

论文学习汇报

ICU 张建波

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简介

题目：Is there a role for music in the ICU?
音乐对于ICU病人是否有用？

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Expanded abstract

抽象扩展

Citation

Chlan LL, Weinert CR, Heiderscheit A, Tracy MF, Skaar DJ, Guttormson JL, Savik K: Effects of patient-directed music intervention on anxiety and sedative exposure in critically ill patients receiving mechanical ventilatory support: a randomized clinical trial. JAMA 2013, 309:2335-2344.

* 引用:

Chlan LL, Weinert CR, Heiderscheit A, Tracy MF, SkaarDJ, Guttormson JL, Savik K等人通过临床随机试验于2013年在《美国医学会杂志》上指出：在危重患者进行机械通气时，通过音乐干预可以影响疾病的发展，特别是对病员焦虑以及镇静的影响。

背景

Background

Alternatives to sedative medications, such as music, may alleviate the anxiety associated with ventilatory support

镇静药物的替代品,比如音乐,可以缓解焦虑与通气支持。

Methods

Objective: The aim of the study was to test whether listening to self-initiated patient-directed music (PDM) can reduce anxiety and sedative exposure during ventilatory support in critically ill patients.

Design: This study was a randomized clinical trial.

方法

目的：这项研究的目的是测试是否在听自创的对疾病有导向作用的音乐(PDM)可以减少焦虑和镇静剂在通气重症病人的支持力度。

设计：这项研究是一个随机临床试验。

Methods

方法

Setting: In 12 ICUs of five hospitals in the Minneapolis–St Paul, Minnesota area, 373 patients receiving acute mechanical ventilatory support for respiratory failure were enrolled between September 2006 and March 2011. Of the patients included in the study, 86% were white, 52% were female, and the mean age was 59 years. The patients had a mean Acute Physiology, Age and Chronic Health Evaluation III score of 63 and a mean of 5.7 study days

- * **研究设计:**在明尼苏达州明尼阿波利斯-圣保罗5家医院12个icu里面，选取2006年9月至2011年3月之间373名因急性呼吸衰竭而进行机械通气的患者进行研究。参与在这项研究的患者,86%的人为白人,52%是女性,平均年龄为59岁。患者急性生理、年龄和慢性健康评估（APACHE III）平均得分为63分,参与实验平均为5.7天

Interventions: The patients received self-initiated PDM (n = 126) with preferred selections tailored by a music therapist, or self-initiated use of noise-canceling headphones (NCH; n = 122), or usual care (n = 125).

- * 干预设置：一部分患者接受自创的PDM(n = 126),优先选择治疗师定制的音乐；另外一部分使用自创的噪音消除耳机(NCH;n = 122)；最后一部分患者采用常规护理(n = 125)。

Outcomes: Daily assessments of anxiety (on a 100 mm visual analog scale) and two aggregate measures of sedative exposure (intensity and frequency) were assessed.

*** 效果观察:每日焦虑的评估(100毫米视觉模拟量表)和两种镇静剂综合措施(强度和频率)进行了评估**

Results

Patients in the PDM group listened to music for a mean of 79.8 (median (range) 12 (0 to 796)) minutes/day.

Patients in the NCH group wore the noise-abating headphones for a mean of 34.0 (median (range), 0 (0 to 916)) minutes/day. The mixed-models analysis showed that,

at any time point, patients in the PDM group had an anxiety score that was 19.5 points lower (95% confidence interval, -32.2 to -6.8) than patients in the usual care group (P = 0.003).

By the fifth study day, anxiety was reduced by 36.5% in PDM patients. The treatment × time interaction showed that PDM significantly reduced both

measures of sedative exposure. Compared with usual care, the PDM group had reduced sedation intensity by -0.18

(95% confidence interval, -0.36 to -0.004) points/day

(P = 0.05) and had reduced frequency by -0.21 (95%

confidence interval, -0.37 to -0.05) points/day (P = 0.01).

The PDM group had reduced sedation frequency by -0.18

(95% confidence interval, -0.36 to -0.004) points/day versus

the NCH group (P = 0.04). By the fifth study day, the

PDM patients received two fewer sedative doses (reduction of 38%) and had a reduction of 36% in sedation intensity.

结果：PDM患者组听音乐平均时间为79.8(中位数(范围)12(0 - 796))分钟/天。NCH组患者戴耳机的平均时间是34.0(中位数(范围),0(0 - 916))分钟/天。混合模型分析表明,在任何时间点,在PDM患者组比常规护理组患者焦虑得分低19.5分(95%的置信区间,- 32.2 - -6.8) (P = 0.003)。通过五天的研究,焦虑在PDM患者中减少了36.5%。治疗×时间交互显示,PDM显著降低镇静的水平。与常规护理,PDM组镇静强度减少了-0.18(95%置信区间,- 0.36--0.004)点/天(P = 0.05),减少镇静的频率-0.21(95%的置信区间,-0.37- -0.05)点/天(P = 0.01)。相对NCH组, PDM组镇静频率降低了-0.18 (95%置信区间,- 0.36- -0.004)点/天 (P = 0.04)。通过五天的研究, PDM组患者接受两个镇静剂量减少(减少的38%)和镇静强度减少36%。

* Conclusions

Among ICU patients receiving acute ventilatory support for respiratory failure, PDM resulted in greater reduction in anxiety compared with usual care, but not compared with NCH. Concurrently, PDM resulted in greater reduction in sedation frequency compared with usual care or NCH, and greater reduction in sedation intensity compared with usual care but not compared with NCH.

结论

在ICU患者急性通气支持呼吸衰竭,与常规治疗相比,在病员焦虑方面PDM导致更大的减轻,但不能与NCH相比较。同时,PDM导致更大的减少在镇静频率较之常规护理和NCH。在镇静强度方面强度更大的减少较之常规护理而不是与NCH相比。

Commentary

- * Music is an intriguing but relatively understudied intervention
- * with multiple potential benefits for mechanically ventilated, critically ill patients. As ICU and hospital mortality improve, other patient-centered outcomes such as alleviating pain, discomfort, and anxiety become important to address [1] – not only from a patient care perspective but also due to their role in improving long-term effects, such as post-traumatic stress disorder [2].

结论

音乐是一种有趣的但又可以相对干预机械通气，对于危重病人具有多个潜在好处。在ICU和医院重视死亡率的同时，等以病人为中心的护理理念也在加强，更加重视缓解疼痛、不适和焦虑等，不仅从病人护理的角度来看，同时也作用于长期影响，如创伤后应激综合症。

- * Often the response to anxiety and stress amongst patients
- * involves sedation, with common side effects such as
- * bradycardia, hypotension, weakness, and delirium [3]. As
- * a result, the 2013 Society of Critical Care Medicine Guidelines
- * for the Management of Pain, Agitation, and Delirium
- * in the ICU recommend nonpharmacologic interventions,
- * such as music, because they are opioid-sparing, low cost,
- * easy to provide, and safe, while acknowledging that few
- * studies have been published on their effectiveness

经常通过镇静来缓解对患者焦虑和压力,常见的副作用等心动过缓、低血压、虚弱和谵妄[3]。因此,2013年重症监护医学会针对疼痛、烦躁和谵妄的指导方 在ICU推荐非药物治疗干预措施,比如音乐,因为它不会成瘾、低成本,提供方便,和安全,同时承认研究已经发表在其疗效

- * Despite the perceived benefits of music, there are very
- * few studies validating its use in critically ill patients.
- * Those studies that have examined the effect of music have
- * only done so in the course of a single listening session,
- * either by observing a beneficial effect in heart rate and
- * respiratory rate [5] or in overall anxiety [6]. The long-term
- * effects remain more uncertain, as one study noted that the
- * decrease in blood pressure observed during a music listening
- * session was accompanied by a corresponding rise after
- * cessation of treatment [7]. A final study found no effect of music on serum biomarkers of the stress response between patients listening to music and those resting quietly.

尽管音乐的好处,有非常一些研究验证其在重症病人中使用。这些研究调查了音乐的影响,只有这样做一个听力会话的过程中,通过观察心率和呼吸频率对于焦虑有益的效果。但对于总体来说,长期的影响仍然更加不确定。一项研究指出,在听音乐期间病员血压降低,伴随着音乐治疗停止,血压又会升高。最后一项研究没有发现音乐对生物血清标志物压力反应的影响患者听音乐和安静地休息

- * This study is a three-arm randomized trial examining
- * the effect of patient-directed music (PDM) on
- * anxiety and sedative exposure in mechanically ventilated
- * patients compared with noise-canceling headphones (NCH)
- * and usual care. Sedation exposure was measured both
- * in terms of intensity (weight-adjusted dose given during
- * a 4-hour block) and frequency (the number of 4-hour blocks during which any sedation was administered) [9].
- * Because anxiety is directly related to amount of sedation,
- * results were modeled using a mixed-effects analysis to
- * predict anxiety, sedation frequency, and intensity while
- * adjusting for covariates of interest. Overall, PDM was
- * associated with lower anxiety scores, sedation frequency,
- * and sedation intensity compared with usual care. There
- * was no significant reduction in anxiety or sedation intensity for PDM compared with NCH.

本次研究针对音乐(PDM)、噪音消除耳机(NCH)、常规护理对于机械通气患者的焦虑和镇静剂量的影响

。

结果使用mixed-effects分析建模预测焦虑、镇静的频率和强度。总的来说,PDM与常规护理相比是降低焦虑分数,镇静的频率,和镇静作用强度。但是针对NCH,没有显著减少焦虑或镇静强度和剂量

。

- * This study took on the challenging task of measuring
- * in a randomized, prospective manner an aspect of patient
- * care that is both often neglected and difficult to quantify.
- * Additionally, the study quantified the endpoint of anxiety
- * while separating out the possible confounding effect
- * of sedation. However, while this study provides a good
- * framework for examining the role of music in the ICU
- * patients, several issues remain. First, the eligibility criteria
- * eliminated over 96% of patients evaluated for the study, as
- * patients were invited to participate if they were alert,
- * participating in their daily care routines, appropriately
- * following commands, cognitively intact to participate in
- * the consent process, and had adequate or corrected vision
- * and hearing. While including these criteria was probably

本研究测量的具有挑战性的任务在一个随机、前瞻性方式病人的一个方面护理,常被忽视的,很难量化。此外,研究量化端点的焦虑而分离出可能的混杂效应镇静。然而,尽管这项研究提供了一个很好的框架研究ICU中音乐的作用患者,一些问题仍然存在。首先,合格标准消除超过96%的病人评估研究病人被邀请参加如果他们提醒,适当地参与日常护理程序命令后,认知的完整参与同意的过程,有足够的或纠正视力和听力。而包括这些标准可能是

- * necessary so that the study arms could be easily compared
- * without confounders such as acute illness and unresponsiveness,
- * the rigidity of the inclusion and exclusion criteria
- * also detracted from the study's generalizability. Additionally,
- * sedation was not protocolized or standardized, which
- * could potentially decrease the robustness of the main
- * study outcome measure of sedative exposure [10]. Finally,
- * while a decrease in both anxiety and sedation was demonstrated
- * with the use of PDM over usual care, further studies
- * will be needed to delineate the extent of the benefit
- * of PDM, especially as it related to NCHs, because no
- * difference in anxiety scores or sedation intensity was demonstrated
- * between the PDM and NCH groups.

必要的,以便研究很容易比较
没有干扰因素如急性疾病和反
应迟钝,包含和排除标准的僵
化从研究的普遍性也贬低了。

此外,镇静不是标准化,可能会
影响研究结果的

- * The role that music should play in the care of ICU
- * patients has yet to be defined. For the patient who meets
- * the study's rigid inclusion criteria, PDM is a compelling
- * option – music is inexpensive with few adverse effects,
- * is easy to administer, and, based on this study, may
- * reduce anxiety and sedation compared with usual care.
- * The findings of this study underscore the importance
- * of addressing behavioral issues in the ICU to improve
- * patient-centered outcomes. Could music play a broader
- * role in the care of critically ill patients? At this point,
- * further
- * study is required – particularly with regards to the
- * effect of music on populations excluded from this study
- * and the long-term cost and feasibility outside a study
- * setting. The cost may be well justified by the overall
- * cost savings, but this will need to be further defined and
- * quantified in further studies.

音乐中应该扮演的角色在ICU的护理还没有被定义。

但是以病人为中心的护理理念，让音乐在危重患者护理中发挥更广泛的作用，在这一点上,进一步研究是必需的，但这需要进一步的定义在进一步研究量化。

Recommendation

Music has the potential to benefit critically ill patients. However, the lack of evidence of its efficacy in a broad population and the need for further validation discourages its widespread use at the current time.

- * 建议：
- * 音乐对重症病人有潜在的好处，
- * 然而,在当前时间广泛推广使用还缺乏有力的证据，需要人们进一步验证。