

Bridging the Gap in Pediatric Care: Occupational Therapy and Joint Compressions in Primary Care Practice

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ABSTRACT

This case report highlights the role of occupational therapy (OT) in addressing developmental delays within primary care, particularly in rural areas where access to specialists is limited. Madison, a three-month-old infant, presented with motor delays but faced long wait times for specialist appointments. OT intervention, involving joint compressions to enhance proprioception and motor function, was introduced early through a family connection, resulting in significant improvement. This case underscores the potential of OT to bridge gaps in care, reduce delays, and provide cost-effective, timely interventions, advocating for OT integration in primary care settings to enhance pediatric healthcare outcomes.

Keywords

Primary care practitioners (PCP), Population health, Occupational therapy, Rural health.

Introduction

Primary care practitioners (PCP) are often the first resource for parents and caregivers in rural communities who have concerns about their child's social, emotional, psychosocial and/or physical needs [1]. The PCP frequently refers children for specialized healthcare services that are the scope of their office or outside their healthcare system. For example, a child with psychosocial concerns may be referred by the PCP to a school counselor, psychology services or psychiatric services. However, the process of accessing additional services can be time-consuming, complex, and expensive. As a result, parents and caregivers may not always follow through with referrals, particularly in rural areas where access to specialists is limited.

Occupational Therapy's Value-Added Role in Pediatric Healthcare

Occupational therapists are uniquely positioned to bridge the gap between primary care and specialist services [2]. Embedding OT

within primary care settings would allow for early interventions, helping families avoid the wait times and costs associated with referrals to specialists [3]. By offering screenings and interventions within primary care, occupational therapists can help address developmental issues like motor delays as soon as they are identified by the PCP, providing real-time solutions and minimizing delays in care. Occupational therapy can also help reduce healthcare costs by addressing developmental concerns early, preventing the need for more intensive and expensive treatments later. This aligns with the goals of the Triple Aim improving patient experience, reducing healthcare costs, and improving population health [4].

Case Presentation

The parents of three-month-old Madison brought her to the PCP for a routine check-up. During the check-up, her mother expressed concerns about Madison's motor development, noting that the infant did not move her left arm or leg and only turned her head to the right when playing or lying on her back and moved her right arm and leg. The PCP referred the family to a local orthopedic office, but the first available appointment was three weeks away. At the orthopedic office, after the three-week wait, the parents were told to seek further consultation with a pediatric orthopedic specialist due to uncertainty about the cause of the motor issues. The earliest

appointment with the pediatric specialist was scheduled for two weeks after the visit with the local orthopedic office, totaling five weeks from the initial visit to the PCP. Additionally, the pediatric specialist was not within the family's insurance network, meaning the cost of the visit would not be covered. Faced with further delays and expenses, the parents reached out to a family friend, an occupational therapist working at an outpatient therapy center. The OT recommended immediate intervention at home, including joint compressions and specific activities to encourage movement of the child's left side. These joint compressions helped the child become more aware of her left side and facilitated improved body awareness and motor function. As a result, the child began moving her left arm and leg more spontaneously.

The delayed care experienced by the family in this case underscores the challenges of navigating the healthcare system in rural areas. Long wait times and the costs associated with out-of-network specialists can create significant barriers to timely care [5]. In rural communities, it is not uncommon for families to wait weeks or even months to see a specialist, which can delay critical interventions for children with developmental concerns. These delays can exacerbate the child's condition and create additional stress and financial strain for families.

Therapy Intervention

This case highlights the potential for occupational therapy to play a critical role in addressing motor delays at the primary care level, particularly in rural areas where specialist appointments are limited and expensive. In this case, OT intervention through joint compressions helped the child improve body awareness, promoting movement on her affected side, which could have otherwise been delayed by weeks due to specialist appointment wait times.

Occupational therapy interventions, such as joint compressions, can support body awareness by activating proprioceptive receptors, helping children like the patient in this case develop greater control over their affected limbs. Timely OT interventions at the primary care level can help address developmental delays early, preventing further complications and reducing the need for more intensive, costly interventions down the line [6]. Incorporating occupational therapy into primary care teams offers a coordinated, holistic approach to pediatric healthcare [2]. Occupational therapists, with their expertise in cognitive, physical, social, and emotional development, can play a critical role in identifying and addressing developmental issues during routine check-ups. As part of the interprofessional team, OTs can provide proactive interventions and education to parents, ensuring that children receive the care they need without unnecessary delays or costs.

1. Joint Compressions: A Key Occupational Therapy Technique

Joint compressions are a therapeutic technique used to stimulate proprioceptive input, which helps individuals develop better body awareness and control over their movements. Proprioception refers to the body's ability to sense its position, movement, and

coordination in space. For infants and children with motor delays, joint compressions can provide sensory feedback that helps the brain recognize and respond to limb movement, thus promoting improved motor function.

In Madison's case, joint compressions were used to help increase her awareness of her left arm and leg, which she was not using as much as her right side. This imbalance in her motor function indicated that Madison's brain was not fully integrating the sensory information from the left side of her body, making it difficult for her to move those limbs.

2. How Joint Compressions Were Applied in This Case

Occupational therapy interventions with joint compressions involve applying gentle but firm pressure to the joints, such as the shoulders, elbows, wrists, hips, knees, and ankles. In this case, Madison's parents were instructed by the occupational therapist to regularly apply compressions to her left arm and leg, providing rhythmic, controlled pressure to the joints. This technique helped stimulate Madison's proprioceptive system, sending signals to her brain that increased her awareness of her left side. As her body became more aware of the affected side, Madison began to show more spontaneous movement of her left arm and leg.

The joint compressions were combined with other activities designed to encourage movement, such as gently guiding Madison's left arm and leg during playtime to further develop her motor skills. These therapeutic activities, initiated at home after the referral delays, helped Madison regain control of her movements, demonstrating how early occupational therapy interventions can make a significant difference in the development of children with motor delays.

3. The Changes that Occurred After Receiving the Therapy

By utilizing joint compressions, the occupational therapist was able to create a low-cost, accessible intervention that could be easily implemented by Madison's family at home. This approach helped bridge the gap caused by delayed access to specialized care, offering a practical solution to address Madison's motor concerns early.

Conclusion

This case report illustrates the importance of integrating occupational therapy into primary care settings, especially in rural areas where access to specialists is limited [3]. Through early intervention, such as joint compressions to address motor delays, OTs can help reduce delays in care and provide timely, cost-effective solutions. Occupational therapy is uniquely positioned to enhance the quality of pediatric healthcare by offering comprehensive, holistic services that address physical, cognitive, and emotional development at the primary care level [1]. As the healthcare landscape continues to evolve, the role of occupational therapists within primary care should expand, allowing them to serve as key contributors to coordinated, patient-centered care. By doing so, OT can help families and children avoid delays in accessing essential services, reducing healthcare costs and improving outcomes [7].

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