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Hip Healthy Swaddling: A Commentary

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Abstract

Swaddling, the practice of covering babies to align the legs, prevent hip movement, carries a risk of Developmental Dysplasia of the Hip (DDH).Correct swaddling techniques, emphasizing hip flexibility, mitigate risks and are promoted globally. Cultural shifts, as seen in Turkey and Japan, reflect awareness of swaddling's impact on hip health. In certain cultures, 90% of mothers swaddle infants for comfort, predominantly to keep legs straight, but traditional swaddling contributes to hip dysplasia risk, contrasting with the recommended technique allowing free limb movement. Proper education on swaddling is crucial, aligning with health benefits and reducing DDH occurrences. Recommendations include routine hip screening at birth, tailored training for healthcare providers, and widespread parental education and awareness on safe swaddling practices to promote healthy hip development

Keywords: Swaddling; Hip Healthy Swaddling; Newborn care

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Introduction

Swaddling is the practice of wrapping a newborn in a cloth. The traditional method of swaddling involves wrapping the infant in thick blankets from the neck down, then adding two to three layers of thin cotton material. and binding layers with a cord (Mahan & Kasser, 2008; Ulziibat et al., 2021). Mothers in some culture firmly swaddle their babies, with 90% of infants swaddled for comfort (Vaidya et al., 2021). The majority (59.8%) swaddle to keep the baby's legs straight, while other reasons for swaddling include 24.3% for smooth hands and feet and 12.8% to avoid feeling cold while sleeping (Kucuk & Tanriverdi, 2021);(Öztürk Dönmez & Bayik Temel, 2019). But this traditional way of swaddling an infant is a contributing factor to Developmental Dysplasia of the Hip (DDH) (Pinto et al., 2021; Price & Schwend, 2011). Conversely, the correct swaddling technique, which allows an infant's limbs to move freely and places the hip in a flexed position, has numerous advantages (Vuong et al., 2022). Because of its advantages, it is becoming increasingly popular among American parents. Hip subluxation and dislocation can, however, occur as a result of the traditional swaddling technique used in many cultures, which involves fully extending and encircling the legs together (see Figure 4). In North America, the disadvantages of traditional swaddling have been recognized, and "hip-safe" practices are promoted to prevent DDH (Anne et al., 2022; Price & Schwend, 2011)

Developmental dysplasia of the hip (DDH), is characterized by an immature hip, acetabular dysplasia, and femoral head subluxation with or without dislocation (Alosaimi et al., 2020; Ortiz-Neira et al., 2012). The commonly associated risk factors during pregnancy and delivery for DDH are oligohydramnios, breech presentation, and foot deformity. (Harcke, Karatas, Cummings, & Bowen, 2016). Furthermore, one in every 600 females and one in every 4,000 boys are affected, with an overall incidence of ten per 1,000 live births. (Pollet et al., 2017). Its prevalence is 0% in Africa, Canada, India, and Hong Kong due to safe and hip-healthy baby-carrying approaches (Loder & Skopelja, 2011; Mitchell & Redfern, 2007; Pollet et al., 2017).

Additionally, the International Hip Dysplasia Center (IHDI) promotes "hip-healthy swaddling" and emphasizes the correct swaddling technique of an infant with the hips slightly flexed and abducted (Price & Schwend, 2011). Positioning that achieves flexion, abduction, and knee flexion may be beneficial for hip mobility. Moreover, for good hip growth, it is essential to avoid forceful or prolonged passive hip extension and adduction during the first few months of infancy as happens with the traditional swaddling technique (Price & Schwend, 2011; Wenger et al., 2013).

Turkish mothers became aware that their tradition of swaddling infants during infancy was the strongest cause of hip dysplasia when compared to other risk factors like breech birth, family history, or gender. So, the mothers adopted healthy hip practices and traditional swaddling has decreased in Turkey (Yilmaz et al., 2012). Similar changes have been reported in Japan, where DDH

prevalence before 1965 ranged from 1.5% to 3.5%. Following the launch of a nationwide campaign in Japan to alleviate conventional hip and knee swaddling, a significant decrease in the incidences of hip dysplasia occurred (Price & Schwend, 2011). DDH continues to be prevalent in ethnic groups where cradleboard and postnatal swaddling cause hip adduction. Postnatally, the incidence of hip dysplasia in African populations is lower, as newborns are carried on their mothers' backs with their hips abducted (Graham et al., 2015).

An experimental animal study has also shown that forced hip and knee extension during the newborn period causes hip dysplasia and dislocation due to increased strain in the hamstring and iliopsoas muscles, which stresses the hip capsule and may lead to underlying laxity or instability (Wang et al., 2012). Given this, parents who swaddle their children or nurses who advise parents after childbirth may not have comprehended the message since it's critical to educate mothers on proper swaddling techniques. (Graham et al., 2015).

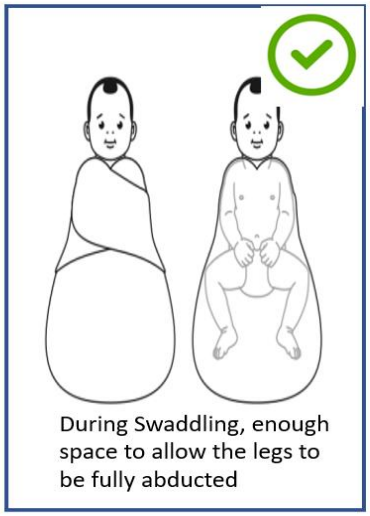

Figure 1 A: Healthy baby Swaddling

Figure 1 B: Unhealthy baby Carrying

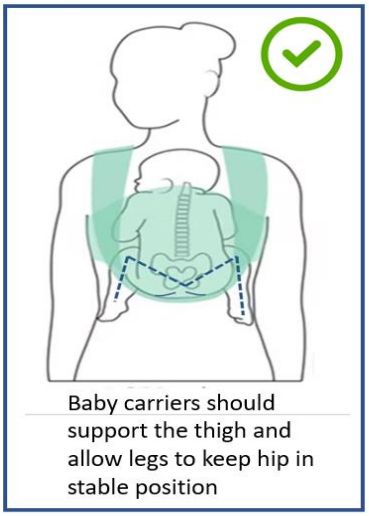

Figure 1 C: Healthy baby carrying

Healthily carrying a baby is intended to reduce the occurrence of DDH from an orthopedic standpoint. This is due to the baby's lower limbs being in the "M" posture while being carried, as shown in Figure 1C, with the hips flexed and abducted and the knees flexed. This is the most stable position for DDH prophylaxis, and it is comparable to how the hips would be immobilized during therapy using a Pavlik harness* or hip spica** (Afridi, 2011; Wenger et al., 2013). In addition, when mothers carry babies in a healthy hip position it promotes stronger bonding, better nursing, and better sleep patterns in the child, and the carer has hands free to multitask (Mahan & Kasser, 2008). Babies who are carried by their parents and are close to them have more stable heart rates

and controlled breathing. A baby's most basic needs, such as food, warmth, love, and touch, can all be met in a rich learning environment when they are in physical proximity to a parent. Infants who are carried develop their brains more, increasing their potential for future learning (Graham et al., 2015).

On the other hand, in many ethnic cultures, the baby's hands are bound to his body, and he is swaddled in clothing. This binding habit is followed for almost a year. The purpose of restraining infants from their shoulders to their toes is believed to prevent them from becoming exhausted or hurting themselves. The youngster is kept in a swinging cradle, which is often used throughout the sub-continent, for the majority of the day to keep the infant safe from any evil spirits or eyes (Afridi, 2011)

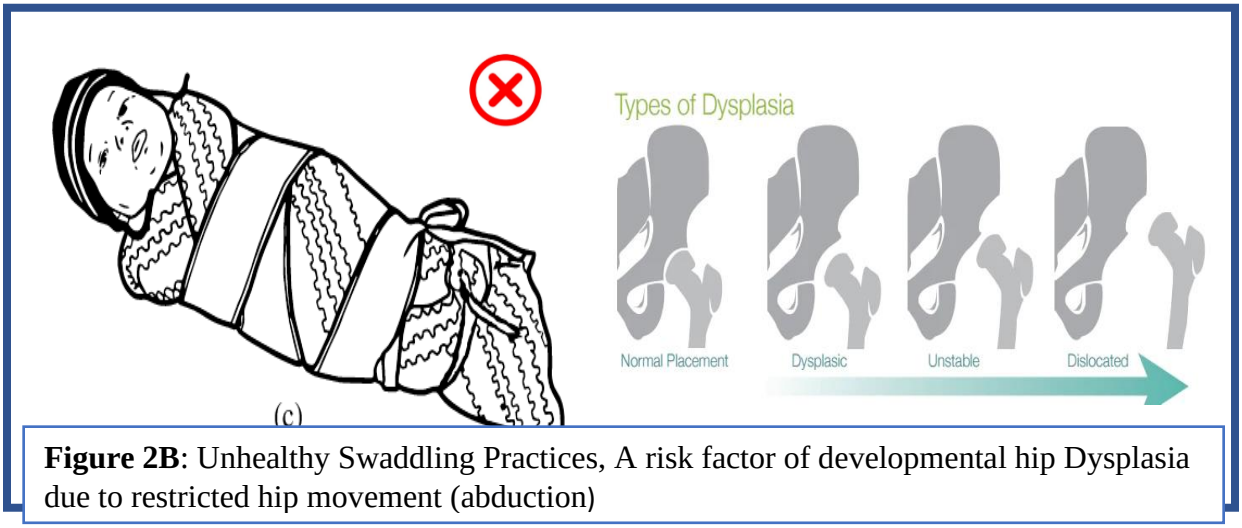

Figure 2B: Unhealthy Swaddling Practices, A risk factor of developmental hip Dysplasia due to restricted hip movement (abduction)

Traditional baby swaddling and carrying procedures that press the infant's lower legs tightly into a hip adduction and knee straightening position exacerbates the risk of hip dysplasia. See Figures 1A, and 1C. Swaddling and wearing babies in M shape baby-wearing equipment that allows enough space for unrestricted leg movements including hip flexion, abduction, and knee flexion promotes normal hip development (Loder & Skopelja, 2011). Forceful post-natal postures of leg extension and hip adduction place greater mechanical pressure on newborn hips, resulting in the transition from mature hips in the 3rd trimester to immature hips in the early neonatal and infancy period that may result in dysplastic hips (Harcke et al., 2016).

Recommendations

- At birth, screening tests of the hips must be performed by health providers that attend birthshave the necessary training and expertise. The neonate's hips should be part of regular neonatal and infant clinical examinations.
- Policymakers and authorities must develop training programs for nurses and midwives tailored to their local populations to increase awareness of the benefits of "hip-safe" newborn swaddling practices.

- Educate every parent on proper hip swaddling and baby-carrying techniques in community settings through community midwives and social media.
- Give parents brochures and advice on the safe and healthy practice of swaddling their newborns at the time of birth. Pictures and demonstrations of good practice should be included.

Conclusion

In brief, swaddling is an old practice but its continuing presence requires that nurses and midwives educate parents about the correct technique because the hip is formed early in life. Babies who have been tightly swaddled with their hips and legs extended require special attention to encourage flexed and abducted postures as the first step in DDH prevention and hip stability.

Conflict of Interest: None

References

1. Afridi. (2011). Pashtune Culture and History. http://pashtunculturеandhistory.blogspot.com/2010/08/pashtun-customs-regarding-birth.html
2. Alosaimi, M. N., Kaneetah, A. H., Alzhrani, M. M., Qadi, S. G., & Alrammaal, W. H. (2020). Swaddling as a risk factor for developmental dysplasia of the hip: Perception and knowledge of family medicine and pediatric residents. *Journal of Musculoskeletal Surgery and Research*, *4*, 218.
3. Anne, R. P., Li, J., Schaeffer, E., Aroojis, A., Mulpuri, K., & Murki, S. (2022). Care Practices of Indian Pediatricians for the Screening and Diagnosis of Developmental Dysplasia of the Hip. *Indian Journal of Pediatrics*, *89*(9), 911-915.
4. Graham, S. M., Manara, J., Chokotho, L., & Harrison, W. J. (2015). Back-carrying infants to prevent developmental hip dysplasia and its sequelae: is a new public health initiative needed? *Journal of Pediatric Orthopaedics*, *35*(1), 57-61.
5. Harcke, H. T., Karatas, A. F., Cummings, S., & Bowen, J. R. (2016). Sonographic assessment of hip swaddling techniques in infants with and without DDH. *Journal of Pediatric Orthopaedics*, *36*(3), 232-238.
6. Kucuk, E. R., & Tanriverdi, G. (2021). Traditional Baby Care Practices of Mothers and their Practices Reasons: A Sample From Turkey. *International Journal of Caring Sciences*, *14*(3).
7. Loder, R. T., & Skopelja, E. N. (2011). The epidemiology and demographics of hip dysplasia. *International Scholarly Research Notices*, *2011*.
8. Mahan, S. T., & Kasser, J. R. (2008). Does swaddling influence developmental dysplasia of the hip? *Pediatrics*, *121*(1), 177-178.
9. Mitchell, P. D., & Redfern, R. C. (2007). The prevalence of dislocation in developmental dysplasia of the hip in Britain over the past thousand years. *Journal of Pediatric Orthopaedics*, *27*(8), 890-892.
10. Ortiz-Neira, C. L., Paolucci, E. O., & Donnon, T. (2012). A meta-analysis of common risk factors associated with the diagnosis of developmental dysplasia of the hip in newborns. *European journal of radiology*, *81*(3), e344-e351.
11. Öztürk Dönmez, R., & Bayik Temel, A. (2019). Effect of soothing techniques on infants' self-regulation behaviors (sleeping, crying, feeding): A

randomized controlled study. *Jpn J Nurs Sci*, *16*(4), 407-419. https://doi.org/10.1111/jjns.12250

12. Pinto, D. A., Aroojis, A., & Mehta, R. (2021). Swaddling practices in an Indian institution: are they hip-safe? A survey of paediatricians, nurses and caregivers. *Indian Journal of Orthopaedics*, *55*, 147-157.
13. Pollet, V., Percy, V., & Prior, H. J. (2017). Relative risk and incidence for developmental dysplasia of the hip. *The Journal of pediatrics*, *181*, 202-207.
14. Price, C. T., & Schwend, R. M. (2011). Improper swaddling a risk factor for developmental dysplasia of hip. *American Academy of Pediatrics News*, *32*(11).
15. Ulziibat, M., Munkhuu, B., Bataa, A.-E., Schmid, R., Baumann, T., & Essig, S. (2021). Traditional Mongolian swaddling and developmental dysplasia of the hip: a randomized controlled trial. *BMC pediatrics*, *21*, 1-11.
16. Vaidya, S., Aroojis, A., & Mehta, R. (2021). Developmental dysplasia of hip and post-natal positioning: Role of swaddling and baby-wearing. *Indian Journal of Orthopaedics*, 1-7.
17. Wang, E., Liu, T., Li, J., Edmonds, E. W., Zhao, Q., Zhang, L., . . . Wang, K. (2012). Does swaddling influence developmental dysplasia of the hip?: An experimental study of the traditional straight-leg swaddling model in neonatal rats. *JBJS*, *94*(12), 1071-1077.
18. Wenger, D., Düppe, H., & Tiderius, C.-J. (2013). Acetabular dysplasia at the age of 1 year in children with neonatal instability of the hip: a cohort study of 243 infants. *Acta Orthopaedica*, *84*(5), 483-488.
19. Yilmaz, A., Unsal, N., Celik, N., Karabel, M., Keskin, E., Tan, S., & Aldemir, S. (2012). A perspective from the practice of swaddling by Turkish mothers. *Hippokratia*, *16*(2).
20. Vuong, B., Zhou, J., Park, M., Patey, R., Segovia, N., Imrie, M., & Pun, S. Y. (2022). Knowledge and Practices Related to Hip-Healthy Swaddling for Newborns Among Maternity Nurses. *Journal of Obstetric, Gynecologic & Neonatal Nursing*, *51*(6), 566-576.