Physiotherapy as a supportive intervention for inpatient care of children with Kwashiorkor disease: A case study in Kano, Nigeria

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Background

Northern Nigeria faces a severe child malnutrition crisis, with high rates of acute undernutrition[1]. Kwashiorkor disease (KD), an edematous form of severe acute malnutrition, remains poorly understood and underrepresented in research[2]. Children with KD are at risk of orthopedic and functional complications due to edemas, skin lesions, reduced mobility and discomfort[3, 4]. In February 2025, the MSF Foundation supported the implementation of pediatric physiotherapy within the MSF malnutrition program in Kano, Nigeria[5]. To our knowledge, this is the first documented integration of physiotherapy in the management of KD.

Objectives

Describe physiotherapy intervention as part of comprehensive inpatient care and report clinical outcomes for two children with KD.

Methods

Two children (C1 - age: 24 months; C2 - age: 22 months) were hospitalized after loss of walking ability and worsening edema during the two weeks before admission. Both were diagnosed with edematous severe acute malnutrition and received comprehensive medical care including physiotherapy. C1 stayed 15 days and received 10 physiotherapy sessions; C2 stayed 14 days with 7 sessions. Each 30-minute session consisted of gentle passive mobilization, soft massages and active exercises targeting gross motor skills and functional abilities. Caretakers were trained to perform simple stimulation. Edema was assessed at the beginning of each session by measuring leg diameter at mid-distance between external femoral condyle and lateral malleolus tip.

Results

Initial functional assessments showed limited ability to perform active movements, and both children could only hold a seated position. Edema measurements decreased in both cases following intervention. The largest reduction in leg diameter occurred during the first three sessions, with an average intersession decrease of 1cm for C1 and 1.2cm for C2. Reductions were negligible after days without physiotherapy, but previous gains were maintained. Total reduction across the program was -6cm for C1 and -4.8cm for C2. In parallel, both children improved their active and functional movement abilities and regained independent walking after 4-5 sessions.

Conclusion

Comprehensive nutritional care integrating medical, nursing, physiotherapy interventions and caregivers' participation contributed to edema reduction and mobility improvement in these two cases. Although limited, these preliminary observations suggest that physiotherapy may help treat and prevent functional decline in children with KD. Further studies are needed to clarify the effect of physiotherapy as a supportive intervention for inpatient KD management.

References

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