



ROLE OF OCCUPATIONAL THERAPY TO PROMOTE EFFECTIVE BREASTFEEDING IN DOWN SYNDROME: A CASE REPORT

Bandana Senapati Occupational Therapist Puducherry

ABSTRACT Due to several medical conditions, neonates with Down syndrome have difficulty in initiating and maintaining breastfeeding. Breastfeeding has many health benefits and it has high and positive impact on the development of children's oral skills and promotion of the bonding relationship between mother and baby. WHO recommends that breastfeeding is a natural, beneficial and highly relevant strategy to nurture children with Down syndrome. Sometimes exclusive breastfeeding is given least importance post discharge from hospital by mothers. It is due medical conditions of baby, long NICU stay, low confidence, frustration and depression of mothers. In this context, a case study was done for two weeks to establish the role of Occupational Therapy in promoting breastfeeding.

KEYWORDS : Down syndrome, breastfeeding, Occupational Therapy

INTRODUCTION

Down's syndrome is a genetic disorder, occurs when abnormal cell division results in extra genetic material from chromosome 21. Infants with Down syndrome exhibit difficulty in initiating and maintaining breastfeeding due to certain medical conditions. Probably due to certain cardiac defects, muscular hypotonia, presence of protruded tongue swallowing disorder, some infants become fatigued more easily and lack the energy to be breastfed (White, 2013). In addition to health problems, environmental factors, maternal feelings regarding birth of a child with Down syndrome have high impact on effective breastfeeding.

Breast milk contains anti-infective factors including antibodies against germs and thus enhances baby's immune system and this is especially important for babies with Down's syndrome as they are very much prone to respiratory and other viral infections. Due to overall low muscle tone in babies with Down's syndrome, the specific sucking action is needed during breastfeeding will help to strengthen baby's lips, tongue, and face. This serves as a stepping stone for eating other solid foods and speech development.

Many Down syndrome babies don't initiate or continue breastfeeding at NICU or post discharge from hospital. They either will remain on paladai feeding; bottle feeding, cup feeding or formula feeding due to poor initiation of breastfeeding by the baby. It may be due to physical issues of baby, long NICU stay and the physical separation of mother and child, frustration, low self-confidence, depression, apprehension for insufficient breast milk and sometimes due to poor support to breastfeeding by healthcare personnel (Col'on et al., 2009; Pisacane et al., 2003). Exclusive and effective breastfeeding often get less importance once the baby gets discharged from the hospital.

Many Down syndrome babies attend Occupational therapy outpatient department through paediatricians' referral to be focused on other developmental issues and its management. As Occupational Therapists are well positioned and established within the transdisciplinary team to become role players in the child rearing co-occupation of breastfeeding at NICU, they can take the responsibility aimed at protecting, promoting, and supporting breastfeeding at Out Patient Department for continuation of effective breastfeeding at least up to 1 year for babies.

Although nurses are well trained to support and promote breastfeeding, occupational therapists are also well positioned to become role players in this field. There are many studies which identify the role of Occupational Therapist at NICU to facilitate oromotor skills in babies to improve sucking of breast milk. Breastfeeding as a method of feeding has received minimal attention at NICU or Out Patient Department in the occupational therapy literature.

Therefore, this study was conducted to establish the role of Occupational Therapist to promote effective breastfeeding in a baby with Down syndrome.

METHODOLOGY

AIMS AND OBJECTIVES

- To find out the effectiveness of Occupational Therapy Intervention to facilitate effective breastfeeding in a Down syndrome baby.
- To establish the role of Occupational Therapist in promoting breastfeeding at OPD.

Subject and Setting:

The study was done in a private hospital, Puducherry. A 25 days old baby diagnosed as Down's syndrome, medically stable and under EBM and formula feeding was selected for this study. The baby was referred by the paediatrician to Occupational Therapy department for developmental therapy post discharge.

Questionnaire for Breastfeeding Mother, Breastfeeding Assessment Checklist were used to get information regarding breastfeeding from the mother. The questionnaires were translated in mother's known language. Assistance from care takers was allowed to fill up the questionnaire when mother found any difficulty in understanding. Anthropometric Assessment and LATCH Assessment Tool were used as outcome measures.

Procedure

The mother of the baby was explained about the purpose of this study and informed consent was taken from her. Complete demographic data, maternal history, birth history, medical history along with breastfeeding history were documented. Complete motor evaluation of baby was done to document physical problems associated with baby. **Anthropometric Assessment** of baby and **LATCH Assessment Tool** were used at baseline for baby and mother respectively. Based on breastfeeding questionnaires, LATCH score and anthropometric assessment at baseline, Occupational Therapy treatment protocol was planned and implemented for two weeks. During the breastfeeding training session, mother was taught about the importance of exclusive and how to establish effective breastfeeding.

The mother of the baby was asked to come for therapy session every two consecutive days to assess LATCH score over 24 hours by two professionals with 3 days gap in between to minimise hospital exposure for the baby. Training session as part of Occupational Therapy program was focused on mainly proper guidance, techniques, body posture or ergonomics and encouragement to the mother and oral stimulation to the baby before breastfeeding. Even mother was suggested to include certain diets to increase lactation. After each oromotor stimulation of baby, mother was encouraged to initiate breastfeeding by following proper latching and other important techniques associated with effective breastfeeding.

After trial of each breastfeeding session, baby was allowed expressed breast milk in cup/paladai/ spoon till baby was fed at satisfactory level. The baby was fed at interval of 2 to 3 hours or when the baby demanded for milk. On 5th, 10th and 14th day, Anthropometric Assessment and LATCH Assessment Tool were used to find out any changes were there in parameters. The mother was suggested to practice and to implement learned techniques during breastfeeding at home too. To follow the quality of the infant's latch, the assessment was done twice over a 24 hour period by two health care providers (Occupational Therapist and one other health care professional). The conventional Occupational Therapy treatment for the baby's overall development was continued.

Occupational Therapy sessions for mother

- Anatomy and physiology of breastfeeding was taught to the mother in simple language.
- Proper attachment or latching of baby at breast
- Proper body ergonomics of mother
- Techniques to enhance lactation

- Counselling and confidence development of mother

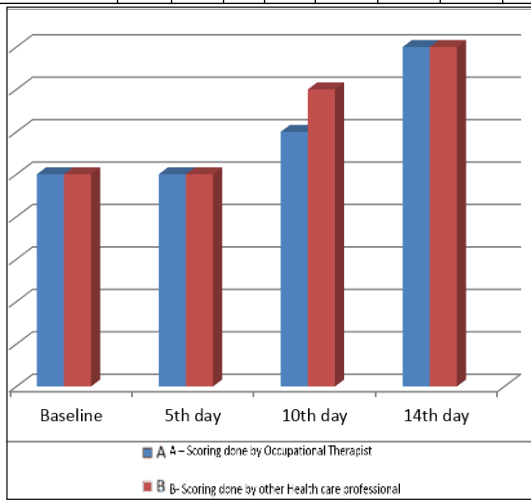
Following things were observed during breastfeeding

- Body Position of mother and Baby
- Responses of baby during breastfeed trial
- Emotional bonding between baby and mother
- Suckling response of baby
- Time spent for suckling

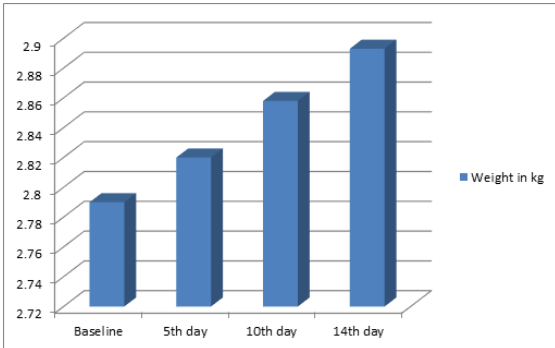
RESULTS

LATCHASSESSMENT TOOL

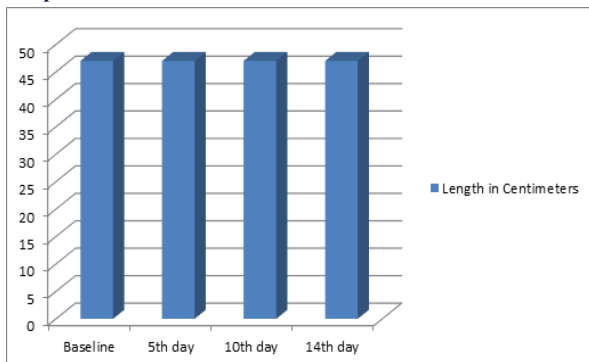
| SL NO | At Baseline Over 24 hours | | 5 th day Over 24 hours | | 10 th day Over 24 hours | | 14 th day Over 24 hours | |
|----------------------|---------------------------|---|-----------------------------------|---|------------------------------------|---|------------------------------------|---|
| | A | B | A | B | A | B | A | B |
| L Latch | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| A Audible swallowing | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| T type of nipple | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 |
| C Comfort | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 |
| H Hold | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 |
| Total Score | 5 | 5 | 5 | 5 | 6 | 7 | 8 | 8 |



Graph-1 (LATCH TOTAL SCORE)



Graph-2



Graph-3

DISCUSSION

The main aim of this single case study was to find out and establish the role of Occupational Therapy in promoting and facilitating effective breastfeeding even at OPD. As so many health benefits are associated with breastfeeding, and positive impact on the development of children's oral skills (Silveira et al., 2013) and to promote a strong and emotional bond between a mother and child, it is very necessary for health care providers to give importance to exclusive breastfeeding up to six months and to continue at least for 2 years along with complementary feeding. (Deoni et al., 2018; WHO, 2017; White, 2013; Flores-Lujano et al., 2009; VieiraBorba et al., 2018). It is very much known that breastfeeding is a natural, beneficial and highly relevant strategy to nurture children with Down syndrome. (WHO, 2017).

After analysing breastfeeding questionnaires received from the mother, it was found that the baby's intake of milk was not up to satisfactory level and baby was under formula feeding. Mother's psychological status and confidence was also low due to multiple factors associated with baby's condition. Baby's weight and length were small as per his age which found out after anthropometric measurement. After using the LATCH Assessment Tool at baseline, it was found that due to low muscle tone and low birth weight of baby, he was finding difficulty to suck and swallow and was easily getting tired. The mother too had certain issues in relation to anatomy of nipple and mother was not following correct position to establish proper latch. Due to improper latching and certain physical issues of baby, effecting breastfeeding was lacking.

After analysing baseline, 5th day, 10th day and at 14th day scores on LATCH scoring system, it was found that there was improvement in certain components (Type of nipple, Comfort, Hold) of LATCH Assessment Tool. It could be due to techniques used as part of Occupational Therapy to get improvement in these areas. Mother was also continuously encouraged to initiate and continue breastfeeding. Graph -2 suggested there was improvement in weight as compared to baseline but it was slow and there was no improvement in length of the baby. It could be that Infants with Down syndrome may have reduced breastfeeding effectiveness with delayed attainment of adequate intra-oral vacuum and suck burst duration (Viviane Silva Coentro, Donna T. Geddes & Sharon L. Perrella).

CONCLUSION

From the above study, it was concluded that Occupational Therapist can be a role player to promote exclusive and effective breastfeeding not only at NICU but also at OPD being part of transdisciplinary team.

LIMITATION

- Single case study
- Duration of study is small

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