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Marshall, Joyce

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Managing baby related feeding challenges

Infant feeding: is the twelfth series of 'Midwifery basics' targeted at practising midwives. It aims to provide information to raise awareness of the impact of the work of midwives on women's experience and encourage midwives to seek further information through a series of activities. In this fifth article Joyce Marshall considers a range of baby related issues that pose challenges for both mothers and midwives in relation to infant feeding.

Scenario

Amelia lay against her mother's chest. She started to stir and tried lift her head but only managed to roll her head from side to side. Her mother looked down at her and smiled. Amelia was very sleepy and only nuzzled at the breast and made a few attempts to suckle despite lying against her mother skin-to-skin most of the time since her birth. 'Come on Amelia,' she said 'you must be hungry now.'

Introduction

Sometimes events that occur during labour and birth can affect a newborn baby in ways that impact on their ability to suckle (Smith & Kroeger 2010). Babies may also be born with congenital conditions that can mean that breastfeeding becomes a challenge, such as tongue tie (Ankyloglossa) or cleft lip and palate. They may also develop conditions such as hypoglycaemia or jaundice early after birth. This article outlines the basic knowledge required by the midwife caring for mothers and babies when such challenges occur.

The effect of labour and birth on breastfeeding

Supporting normal birth in environments where mothers feel relaxed results in shorter, easier births which means mothers and babies are likely to be healthier and more alert as they start their breastfeeding journey (Smith & Kroeger 2010). Conversely, babies exposed to long and difficult labours and/or assisted birth often have difficulty feeding. Although there are gaps in the research evidence many links have been investigated (Table 1).

The effects of these labour practices can be reduced by good care after birth. A baby who has unhurried and uninterrupted skin-to-skin contact with their mother immediately after birth is much more likely to crawl to the breast and suckle even if 'sleepy' from medication given during labour (Righard & Alade 1990). Babies who are separated from their mothers are less likely to suckle are more stressed by birth and cry more increasing the risk of post birth intracranial bleeds (Genna 2013). For these reasons mothers should be encouraged to spend as much time as possible in skin-to-skin contact with their baby and to recognise feeding cues. Further management of feeding difficulties occurring as a result of situations during labour or birth injuries will vary depending on the condition. Obtaining a good labour history is therefore important if a baby is reluctant to feed after birth. A baby sleepy from birth medications can be affected for several days, so expressed colostrum may need to be given by cup or syringe. If the baby has trauma from an instrumental birth a feeding position, such as laid back breastfeeding where the baby's head is not touched may be most successful as this will illicit the baby's

reflexes and the mothers nurturing instincts (Colson 2005) a quiet and calm environment may also be helpful.

Activity 1

Consider how you might provide information to women about the effect of different methods of pain relief on breastfeeding. When would be the most appropriate time to do this in your place of work? Are there other midwives or health professionals you might involve in discussions about this?

Structural problems of the infant's mouth

Tongue-tie (Ankyloglossia) is a congenital anomaly in which the frenulum is shorter or thicker than usual and causes the infant's tongue to be retracted when normally it would extend over the lower lip when the mouth is opened wide (Genna 2013). Whilst some infants with tongue-tie can breastfeed normally others are unable to attach to the breast properly and this may lead to sore nipples. As the anterior tongue is used to stabilise the breast and suction coupled with wave-like movements of the tongue transfers milk into the baby's mouth, inefficient milk transfer may result leading to an unsettled baby and poor weight gain. Bottle feeding may also be difficult for some infants with tongue-tie. If the tongue-tie means the baby is not able to feed division can be performed by a trained healthcare professional, usually in early infancy. The baby's head is stabilised and the frenulum is divided using sharp blunt ended scissors. This is not usually painful, does not bleed much and the baby is able to feed immediately after the procedure (National Institute for Health and Clinical Excellence 2005). Limited evidence suggests this improves the baby's ability to breastfeed in most cases (National Institute for Health and Clinical Excellence 2005).

Cleft palate is a structural gap in the roof of the baby's mouth, either in the hard or the soft palate or both and may be accompanied by a cleft lip. The incidence is 1.7 per 1000 births in the UK (Mossey *et al.* 2009). Babies with clefts may have problems feeding because they have difficulties creating a good seal to produce suction which is essential for breastfeeding and bottle feeding. If a baby has only a cleft lip or a small or narrow cleft palate they may be able to breastfeed although the mother may need to try different positions. Often an upright position may be most successful; the mother may need to position to baby to occlude the cleft with the breast tissue and may need extra support. Breastmilk is optimal for babies with clefts as these babies often have milk in their nasal cavity and breastmilk is less irritating to the mucous membranes than formula; it also helps to prevent ear and nasal infections. These babies also have a tendency to swallow air and often experience fatigue trying to suckle. Careful monitoring of weight gain is needed and supplementation of expressed breastmilk may be necessary.

Activity 2

If a baby was found to have a tongue-tie in your place of work where would they be referred to for division? Access the CLAPA website at <http://www.clapa.com/pros/> explore the resources available to parents. Consider the range of specialists who may be involved with families of babies with clefts.

Hypoglycaemia

Babies, like all mammalian newborns, have low blood glucose concentrations 1-2 hours after birth as they make the transition to extrauterine life. Most newborns compensate through a process known as counter regulation, by producing alternative fuels. For example they release glycogen from body stores to produce glucose and mobilise ketones from fat (Adamkin & Committee on Fetus and Newborn 2011, Walker 2011). This natural fall in blood glucose concentration means it is not helpful to routinely measure blood glucose in asymptomatic babies who are under 2 hours of age even if they have not fed as this will lead to unnecessary intervention. Breastfed babies generally have lower plasma glucose concentrations but higher concentration of ketones than formula fed babies (Adamkin & Committee on Fetus and Newborn 2011). Breastmilk is more ketogenic than formula (i.e. it promotes the production of ketones as an alternative brain fuel) (Walker 2011) and it is this increased production of ketones that may enable breastfed babies to cope with lower levels of glucose.

It is important to recognise babies who may be 'at risk' of hypoglycaemia because symptomatic hypoglycaemia can lead to neurological injury if not treated appropriately. Risk factors include: small or large for gestational age, prematurity, asphyxia and/or respiratory distress, infection, inborn errors of metabolism, diabetic mother, cold stress after birth, use of intravenous dextrose in labour and maternal drugs that affect glucose status (e.g. tocolytics, betablockers such as Labetalol) (Pollard 2012, Walker 2011). It is also crucial to recognize the signs and symptoms of neonatal hypoglycaemia such as: lethargy, irritability, altered level of consciousness, apnoea, cyanosis, hypothermia or convulsions (Pollard 2012, UNICEF Baby Friendly Initiative UK 2011). Prevention is the goal and some of the practice recommendations for babies at risk of hypoglycaemia are similar to recommendations for all babies such as encouraging skin-to-skin contact to maintain the newborn's body temperature, regulate heart rate, reduce stress, crying and encourage early and frequent breastfeeding. Early breastfeeding will help to mobilise alternative energy sources and stabilisation of vital signs and reduction of stress will lead to reduced energy expenditure. In addition infants with higher risk of hypoglycaemia will require regular monitoring of vital signs and blood glucose. There is no agreed level of plasma glucose concentration or duration of hypoglycaemia that is associated with clinical signs or permanent neurological injury so there are variations in local guidelines (Adamkin & Committee on Fetus and Newborn 2011, UNICEF Baby Friendly Initiative UK 2011). If an infant is symptomatic or screening reveals low blood glucose breastfed infants should be offered expressed colostrum via a cup, syringe or nasogastric tube and formula fed infants should also have frequent effective feeds. Some infants may require intravenous fluids.

Activity 3

Access the guideline for care of a baby with hypoglycaemia in your area of work. At what level in the first 24 hours would a baby be considered to be hypoglycaemic? Download the UNICEF BFI guidance for developing a policy for the prevention and management of hypoglycaemia of the newborn at: <http://www.unicef.org.uk/BabyFriendly/Resources/Guidance-for-Health-Professionals/Writing-policies-and-guidelines/Hypoglycaemia-policy-guidelines/> Compare the sample flow chart for the management of breastfed babies at risk of hypoglycaemia with the guidance in your place of work.

Jaundice

Around 60-70% of babies become jaundiced (yellow pigment in the skin) in the first week of life. This is caused by breakdown of the red blood cells to produce bilirubin which in most babies resolves spontaneously. For explanation of the full process of breakdown of red blood cells see (Baston 2012). Babies with physiological jaundice tend to be sleepy and often do not feed well but the jaundice can become worse if the baby does not receive sufficient fluid and nutrition so mothers should be encouraged to cuddle the baby skin-to-skin and offer frequent access to the breast being alert to the baby's feeding cues. The baby should be observed breastfeeding to ensure effective feeding and suggestions offered to ensure optimal positioning and attachment if necessary. If the baby does not feed regularly or effectively breastmilk expression may be required and offered by cup or spoon (Pollard 2012). Other forms of jaundice include: pathological jaundice which occurs within the first 24 hours as a result of an underlying condition such as sepsis, is always serious and requires medical review, and breastmilk jaundice which generally occurs later, the baby is usually alert and although this can last some time it is not usually problematic.

Activity 4

Consider and list the signs of ineffective milk transfer to a breastfed baby. What effect does a delay in passing meconium have on a baby? If a baby is becoming jaundiced what percentage weight loss is acceptable.

Reflection of the scenario

Amelia is sleepy and reluctant to feed in the early postnatal period. Her mother is holding her skin-to-skin and looking for feeding cues. Consider possible causes of Amelia's reluctance to feed. What information and support might her mother need in the near future to continue to breastfeed?

Conclusion

When a baby is reluctant to feed this is a source of concern for the mother and health care professionals. Understanding the physiology of the baby's adaptation to extrauterine life including how babies mobilise other energy sources at this time can prevent unnecessary intervention. Whilst most babies only require time with their mother in skin to skin contact and sensitive support to initiate breastfeeding, midwives have an important role to play in terms of recognising when a baby is affected by birth interventions, is ill, or has a congenital disorder and managing this in a way that is supportive of a mother's wish to breastfeed.

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Labour intervention	Likely effects on the baby
Induction of labour	<ul style="list-style-type: none"> • Infant is more likely to be immature • More likely to be affected by drugs • More likely to be separated from mother after birth
Narcotics during labour	<ul style="list-style-type: none"> • Depress respiratory function – linked to inability to co-ordinate sucking , swallowing and breathing • Make the baby sleepy and unresponsive and can delay effective feeding • Effects are dose related
Epidural anaesthesia	<ul style="list-style-type: none"> • All drugs used in epidurals reach the fetus in varying amounts within 10 minutes so may have a direct effect • Indirect effects include factors such as women remaining supine which slows progress of labour and is associated with malpresentation which can cause abnormal pressures on the baby’s skull. • Reduces the baby’s ability to cope with pain through lack of beta-endorphins in colostrum
Caesarean birth	<ul style="list-style-type: none"> • Surgeons often lift babies at the base of skull and this can disrupt the cranial base and alignment of the hypoglossal nerve that can affect sucking and can lead to poor milk transfer
Long labour and assisted birth, either forceps or ventouse extraction	<ul style="list-style-type: none"> • Can cause cranial asymmetry of the occipital bones that can contribute to poor suck
Suctioning to posterior oropharynx	<ul style="list-style-type: none"> • Babies may have resulting oral aversions making breastfeeding difficult

Table 1: Sources (Smith 2013, Smith & Kroeger 2010, Walker 2011)