the result of our meta-analysis is thus not robust and should be considered as only explorative, warranting more and better designed research.

In conclusion, this review presents the evidence on MIs potentially being effective in prevention of postoperative delirium in older adults, based on the meta-analysis of the data from six clinical studies, with substantial heterogeneity, small samples and high risk of bias. More high-quality studies with larger homogenous samples are necessary to substantiate the inferences about the application and effectiveness of MIs in treatment/prevention of delirium in specific patient groups, as well as about correlations between different types and dosages of MIs, and particular delirium symptoms.



研究之間異質性高
並進行統合分析

分析可能原因是
1.平均年齡差距大
2.樣本數差距大
3.文章品質差異大

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

總結	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？	是
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

步驟 3：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)?

4. Discussion

Our meta-analysis indicated an approximately 50% reduction in risk of delirium after exposure to music compared to non-exposure in postsurgical and critically ill ICU patients. Although the results were statistically significant only in the secondary, sensitivity analysis using a fixed effects model, and not in the primary random effects analysis, the summary estimate was similar for the two models. Our narrative synthesis showed that most studies reported some beneficial effects of MIs on direct or indirect delirium outcomes, although the results were not always statistically significant. The majority of the studies involved receptive, ML interventions, while few examined the effects of expressive, improvisational MT.

研究結果：與未接觸音樂相比，重症 ICU 患者接觸音樂後，發生譫妄的風險降低了約 50%

限制：1.研究裡除了統合分析還有敘述性整合，因此無法斷定聆聽哪種類型的音樂能更有效地預防及治療譫妄，所以無法針對如何是最佳的執行方法做出結論。

2.納入標準設定太廣泛導致參與者樣本有高度異質性，也因此限制了研究結果的普遍性。

音樂治療沒有固定的「治療音樂」，每一個人因為有不同的背景、文化、年齡的差異，所以沒有一首曲子是可以讓所有人都感到愉悅或放鬆的，可能對大多數的人產生某種作用，但絕不是所有的人 (周、鍾，2017)。

音樂風格選擇多樣，如：宗教音樂、流行音樂、搖滾樂與古典樂等，目前尚無提及何種風格最能使患者降低譫妄，建議音樂型態選擇：慢節律、低頻音調及可使人放鬆的音樂，才能避免音樂治療造成反效果，持續時間則以20~45分鐘為宜，避免因持續播放音樂造成患者厭煩與不適躁動 (賴、陳，2021)。

議題討論-實證轉譯運用至臨床

議題討論-實證轉譯運用至臨床

是否贊成使用音樂治療改善重症病人的譫妄發生率？？

同意	18票
待評估	4票
不同意	0票