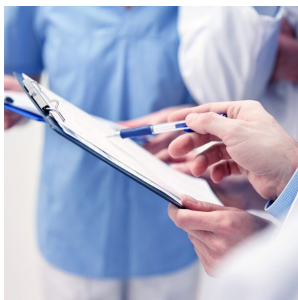


Poster

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Physiotherapy and Rehabilitation Approaches in a Premature Case with Lower Extremity Anomalies in the Neonatal Intensive Care Unit

Seda Nur Kemer

Ondokuz Mayıs University, Turkey

Statement of the Problem: The aim of this study is to reveal the results of physiotherapy and rehabilitation approaches in a premature case with congenital hip dislocation, congenital patella, and quadriceps femoris agenesis followed in the neonatal intensive care.

Methodology & Theoretical Orientation: The baby was born by cesarean section when he was 33 weeks old and weighed 2070gr. When the baby was stable 1 week after birth, General Movements (GMs) and Dubowitz Neurological Examination (DNE) were used to perform the motor assessment of the baby. Within the scope of physiotherapy, massage application to the extremities 3 days a week, double tweezers and positioning, and appropriate positioning and splint applications for the lower extremities (Figure 1) and family education were carried out.

Findings: As a result, there was no change in the GMs (Poor Repertoire, 21) and DNE (Raw score 60, Optimal Score

12/34) results of the baby who was followed up in the NICU for two weeks, but it was observed that the lower extremities were properly aligned.

Conclusion & Significance: In infants with congenital hip dislocation, congenital patella and quadriceps femoris agenesis and physiotherapy follow-up in the NICU, proper positioning and proper alignment in the lower extremities can be achieved with splints, but a long-term follow-up program should be added to rehabilitation.

Speaker Biography

Seda Nur Kemer has her expertise in evaluation and passion in improving the pediatric rehabilitation in physiotherapy area. She has built her experience in years of masters and doctorate degree both in hospital and education institutions. She has been going on studies conducted at Ondokuz Mayıs University and Hacettepe University in Turkey.

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Association Between Body Posture and Fine Motor Development in At-Risk Infants

Seda Nur Kemer

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Statement of the Problem: The at-risk infant is defined as an infant with a history of negative environmental and biological factors, and these factors can cause neuromotor developmental problems. These infants may have neurodevelopmental disorders and cerebral palsy, including motor problems, sensory problems, incoordination in movement, cognitive impairment, attention deficits, or developmental problems. Body posture emerges because of appropriate sensory and motor development. Postural control provides mobile stability for movements of the head, eyes, and extremities. Infants with the postural disorder may have difficulties in stabilizing their bodies during movement. This study aims to investigate the relationship between fine motor development and body posture in at-risk infants.

Methodology & Theoretical Orientation: Fifty-three at-risk infants were included in the study. The fine motor functions of infants were evaluated with Peabody Developmental Motor Scales (PDMS-2), and the body posture was evaluated with Hammersmith Infant Neurological Examination (HINE). Posture assessment included head, trunk, arms, hands, legs,

and feet posture in sitting, standing, and supine position.

Findings: The mean gestational age of infants was 33.59 ± 0.90 weeks and the mean corrected age was 9.90 ± 2.51 weeks (Table1). In the statistical analysis, a correlation was found between the fine motor quotient (FMQ) score of PDMS-2 and the HINE posture score (Table2).

Conclusion & Significance: According to the findings, there is a relationship between fine motor scores and posture in at-risk infants. Both the proximal body alignment and stabilization may affect fine motor findings. These results should be considered in the evaluation and treatment of at-risk infants.

Speaker Biography

Seda Nur Kemer has her expertise in evaluation and passion in improving the pediatric rehabilitation in physiotherapy area. She has built her experience in years of masters and doctorate degree both in hospital and education institutions. She has been going on studies conducted at Ondokuz Mayıs University and Hacettepe University in Turkey.

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Associations between Gross Motor and Fine Motor Development in At-Risk Infants

Nilay Comuk Balci

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Statement of the Problem: Among the most frequently occurring problems encountered by neurodevelopmental at-risk infants are impaired gross and fine motor skills. Impairments in fine motor skills may hamper various aspects of daily functioning such as getting dressed, lacing shoes, eating, and writing in early childhood and school life. The aim of this study is to investigate the relationship between gross motor and fine motor development in at-risk infants.

Methodology & Theoretical Orientation: Fifty-three at-risk infants were included in the study. The fine motor functions of infants were evaluated with Peabody Developmental Motor Scales (PMDS-2), and the gross motor functions were evaluated with PMDS-2, Hammersmith Infant Neurological Examination (HINE), and Alberta Infant Motor Scale (AIMS).

Findings: The mean gestational age was 33.59 ± 0.90 weeks and the mean corrected age was 9.90 ± 2.51 weeks. In

the statistical analysis, a correlation was found between the fine motor quotient (FMQ) score of PDMS-2 and the PDMS-2 gross motor quotient (GMQ) score, HINE total score, and AIMS score (Table 2).

Conclusion & Significance: According to the findings, there was a high positive correlation between GMQ and FMQ, and a moderately statistically significant positive correlation between FMQ and AIMS and HINE. Both should be considered in the evaluation and treatment of at-risk infants.

Speaker Biography

Nilay Comuk Balci has her expertise in evaluation and physiotherapy of high risk infants. She has built her experience after years in research, evaluation, teaching and administration both in hospital and education institutions like Hacettepe University, Baskent University and Ondokuz Mayıs University in Turkey.

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Motor evaluation of infants with Congenital Heart Anomalies in Neonatal period

Nilay Comuk Balci

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Statement of the Problem: With the advancement of cardiac surgery techniques and the improvement of intensive care conditions, more babies with congenital heart anomalies continue to live. Evaluation of postnatal motor behaviors may be an indicator of a neurological and developmental problem that may occur in the future. The aim of this study is to evaluate the motor behaviours of infants with congenital heart anomalies in neonatal period.

Methodology & Theoretical Orientation: Thirteen infants with congenital heart anomalies were evaluated with Amiel-Tison Test and General Movements (GMs) within one week after birth.

Findings: The mean gestational age of the babies was 37.84 ± 0.98 weeks, and the mean birth weight was 2933.07 ± 345.44 . The mean of the Amiel-Tison score was 9.69 ± 6.75 , and the mean GMs optimal score was 32.30 ± 7.93 . According to the Amiel-Tison result, 3 infants

(23.1%) had normal, 1 infant had mild (7.7%), and 9 infants had moderate (69.2%) neurodevelopmental outcome. According to the GMs result, 4 infants (38.5%) had normal, 9 infants (61.5%) poor repertoire movement patterns.

Conclusion & Significance: It is important to minimize the problems that may occur in the future by following infants with congenital heart disease like aortic coarctation, left ventricular hypoplasia, atrial septal defect, transposition of great arteries etc. closely in terms of neurodevelopment outcomes.

Speaker Biography

Nilay Comuk Balci has her expertise in evaluation and physiotherapy of high risk infants. She has built her experience after years in research, evaluation, teaching and administration both in hospital and education institutions like Hacettepe University, Baskent University and Ondokuz Mayıs University in Turkey .

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Bio-psychosocial Evaluation in a case with Multiple Sclerosis accompanied by Lower Urinary Tract Dysfunctions

Karaman Seda

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Purpose: Lower urinary tract dysfunctions are frequently encountered in patients with Multiple Sclerosis. These often include urinary incontinence (UI), overactive bladder (OAB). It causes symptoms that often harm the social life of the person with MS, limit travel and disturb daily activities. The aim of this study is to bio-psychosocially evaluate a case of MS with urinary symptoms. The aim of this study is to bio-psychosocially evaluate a case of MS with urinary symptoms.

Materials and Methods: A case study of a 35-year-old female patient diagnosed with multiple sclerosis (16 years) and urologic symptoms was conducted. The patient's MS and obstetric history were questioned in the socio-demographic information form. Global Pelvic Floor Discomfort Questionnaire, Bristol Female Lower Urinary System Index (BFLUSI), Urinary Incontinence Questionnaire (ICIQ-SF), OAB-V8, Urogenital Distress Inventory (UDI-6), Incontinence Impact Questionnaire (IIQ), Female Sexual Function Inventory (FSFI) was used to evaluate the patients pelvic floor dysfunction and urological symptoms. Quality of life was evaluated with King Health Questionnaire (KHQ).


Results: A case in this study was uncomfortable with pelvic floor problems at rate of 42.2%. The patient had mixed urinary incontinence and Overactive Bladder (OAB). It was seen that urological symptoms and urinary incontinence negatively affected the patients quality of life in rate of 61.1% and 77.7%, respectively. It was observed that sexual functions were slightly affected (%33,3). In the King Health Questionnaire (KHQ), urological problems negatively affected the patient's social life and mood at a rate of 33.3% and 100%, respectively. In addition, the severity of symptoms impaired the quality of life at a rate of 100%.

Discussion: Women diagnosed with MS may ignore urological symptoms that negatively affect their lives, and generally do not seek help. Therefore, patients who apply to the clinic should be evaluated from a bio-psychosocial point of view with a holistic perspective, and necessary guidance should be given. Pelvic floor physiotherapy with proven effectiveness for lower urinary tract dysfunctions in MS is recommended as first-line therapy. Sexual dysfunction in patients with MS is an increasingly popular topic in recent years. Evaluation of sexual dysfunctions during the MS treatment process is important in terms of holistic treatment.

Speaker Biography

Karaman Seda is a lecturer of Ondokuz Mayıs University, Department of Physiotherapy and Rehabilitation. She completed her master's degree at Izmir Demokrasi University and she is studying for a doctorate at the Bolu Abant İzzet Baysal University. She had worked as a physiotherapist at pediatric rehabilitation department of Ministry of Family, Labor and Social Services for two years. She took place in several conferences and forum about Health Science and Health Care Services with her papers and oral presentations such as "Investigation of Spinal Posture, Depression and Quality of Life of Formal Caregivers International Conference on Fibromyalgia and Chronic Pain (June 15-16, 2016 Philadelphia, USA) of The Disabled Children and Elderly Individuals". She attended "Intra-muscular Manual Therapy", "Dry Needling (Trigger Point Therapy)" and "Cupping and Hirudotherapy" courses organized by AC-OMT and Dura Osteopathy Association. She received "Space Therapy System Training" in 2019. She has completed a course taught by a certified Basic DNA Theta Healing™ Instructor, and has been a Basic DNA Theta Healing™ Practitioner in 2022. She currently attends vocational courses on physiotherapy and rehabilitation in women's health such as "Pelvic Floor Rehabilitation Online Module Series By Quadroathletics-All About Pelvis Group.

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Evaluation of a Term Case with Antenatal Intracranial Hemorrhage in the Neonatal Intensive Care Unit in terms of Physiotherapy and Rehabilitation

Karaman Seda

Ondokuz Mayıs University, Turkey

Purpose: The aim of this study is to present the results of physiotherapy and rehabilitation evaluation of a term patient with antenatal intracranial hemorrhage in the neonatal intensive care unit (NICU).

Materials and Methods: General Movements (GMs), Hammersmith Infant Neurological Assessment (HINE) and Alberta Infant Motor Scale (AIMS) were used to perform the motor evaluation of the infant at postmenstrual 41 and 45 weeks. Positioning within the scope of physiotherapy, massage application to the extremities 3 days a week, neurodevelopmental practices and family training were given. After the infant was taken out of the intensive care unit, physiotherapy was followed.

Results: As a result, the GMs result at the 41st week was poor repertoire, the score was 20, and the cramp synchronized GMs was observed at the 45th week, while the score was 11. HINE was found to be 35 at week 41, 45 at week 45, and AIMS to be 7 at week 41, 8 at 45th week.

Discussion: The motor development level of the baby with antenatal intracranial hemorrhage started to be followed up in the NICU was found to be below optimal results.

It is thought that babies with antenatal bleeding should begin early physiotherapy follow-up and be directed to physiotherapy and rehabilitation program.

Speaker Biography

Seda KARAMAN is a lecturer of Ondokuz Mayıs University, Department of Physiotherapy and Rehabilitation. She completed her master's degree at Izmir Demokrasi University and she is studying for a doctorate at the Bolu Abant İzzet Baysal University. She had worked as a physiotherapist at pediatric rehabilitation department of Ministry of Family, Labor and Social Services for two years. She took place in several conferences and forum about Health Science and Health Care Services with her papers and oral presentations such as "Investigation of Spinal Posture, Depression and Quality of Life of Formal Caregivers International Conference on Fibromyalgia and Chronic Pain (June 15-16, 2016 Philadelphia, USA) of The Disabled Children and Elderly Individuals". She attended "Intra-muscular Manual Therapy", "Dry Needling (Trigger Point Therapy)" and "Cupping and Hirudotherapy" courses organized by AC-OMT and Dura Osteopathy Association. She received "Space Therapy System Training" in 2019. She has completed a course taught by a certified Basic DNA Theta Healing™ Instructor, and has been a Basic DNA Theta Healing™ Practitioner in 2022. She currently attends vocational courses on physiotherapy and rehabilitation in women's health such as "Pelvic Floor Rehabilitation Online Module Series By Quadroathletics-All About Pelvis Group.

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Accepted Abstracts

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Archaeal hyperthermostable mannitol dehydrogenases: A promising industrial enzymes for D-mannitol synthesis

Marwa Koko

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Sugars is a source of energy, despite the close relation of added sugars to some diseases such as obesity, diabetes, etc. As a result, the sweetener market has flourished, which has led to increased demand for natural sweeteners such as polyols, including D-mannitol. Various methods have been developed to produce D-mannitol to achieve high productivity and low cost. In particular, metabolic engineering for D-mannitol considers one of the most promising approaches for D-mannitol production on the industrial scale. To date, the chemical process is not ideal for large-scale production because of its multistep mechanism involving hydrogenation and high cost. The study highlights and presents a comparative evaluation of the biochemical parameters affecting Dmannitol synthesis from *Thermotoga neapolitana* and *Thermotoga maritima* mannitol dehydrogenase (MtDH) as a potential

contribution for D mannitol biosynthesis. These species were selected because purified mannitol dehydrogenases from both strains have been reported to produce D-mannitol with no sorbitol formation under high temperatures (90–120 °C). Recombinant DNA techniques for these thermal enzymes are recommended for D-mannitol industrial synthesis due to some advantages including, enzyme activity, cost-effectiveness, excellent stability under moderate pH and temperature, low toxicity levels of the catalytic process, distinct thermodynamic signature, and the end product purity. Replacing the added sugars with polyols is not an easy task, mainly due to economic reasons. Now, the challenge is to improve the total production of D-mannitol sorbitol free via genetic engineering tools.

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Interventions for the safety and quality of patients in a pediatric hospital

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There are few data on the clinical presentation in children but the condition can be asymptomatic or minimally symptomatic, and may present without fever or pneumonia. The Brazilian health system almost collapsed, as we had an increase in the consumption of personal protective equipment, medications, and tests for COVID. Health institutions had to keep their stocks higher so that there was no shortage of any input for the treatment of the patient or for the protection of health professionals. As we are an exclusively pediatric hospital, there was a considerable decrease in the movement of patients during the pandemic, which made it necessary to restructure our protocols in order to maintain the proper functioning of the service. So that we could provide care with quality and safety, we designed a protocol to systematize our care flows, diagnosis, treatment, and family guidance in suspected and confirmed cases of COVID-19. Our objective was to ensure the correct diagnosis, standardization of the indication for hospitalization, standardization of clinical management and reduce the risk of transmission to other patients and employees. We changed our flows from the entrance door, in which all patients began

to be screened by the nursing staff at the emergency room door. In case they present some respiratory symptoms, both the patient and companion receive a mask and are directed to an internal flow of care for respiratory patients, so we do not cross with the care of non-respiratory patients. The telemedicine service was implanted during the pandemic and helped us to assist our patients and help them to seek urgent/emergency services only when needed. Patients are evaluated for the risk of complications by the doctor and nurse properly dressed, after treatment; patients who did not require hospitalization are monitored by teleconsultations. Elective surgery patients received differentiated care, received a visit from the nursing team on the day before the surgery. Arriving at the hospital, an employee would welcome them and take them directly to the room, through an exclusively surgical elevator, avoiding the crossing of flow with respiratory patients. The pandemic was important to teach us a new way of managing flow, people, among others. It made us rethink and restructure the institution's strategic objectives.

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Clonazepam as an alternative drug for the treatment of Phantom Limb Pain

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The phantom limb pain syndrome (PLP) is a common complication in amputees. PLP incidence varies from 4% to 83% and about 14% of amputees referred PLP-related disability. The management of PLP often involves a combination of medications, such as NSAIDs, opioids, anticonvulsants, antidepressants, anesthetics, and NMDA receptor antagonists that target multiple mechanisms. Currently there are no standard guidelines in the pharmacologic management of PLP as reported by a Cochrane review of 2011. Other reviews reported a limited evidence for opioids and high dosage of Gabapentin. A recent retrospective study from our group has showed the efficacy of clonazepam for PLP management. The motivation to carry out this study arises from the experience of 25 years of use of this drug with clinical evidence of efficacy and few side effects. The study analyzed retrospectively the clinical charts of all patients admitted after lower limb amputation for inpatient rehabilitation for 3 years. Twenty-three of 82

amputees suffered for PLP and were treated exclusively with clonazepam. After about 1 month of treatment the PLP significantly decreased. The PLP was measured with the Numeric Rating Scale (NRS). The median NRS before the treatment was 7(2), the median NRS after 31±5 days of treatment was 3(3.5). Limited side effects were observed but not so intense to reduce the dosage of clonazepam. Those few incidences of side effects might be due to the low dosage required for PLP reduction. The average dosage of clonazepam used was 1.5±1 mg per day. The highest dosage administered was 3.5 mg per day. Only 4 patients were “not responders” to clonazepam and needed to combine other drugs. The effect of clonazepam may be explained through its agonistic action at the inhibitory GABA-A receptor, decreasing cortical inhibition mediated through excitatory callosal neurons, which act on local GABAergic neurons.

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