POSITION STATEMENT

OCCUPATIONAL THERAPY ASSOCIATION OF SOUTH AFRICA (OTASA)

Occupational therapy in Neonatal Care

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RATIONALE

Occupational Therapists have a role to play in the assessment and treatment of a high risk[#] neonate in the specialized practice setting of the neonatal intensive care unit (NICU)[1,] the neonatal high care unit (NHCU) and beyond[2]. The role in these environments is not only for the immediate and ongoing developmental care of the neonate as part of the multidisciplinary team, but also in the family environment with the neonate and parent/s or caregiver/s[2]. Occupational therapists can uniquely contribute to the active management of the neonate through an understanding of child development, the complex environment and demands of the NICU and the developmental tasks required of infants and families within this space. Adaptation of the environment and task requirements may be necessary to help infants and families achieve typical developmental, social-emotional and attachment outcomes[2].

Professional Knowledge and Skills Required

Due to the vulnerability of premature and ill infants and their families, advanced knowledge and skills are required to safely and effectively provide occupational therapy services in the NICU/NHCU. This is needed to assess and treat the infant, meet the needs of the family, and work in the specific constraints of the NICU/ NNHCU environment with specific knowledge of intensive care equipment, medication conditions and effects, support in nutrition, respiration and thermoregulation, diagnostic procedures and infection control in promoting optimal infant development[3]. A minimum of three years' experience practicing as an occupational therapist in a paediatric setting is highly recommended as a pre-requisite to providing services in the NICU/ NHCU[1,2].

Knowledge and skills in the following are recommended[1–3]:

- Knowledge and skills in evaluation and intervention of the infant, including medical conditions and risks these pose to growth and development.
- Knowledge and skills in the use of appropriate standardised assessment tools, parent/ caregiver interviews and careful observations of infant behaviour and adaption in the social and physical environment.
- Knowledge of factors (prenatal, perinatal and postnatal) which may influence development, as well as the developmental course of the premature, high risk or vulnerable infant is needed to guide clinical reasoning in choice of assessment and treatment planning.
- Knowledge and skills in assessing and treating the developmental course of infants including neuro-behavioural organisation, sensory development and sensory processing, motor function, emerging competencies in infant occupation in daily life activities including feeding**, engaging in nurturing occupations and tolerating bathing, dressing, diaper changes and routine medical intervention.

#"high risk" has been used to describe the target population in this position paper. This includes, but is not limited to all infants born preterm, high-risk infants born at term (including those with hypoxic ischaemic encephalopathy, intracranial haemorrhage, neonatal abstinence syndrome, congenital conditions, and complex surgical need), infants at risk of developmental delay, infants receiving palliative care and their parent/s or caregiver/s.

***"feeding" includes influencing the environment, infant regulation, motor organisation and co-occupations which affect feeding. It does NOT include assessment and treatment of swallowing.*

- Knowledge and skill in recognizing and facilitating co-occupations or shared occupations between the infant and parent/s or caregiver/s including feeding*, interaction, bonding and attachment[3-5].
- Sensory Integration Training and qualification

The following is strongly recommended for safe and effective practice[1,2]

- Specialized mentoring in neonatal therapy , in-person or online through established communities of practice
- Mentored practice hours and established competence in the NICU/NHCU
- Initial and ongoing participation in neonatal specific peer-reviewed education

Areas of assessment

The therapist should have sufficient specialised knowledge and skill[1,3,6,7] in conducting appropriate assessments, including standardised assessments and specific, skilled observations as needed. The appropriate timing of assessments, based on medical and physiological stability, gestational age, corrected age, NICU/NHCU routines and family routines is essential to protect the infant and provide appropriate timing of treatment. Assessment should be occupation based, covering the occupations and co-occupations of the neonate. Areas of assessment should cover neuro-behavioural organization, sensory development and processing, motor function, pain, feeding, sleep, social-interaction and social-emotional development, as well as the impact of the environment on these domains of functioning as well as feeding#. An in-depth understanding of development is necessary to implement safe, effective and individualised treatment in hospital and post-discharge. Appropriate assessment tools may include, but are not limited to: Prechtl's General Movement Assessment (GMA), Test of Infant Motor Performance (TIMP), Neonatal Intensive Care Unit Network Neurobehavioral Scale (NNNS), Hammersmith Neonatal Neurological Examination (HNNE), Newborn Behavioral Observations (NBO) and Neonatal Behavioral Assessment Scale (NBAS).

Areas of intervention and methods of treatment

Intervention should form part of the collaborative management plan from the team. The therapist should have skills and ability to consult and communicate effectively with parents, instructing and guiding them in the developmental care of their infant. An individualised therapeutic plan should be developed after assessment for each infant, supporting their current level of function, facilitating optimal social-emotional, physical, cognitive and sensory development of the infant within the environment of the NICU/NHCU and their family environment. Family based care includes supporting the roles of parents/caregivers and providing sensitive, appropriate parent. Caregiver engagement in the neonate's care. In areas of intervention around the mouth in preparation for oral feeding prior to 32 weeks of age, an in-depth understanding of sensory development and integration in the neonate is essential in promoting regulation, organisation, and responding appropriately to stress cues In addition to individual assessment results, the seven core measures of neuroprotective care should inform intervention with the infant. These are 1) healing environment, 2) partnering with families, 3) positioning & handling, 4) safeguarding sleep, 5) minimising stress and pain, 6) protecting skin, and 7) optimising nutrition[8]. Early referral for positioning interventions and caregiver education are appropriate, however continuous therapy may only be considered at a later gestational age, depending on the stability of the infant, in this light, occupational therapists promote an appropriate developmental environment, based on the infant's age and status and individual needs[2]. Best Practice Guidelines for Clinicians (including occupational therapists) in supporting neurodevelopmental supportive care have been established, and include direst assessment of and intervention in the environment (guideline 1 – environment), preterm infant care (guidelines 2 – 7: positioning, handling, individualised care, self- regulation, feeding and pain management), the family unit (guidelines 8 – 9: family centred care, family education) and staff (guidelines 10 - 11: staff education and multidisciplinary team approach)[9]. The occupational therapist should be actively involved in implementation of all these guidelines within the scope of the profession[7].

Occupational therapy Intervention, as part of the collaborative multidisciplinary team approach is a dynamic process which aims to minimize stress and exposure to harmful stimuli, support comprehensive neurodevelopmental care, improve the short and long-term outcomes of fragile and vulnerable neonates and improve the child's future health, well-being and quality of life 1 and should constantly be modified based on the infant's responses. Thorough, concise, objective and interpretive documentation should be kept as per HPCSA standards[7]. Discharge and follow-up plans, with intervention beyond NICU/ NNHCU should be completed in consultation with the multidisciplinary team and take into account the resources available to the family, as well as the infant and family's needs.

Professional-therapeutic intervention and desired outcomes

The family forms an integral part of the infant's life and care team. Their occupational roles as nurturers and caregivers need to be recognised, reaffirmed, and at times assisted to reach fulfilment in the NICU/NHCU and in the transition home. Infant- and maternal mental health have a large role in the long-term outcomes of this cohort of infants10 Promotion of attachment is an important consideration for occupational therapy intervention. Occupational therapy in this population of neonates incorporates occupations of the neonate, occupations of the parent/ caregiver, co-occupations of the neonate- parent/caregiver dyad, assessment and modification of the environment as well as al domains of new-born functioning (autonomic stability, regulation of state, motor control and social interaction).

CONCLUSION

The occupational therapist has an important role in the holistic assessment and treatment of the neonate as part of the multidisciplinary team, and within the family structure. Therapists have a duty to ensure they are adequately trained and possess sufficient knowledge and skill to safely and accurately assess and treat neonates who are often fragile or vulnerable. Occupational therapy intervention should continue after discharge from the NICU/NHCU within the resources and context of the family in meeting the infants' developmental needs.

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