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Article type : EBNEO Review

The effects of music on hospitalized preterm neonates

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This is the author manuscript accepted for publication and has undergone full peer review but has not been through the copyediting, typesetting, pagination and proofreading process, which may lead to differences between this version and the [Version of Record](#). Please cite this article as [doi: 10.1111/apa.14380](https://doi.org/10.1111/apa.14380)

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TITLE OF WRITE-UP

Nursery rhymes: the effects of music on hospitalized preterm neonates

MANUSCRIPT CITATION

Dane E Anderson & Aniruddh D Patel. Infants born preterm, stress, and neurodevelopmental in the neonatal intensive care unit: might music have an impact? *Developmental Medicine & Child Neurology*. 2018 Jan 24; ePub ahead of print doi: 10.1111/dmcn.13663. *PMID* 29363098

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COMMENTARY:

The use of music to soothe babies predates written history (1). As more medically vulnerable infants survive, and spend long periods hospitalized, Developmental Care has evolved to optimize neurodevelopment. As part of the emergence of Developmental Care, medical research has reflected a growing interest in the role of music with hospitalized neonates, its effectiveness and the mechanisms by which it may change infant outcomes.

Here (2), Anderson and Patel examined studies of musical interventions for hospitalized neonates, excluding reviews and meta-analyses. They chose ten papers that they perceived as methodologically rigorous, and summarized them to “highlight the most well-supported data.”(2) Based on these papers, they suggested that music had effects on behavioral and physiological infant metrics, ranging from reduced inconsolable crying to reduced resting energy expenditure. Further, the authors emphasized studies that explored the mechanisms by which music affects behavioral and physiological markers. It should be noted that the strength of the selected evidence varied (e.g. methodologies ranging from within-subject comparison designs to randomized controlled trials (RCTs), and was not subject to a standardized measure of methodological rigor. A further consideration, as the authors note, is that the examined studies used a range of stimuli, from commercially-available recordings to live parent performance. This methodological heterogeneity may have a considerable effect on outcomes.

While previous meta-analyses and systematic reviews on this topic exist (3–6), this review took a neurodevelopmental perspective, and highlighted only those

studies that seemed most rigorous, based on author perception. However in the absence of a replicable, standardized evaluation of methodological quality, and a systematic approach to study selection, the conclusions must be interpreted cautiously.

The authors (2) highlighted pertinent directions for research – uncovering mechanisms by which music affects preterm infants; and investigating long-term neurodevelopmental effects of musical interventions. They further emphasized the need for trained music therapists to deliver direct interventions, to avoid overstimulation of the infant. We would add that indirect interventions delivered by music therapists such as training parents to deliver infant-led musical stimulation may provide a safe and culturally-responsive intervention, and merits further research (7).

With recent evidence suggesting that preterm neonates may be suffering from sensory deprivation (8,9), this review complements previous evidence (3–6) in suggesting that music therapy may moderate the effects of preterm birth on neurodevelopment. However further investigation through well-designed and adequately powered RCTs, which give appropriate consideration to the nature of the musical stimuli provided, will be essential in establishing the short- and long-term effectiveness and safety of this intervention.

FUNDING:

National Health and Medical Research Council (career development grant 607315, Centre for Research Excellence in Child Language grant 1023493; Career Development Fellowship 11098714, Centre for Research Excellence in Newborn Medicine grant 1060733), Australian Government Research Training Program Scholarship, Speech Pathology Australia's Nadia Verrall Memorial Research Grant, Victorian government Operational Infrastructure Support Program.

CONFLICTS OF INTEREST:

The authors have no potential conflicts of interest to declare

URL to the full review on the EBNEO web site:

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Title:

The effects of music on hospitalised preterm neonates

Date:

2018-08-01

Citation:

Sanchez, K., Morgan, A. & Spittle, A. (2018). The effects of music on hospitalised preterm neonates. ACTA PAEDIATRICA, 107 (8), pp.1473-1473. <https://doi.org/10.1111/apa.14380>.

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