

Factors of a Mother's Postnatal Decision about Infant Feeding and the Sustainability of Breastfeeding

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Objective: The benefits of breastfeeding to both infants and mothers are widely recognised. Nonetheless, about one third of mothers have stopped breastfeeding upon discharge from our hospital despite the fact that they elected to breastfeed before delivery. This study aimed to examine factors affecting mothers' postnatal decision about infant feeding and sustainability of breastfeeding.

Methods: This was a prospective study using a questionnaire to collect the subjective information from all mothers who were Chinese and who delivered in our hospital from March to April 2015. As maternal factors alone can only partially predict a mother's decision to breastfeed, a thorough exploration of other variables was also performed.

Results: Analysis of the 172 questionnaires returned revealed that maternal intention to breastfeed correlated with initiation of skin-to-skin contact in the labour ward (odds ratio=2.1, 95% confidence interval, 0.97-4.60; p=0.046) and the presence of the husband during labour (odds ratio=2.3, 95% confidence interval, 0.97-5.51; p=0.048).

Conclusion: Skin-to-skin contact and presence of the husband during labour should be promoted and advocated. These factors are also important for us to develop promotional policies and provide effective counselling in order to improve the breastfeeding rate and sustain a longer duration of breastfeeding.

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Introduction

Breastfeeding is universally acknowledged as the first step in the promotion of health and wellbeing of children and their family. The benefits of breastfeeding to both the infant and the mother are widely recognised¹ and the health risks associated with infant formula feeding are increasingly documented¹⁻⁴. Women in Hong Kong increasingly choose to breastfeed their infants⁵. In order to understand the prevalence of breastfeeding and the sustainability of breastfeeding among the mother-infant dyads who deliver in Hospital Authority (HA) birthing hospitals, the Hospital Authority Breastfeeding Promotion Subcommittee (HABFPSC) has conducted annual surveys in March since 1999. The mean breastfeeding rate upon discharge from the HA maternity units increased from 57.6% in 2005 to 81.8% in 2014 (according to a report on "Breastfeeding—Postnatal Survey in Obstetric Department" by HABFPSC). Nonetheless, in our hospital, the breastfeeding rate upon discharge was lower in March 2014 at 77.2%.

the mean breastfeeding rate upon discharge from 2008 to 2013 was 71.2%, 74.1%, 75.5%, 69.9%, 69.1% and 69.5%, respectively. In 2013, 81.6% of mothers opted for breastfeeding prior to delivery, but the rate dropped to 69.5% following discharge. In view of the unsatisfactory results, some changes were implemented in our unit to improve the breastfeeding rate upon discharge. First, skin-to-skin contact was initiated immediately after birth in the delivery suite. Second, assistance was given to mothers in the postnatal ward to express breast milk for babies in the special care baby unit or neonatal intensive care unit. Third, better support for postnatal mothers was offered; for instance, nursing pillows and a footstool were provided, mothers were taught before discharge how to perform manual expression, and baby models and breast models were used for demonstration. Lastly, a trained peer support group was organised to assist and support breastfeeding mothers in the postnatal ward.

According to the annual statistics from our hospital,

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After implementation of these measures, the breastfeeding rate had increased to 77.2% in March 2014. Nonetheless, the breastfeeding rate upon discharge did not reveal the percentage of mothers who changed their mode of infant feeding during admission and that could have been from bottle feeding to exclusive breastfeeding/mixed feeding or vice versa. An earlier survey was conducted from June to July 2014 to determine how many mothers changed their mind about mode of infant feeding.

The questionnaires were distributed and collected after the postnatal talk and before discharge from hospital. Of the 409 questionnaires returned, 27 had missing data and were excluded from the study. Among the remaining 382 questionnaires, 301 (78.8%) and 51 (13.4%) of the mothers did not change their decision about breastfeeding/mixed feeding and artificial feeding respectively. Nonetheless, a further 18 (4.7%) and 12 (3.1%) mothers had changed from breastfeeding to artificial feeding and from artificial feeding to breastfeeding/mixed feeding, respectively. In order to identify factors that influence a mother’s postnatal decision about mode of infant feeding and affect the sustainability of breastfeeding after discharge, a study was designed and ethics approval granted by the Research Ethics Committee of Kowloon West Cluster [Reference No.: Kw/EX-15-013 (83-14)].

Methods

A prospective hospital-based cohort questionnaire study was conducted from March to April 2015. In order to obtain more subjective information, the questionnaires were revised based on the findings of the previous survey conducted in 2014. All mothers who were Chinese and who delivered in our hospital during the study period were recruited. Any non-Chinese mothers who could not read or write Chinese were excluded. If the mother did not agree to participate in this study, her subsequent care and treatment would not be affected. Informed written consent was obtained from all participants.

The questionnaires were distributed after the postnatal talk and collected before discharge from hospital. As maternal factors alone can only partially predict a woman’s decision to breastfeed, a thorough exploration of other variables is warranted. These variables were retrieved from the clinical record and included demographic data, labour process, mode of delivery, presence or absence of husband, use of pharmacological or non-pharmacological pain relief, skin-to-skin contact initiated on the labour ward, and whether baby was separated from the mother or in same room. For those mothers who agreed to have

follow-up by phone call, they were contacted 4 to 5 weeks after delivery to enquire about the mode of infant feeding.

Results

Of the 172 questionnaires returned, 136 (79.0%) and 27 (15.7%) of the mothers did not change their decision about breastfeeding/mixed feeding and artificial feeding respectively. Nonetheless, five (2.9%) and four (2.3%) of the mothers changed from breastfeeding to artificial feeding and from artificial feeding to breastfeeding/mixed feeding respectively (Table 1). Overall, 140 mothers had chosen breastfeeding or mixed feeding upon discharge. The reasons included: beneficial to her baby (82.3%), beneficial to herself (77.3%), having family support (34.8%), natural food for baby (29.8%), and having support from hospital staff (26.2%). On the contrary, 32 mothers had chosen artificial feeding upon discharge. The reasons were insufficient confidence (30.0%), fatigue after delivery (26.7%), insufficient milk (23.3%), and wound pain (13.3%).

Maternal age, gestational age at delivery, mode of delivery, and use of oxytocin or pethidine did not show any significant effect on intention to breastfeed during the hospital stay (Table 2). As 19 mothers could not be contacted by phone for follow-up at 4 to 5 weeks post-delivery, 153 mothers were included in the final cohort. Statistical analysis also showed that the above intrapartum factors did not affect maternal decision.

Maternal intention to breastfeed has been shown to be strongly correlated with the initiation and duration of breastfeeding⁵⁻⁸. Our data showed that maternal intention to breastfeed was correlated with the initiation of skin-to-skin contact in the labour ward (odds ratio [OR]=2.1, 95% confidence interval [CI], 0.97-4.60; p=0.046) and the presence of their husband during labour (OR=2.3, 95% CI, 0.97-5.51; p=0.048) [Table 2]. These two factors were also significantly correlated with sustained breastfeeding

Table 1. Change to mothers’ decision about mode of infant feeding before birth and upon discharge from hospital (n=172)

Type	No. (%)
Breastfeeding (no change)	105 (61.0)
Artificial feeding (no change)	27 (15.7)
Breastfeeding to mixed feeding	31 (18.0)
Breastfeeding to artificial feeding	5 (2.9)
Artificial feeding to breastfeeding/mixed feeding	4 (2.3)

Table 2. Relationship between mothers' choice of mode of infant feeding upon discharge with maternal and intrapartum factors*

	Breastfeeding/mixed feeding (n=140)	Artificial feeding (n=32)	p Value	Odds ratio (95% confidence interval)
Maternal age (years)			0.624	-
≤19	1 (0.6)	0		
20-34	89 (51.7)	23 (13.4)		
≥35	50 (29.1)	9 (5.2)		
Preterm at delivery	10 (5.8)	2 (1.2)	0.608	-
Primiparous	77 (44.8)	15 (8.7)	0.262	-
Use of oxytocin	40 (23.3)	8 (4.7)	0.355	-
Use of pethidine	46 (26.7)	12 (7.0)	0.131	-
Caesarean section	26 (15.1)	8 (4.7)	0.281	-
Husband accompanying labour	61 (35.5)	8 (4.7)	0.048	2.3 (0.97-5.51)
Skin-to-skin contact	95 (55.2)	16 (9.3)	0.046	2.1 (0.97-4.60)

* Data are shown as No. (%) of women, unless otherwise specified

Table 3. Relationship between mothers' choice of mode of infant feeding at 4 weeks after delivery with maternal and intrapartum factors*

	Breastfeeding/mixed feeding (n=106)	Artificial feeding (n=47)	p Value	Odds ratio (95% confidence interval)
Use of oxytocin	38 (24.8)	15 (9.8)	0.355	-
Use of pethidine	45 (29.4)	14 (9.2)	0.131	-
Caesarean section	19 (12.4)	13 (8.5)	0.126	-
Husband accompanying labour	51 (33.1)	13 (8.5)	0.014	2.5 (1.19-5.24)
Skin-to-skin contact	74 (48.4)	23 (15.0)	0.009	2.5 (1.25-5.07)

* Data are shown as No. (%) of women, unless otherwise specified

at 4 weeks post-delivery (initiation of skin-to-skin contact in labour ward: OR [95% CI], 2.5 [1.25-5.07]; $p=0.009$); presence of husband during labour: OR [95% CI], 2.5 [1.19-5.24]; $p=0.014$) [Table 3].

Discussion

A mother's intention to breastfeed is the single most important factor in deciding whether she will start breastfeeding and how long she will continue. In this study, the initiation of skin-to-skin contact in the labour ward was found to have a statistically significant correlation with maternal intention to breastfeed and sustained breastfeeding at 4 weeks post-delivery.

Skin-to-skin contact is a natural process that places a naked newborn chest down on the mother's bare chest immediately or shortly after birth. It is also recognised to have enormous and lasting emotional and physical benefits for mother and baby. During the process, both mother and

baby will be calm and relaxed. The baby's temperature and breathing rate will be more stable and normal, and the blood sugar is more elevated as warmth is provided by the mother.

From the point of view of breastfeeding, if the baby is kept in skin-to-skin contact with the mother for at least an hour, it is more likely to latch on well. When the mother touches her baby, the sensation will encourage the baby to crawl, seek out and grasp its mother's nipple, then open its mouth and lick the nipple. This attachment will stimulate the release of essential hormones to support breastfeeding, such as oxytocin and prolactin, that will facilitate milk flow and enhance milk production respectively⁹. There are now a multitude of studies to show that mothers would breastfeed for a longer duration if they had experienced skin-to-skin contact soon after delivery¹⁰⁻¹².

It is suggested that skin-to-skin contact should last

for at least an hour or until the end of the first breastfeed. Nonetheless, in this study we did not analyse whether the maternal intention or sustainability of breastfeeding was affected by the duration of skin-to-skin contact. Besides, the data only compared mothers with and without any skin-to-skin contact with their babies after delivery.

Second, maternal intention to breastfeed and sustained breastfeeding at 4 weeks post-delivery were also found to have statistically significant correlation with the presence of the husband during labour. Fathers are often the most influential support prior to birth in feeding decisions and throughout the breastfeeding period^{13,14}. In addition, fathers play a vital role as supporter of breastfeeding especially when they have a positive attitude towards its continuation^{14,15}. In Şencan et al's study¹⁶, the duration of

breastfeeding was correlated with the father's engagement in the labour process and breastfeeding. Thus, it is more likely that the mother will elect to breastfeed if she receives a principally positive, or at least neutral reaction from her significant others⁸.

Conclusion

This study suggested that skin-to-skin contact and presence of the husband during labour should be promoted and advocated. These factors are important for us to develop promotional policies and provide effective counselling in order to improve the breastfeeding rate and sustain a longer duration of breastfeeding.

Declaration

All authors have disclosed no conflicts of interest.

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