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COMMENT

Centering pediatric research, advocacy, and clinical care around early relational health

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> *"Early Relational Health is the state of emotional well-being that grows from emotional connection between babies and toddlers and their parents and caregivers when they experience strong, positive, and nurturing relationships with each other.*
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> *Early Relational Health is foundational to children's healthy growth and development and their parents' and caregivers' sense of competence, connection, and overall well-being. These strong and enduring relationships also help to protect the family from the harmful effects of stress."*
>
> –Nurture Connection[1]

There is mounting evidence that supporting "early relational health", or safe, stable, and nurturing relationships between children and their caregivers during the earliest years of life, promotes comprehensive child wellbeing.[2] Early relational health is associated with improved mental health outcomes and has particular relevance in the context of the current pediatric mental health crisis. Supporting early relational health represents a paradigm shift in pediatric research, advocacy, and clinical care. It emphasizes fostering family strengths, such as positive childhood experiences, rather than mitigating deficits.[3] It considers the influence of environmental factors beyond the traditional medical setting.[4] Finally, it requires broadening our conceptualization of outcome measures to consider those such as educational metrics which are closely linked to child wellbeing.[5]

In this issue of *Pediatric Research*, Solis-Urra et al provide further evidence of the link between early life factors, specifically birth weight and birth length, and the development of brain networks.[6] This study benefits from a multidisciplinary authorship team with expertise from medicine, education, epidemiology, and psychology. Transdisciplinary collaboration is particularly fruitful in investigating outcomes such as academic achievement that have traditionally been outside the scope of medicine but are central to child wellbeing. While the authors did not find an association between birth weight and birth length with academic performance, they acknowledge that additional outcome measures such as emotional regulation should be examined in future studies. This work adds to a strong body of evidence highlighting the importance of early life factors on brain development. We agree with the authors that future work should investigate the impact of early life factors on outcomes directly related to early relational health.

In 2021, the American Academy of Pediatrics released a policy statement emphasizing that promotion of relational health is central to the work of pediatricians.[7] Due to their positive effects on developing neural networks, relationships between children and their caregivers during the first 1000 days of life have a profound impact throughout the life course.[8] We join others in calling for a pediatric research, advocacy, and clinical care infrastructure that will investigate associations between early relational health and child health outcomes, identify and promote evidence-based policies, and evaluate programs that foster early relational health in real world settings. We outline several ways to help achieve this goal and highlight examples of successful practices and policies.

RESEARCH TO BUILD EVIDENCE BASE

A recent meta-analysis responded to evidence linking strong early relational health to improved child wellbeing. While authors found that existing interventions promoting early relational health in the first six months of life significantly improved measures of early relational health, such as bonding, parent/caregiver sensitivity, attachment, dyadic interactions, and parent/caregiver anxiety but did not improve developmental outcomes.[9] This is more likely due to study limitations than the absence of an association because the majority of the studies evaluated outcomes shortly after intervention delivery and less than one-quarter included developmental metrics. These findings underscore the critical need for research that investigates the impact of programs supporting early relational health on long-term outcomes and identifies ways to optimize interventions. The multidisciplinary Early Relational Health Learning Community recently released a research agenda which outlined gaps in the literature and emphasized the need for a data-driven approach that will integrate mechanistic research with the evaluation of clinically-relevant interventions.[10]

Research investigating mechanisms by which early relational health influences long-term outcomes should occur not only in

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primary care but also in inpatient and pediatric subspecialty settings. In addition to generating additional insights about the relationship between early relational health and specific pediatric diseases, integration of this research into the pediatric subspecialty setting can leverage existing research and clinical infrastructures. Examination of adverse childhood experiences in the pediatric subspecialty literature provide examples of how early relational health could be considered as a predictor variable when examining outcomes among children with chronic diseases.[11] This can also inform tailoring of early relational health interventions for specific pediatric populations.

Intersections between research and advocacy are particularly relevant in the field of early relational health where there is a need for broad policy reform to ensure all children benefit from nurturing environments and relationships. First, research can inform advocacy efforts. For example, studies documenting the positive effects of postpartum Medicaid expansion on maternal and child outcomes provide further evidence to guide advocacy efforts. Next, advocacy priorities can help inform development of policy relevant research questions. Further evidence showing the positive benefits of screening for caregiver depression and unmet material needs may help guide payment reform.

TRANSDISCIPLINARY COLLABORATION AND COMMUNITY ENGAGEMENT

Elevating the importance of early relational health in pediatric research, advocacy, and clinical care requires transdisciplinary collaboration between pediatrics and other fields with similar goals of improving outcomes for children and families. The science of early relational health integrates insights from medicine as well as related fields such as education and psychology.[12] Structures that promote community engagement and collaboration will help further this work. The Boston University Institute for Early Childhood Well-Being unites collaborators across a large research university to facilitate research, community engagement, and education.[13] Transdisciplinary collaboration and community engagement ensure research projects and clinical programs respond to diverse fields' insights and consider the real-world contexts of children and families. It also has the potential to foster advocacy in educational settings where physicians are less likely to be present.

SHARING DATA ACROSS DISCIPLINES AND CONTEXTS

To improve the infrastructure to support early relational health across pediatric research, advocacy, and clinical care, we must also ensure that there are systems for sharing data across disciplines and contexts. As we shift our focus to early relational health, there will be an even greater need to measure outcomes such as academic achievement which are traditionally outside the purview of medicine. This requires creative solutions that both respect privacy and address administrative barriers to data sharing between educational and medical systems. Countries with universal healthcare and education systems, such as New Zealand and the Netherlands, allow for data analysis that integrates health and education outcomes. In the United States, where systems and therefore data are more fragmented, there is a critical need for innovative solutions. There are several examples of local data linkages, but this is needed on a broader scale. Solutions such as integration of external data into the electronic medical record require trust across different disciplines and management of privacy considerations. Leveraging digital platforms to equip families with their own, portable data may address some of these challenges but requires innovation to ensure that they are user-friendly and remain up-to-date.

ENGAGING FAMILIES AS PARTNERS AND CONSIDERING DIVERSE NEEDS

It is critical that this work involve families as partners and include caregivers with different lived experiences. Developers of interventions to support early relational health have responded directly to the needs of families. For example, Parents as Teachers personalizes programming to support development within the context of the parent-child relationship. Other programs such as the Video Interaction Project, which provides guided reflection on a videotaped parent-child encounter with a developmental specialist, incorporate an awareness of structural inequities and the ways in which promotion of early relational health can further health and educational equity. There is a need for greater understanding of early relational health among children with special healthcare needs and their caregivers. While plausible that different developmental capacities and parental experiences related to caring for a child with medical complexity may impact early relational health, less is known about early relational health among this population. This research can contribute to clinical programs and advocacy for policies that improve wellbeing among medically vulnerable populations.

Moving beyond screening for and addressing deficits to adopt this strengths-based approach has the potential to transform pediatric health and improve the life trajectories of the next generation of children. This requires new infrastructures which easily integrate data and exchange of ideas across the multiple disciplines (i.e., medical systems, child care, and preschool settings) engaged in improving child health and across the arenas of research, advocacy, and clinical service delivery.

These infrastructures can help us leverage our respected voices as child health experts to generate support for policies and legislation that support early relational health.[14] In addition to its negative impacts on lifelong health, educational, and economic outcomes, economic hardship in early childhood also interferes with strong early relational health. Policies such as paid family leave, increasing child tax credits and reducing administrative burdens for SNAP improve economic security and should be supported.[15] In addition, advocating for integrated early childhood supports for families such as community health workers and behavioral health resources may help foster early relational health both within and outside of medical settings.[14] Furthering such policies will contribute to a paradigm shift that will allow us to fulfill our promise to improve comprehensive child wellbeing through research, advocacy, and clinical care.

REFERENCES

1. Nurture Connection. Why ERH Matters: Early Relational Health Explained. https://nurtureconnection.org/early-relational-health/early-relational-health-explained/ (2024).
2. Center on the Developing Child. *The Foundations of Lifelong Health Are Built in Early Childhood*. www.developingchild.harvard.edu (2010).
3. Bethell, C., Jones, J., Gombojav, N., Linkenbach, J. & Sege, R. Positive Childhood Experiences and Adult Mental and Relational Health in a Statewide Sample: Associations Across Adverse Childhood Experiences Levels. *JAMA Pediatr.* **173**, e193007 (2019).
4. Miller, A. L. et al. From zero to thrive: A model of cross-system and cross-sector relational health to promote early childhood development across the child-serving ecosystem. *Infant Ment. Health J.* **43**, 624–637 (2022).
5. Williams, P. G., Lerner, M. A. & COUNCIL ON EARLY CHILDHOOD. School Readiness. *Pediatrics* **144**, e20191766 (2019).
6. Solis-Urra, P. et al. Early life factors and structural brain network in children with overweight/obesity: The ActiveBrains project. *Pediatr Res*. 2024;95.
7. Garner, A., Yogman, M. & COMMITTEE ON PSYCHOSOCIAL ASPECTS OF CHILD AND FAMILY HEALTH, SECTION ON DEVELOPMENTAL AND BEHAVIORAL PEDIATRICS, COUNCIL ON EARLY CHILDHOOD. Preventing Childhood Toxic Stress: Partnering With Families and Communities to Promote Relational Health. *Pediatrics* **148**, e2021052582 (2021).

8. Fox, S. E., Levitt, P. & Nelson, C. A. How the Timing and Quality of Early Experiences Influence the Development of Brain Architecture. *Child Dev.* **81**, 28–40 (2010).
9. Lavallée, A. et al. Dyadic Parent/Caregiver-Infant Interventions Initiated in the First 6 Months of Life to Support Early Relational Health: A Meta-Analysis. *Pediatrics* https://doi.org/10.1101/2022.10.29.22281681 (2022).
10. Dumitriu, D. et al. Advancing early relational health: a collaborative exploration of a research agenda. *Front Pediatr.* **11**, 1259022 (2023).
11. Pernell, B. et al. Adverse childhood experiences in children and adolescents with sickle cell disease: A retrospective cohort study. *Pediatr. Blood Cancer* **69**, e29494 (2022).
12. Li, J., Ramirez, T., Barnes, S. *Early Relational Health: A Review of Research, Principles, and Perspectives* (The Burke Foundation; 2023).
13. The Boston University Institute for Early Childhood Well-Being. https://sites.bu.edu/ecinstitute/ (2023).
14. Johnson, K., Nagle, G., Willis, D. W. *State Leadership and Policy Action to Advance Early Relational Health* (Nurture Connection; 2023).
15. Troller-Renfree, S. V. et al. The impact of a poverty reduction intervention on infant brain activity. *Proc. Natl Acad. Sci.* **119**, e2115649119 (2022).

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COMPETING INTERESTS

The authors declare no competing interests.

ADDITIONAL INFORMATION

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