

## Induced Lactation by Adoptive Mothers: A Case Study

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### Article history

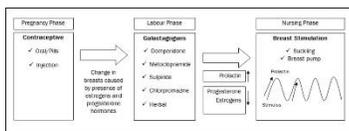
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### Graphical abstract



### Abstract

Induced lactation is a method of stimulating breast milk, carried out by non-pregnant women. It is an alternative for women who are unable to have children naturally but wish to experience motherhood by adopting. In Islamic laws, breastfeeding by a woman of another person's child will turn their relationship into that of a mother and her own child. The permissibility in Islamic law of breastfeeding another person's child has been taken as an alternative way for adoptive Muslim mothers to "mahram"ise (a male/female who is forbidden permanently, forever) (or familiarize) the relationship with that adopted child. The objective of this study is to explore the experience of adoptive mothers who have breastfed their adopted children through the method of induced lactation. This study focuses on the technical aspects, on how an adoptive mother stimulates the production of breast milk despite not having gone through the process of pregnancy. This study uses the qualitative study method. This study interviewed 12 respondents comprising of Muslim females who had successfully nursed their adopted children before the age of two and fulfilled the requirement to nurse the child until he is fully satisfied for five sessions. The semi structured interview technique was carried out over a 6 months period between the years 2012 to 2013. Data analysis discovered that two methods of induced lactation were performed, i.e., hormone simulation and breast stimulation. This study also found two devices used in the process of breast stimulation, which are Supplemental Feeding Device and Breast pump. In summary, the process of induced lactation to nurse an adopted child can be a success with the right method, technique and equipment.

**Keywords:** Breastfeeding; induced lactation; fosterage; galactagogues; supplemental feeding device

### Abstrak

Cetusan laktasi merupakan suatu kaedah merangsang penghasilan susu ibu yang dilakukan oleh wanita yang tidak hamil. Ia merupakan alternatif bagi wanita yang tidak dapat melahirkan zuriat sendiri, namun berhasrat untuk merasai pengalaman sebagai ibu melalui pengangkatan anak angkat. Menurut syariat Islam, penyusuan susu ibu yang dilakukan oleh seorang wanita terhadap bayi yang bukan anak kandungnya akan menyebabkan hubungan mereka seperti ibu kandung dengan anak kandung. Pengharusan menyusukan anak orang lain telah dijadikan sebagai alternatif bagi ibu angkat beragama Islam di Malaysia untuk memahamkan hubungan dengan anak angkat yang dipelihara. Matlamat kajian ini adalah untuk meneroka pengalaman ibu angkat yang telah menyusukan anak angkat mereka menggunakan kaedah cetusan laktasi. Fokus kajian meliputi aspek teknikal iaitu bagaimana cara seseorang ibu angkat merangsang penghasilan susu ibu walaupun mereka tidak melalui fasa kehamilan. Kajian ini menggunakan reka bentuk kajian kualitatif. Kajian ini telah menemui seramai 12 orang responden yang terdiri daripada wanita beragama Islam yang telah berjaya menyusukan anak angkat mereka sebelum bayi menjangkau usia 2 tahun dengan memenuhi syarat 5 kali sesi penyusuan yang mengenyangkan. Teknik temu bual separa berstruktur telah dijalankan dalam tempoh 6 bulan antara tahun 2012 hingga 2013. Analisis data mendapati terdapat 2 kaedah cetusan laktasi yang dilaksanakan, iaitu simulasi hormon dan stimulasi payudara. Kajian juga mendapati terdapat 2 peralatan yang digunakan dalam proses stimulasi payudara iaitu *Supplemental Feeding Device* dan *Breastpump*. Kesimpulannya, proses cetusan laktasi untuk menyusukan anak angkat boleh dijayakan dengan kaedah, teknik dan peralatan yang betul.

**Kata kunci:** Susu ibu; cetusan laktasi; sesusuan; galactagogues; peranti makanan tambahan

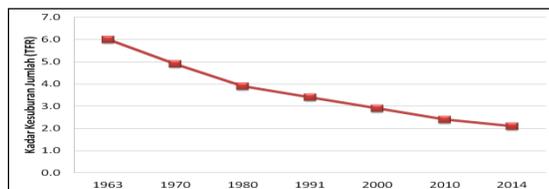
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## 1.0 INTRODUCTION

Malaysia is a developing country in respect of technological and educational growth. The 2010 National Statistics Report found an increase in the number of women who have education levels ranging from Diploma to Doctorate levels (Malaysia Social Statistics Bulletin, 2010). This phenomenon brings with it both positive and negative implications. The positive implication is how it leads to the increased involvement of women in the workforce particularly as a professional and decision maker (Naemah Hamzah *et al.*, 2014). The number of women involved in areas formerly controlled by men, such as in the politics, large capital businesses, and in professional professions such as engineering, medicine, finance etc are ever increasing. The service sectors such as education and medicine as well as manufacturing are also controlled by women (Abdul Aziz Jemain & Puzziawati AB Ghani, 2003).

That notwithstanding, the negative implications resulting from the increased achievement in education, specifically for women, is that the current generation tends to delay marrying. This study found that on average, male members of population marry at the age of 28.9 years old while the female marry at the age of 25.3 years old (Adzmel Mahmud *et al.*, 2004). According to the National Population and Family Development Board, Malaysia, 2004, the fertility rate since 1974 to 2004 is seen to be declining. The declining fertility may be caused by socioeconomic changes and development such as in education, income and also urbanization (Adzmel Mahmud *et al.*, 2004). Referring to Diagram 1, the decline of the fertility rate in Malaysia is occurring rapidly and is expected to reach replacement level (=2.1) in 2015 (Adzmel Mahmud *et al.*, 2012).

Diagram 1 Fertility rate in Malaysia



Source: Adzmel Mahmud *et al.*, 2012

Although the fertility rate of females has declined, the desire to have children remains high. A study carried out by Adzmel Mahmud and Associates showed that as much as 75.9 percent of the respondents, numbering 1,898 people, have the desire to have children. The study found that there was no evidence to link the job position and the desire to have children. When there are no children, most married couples will likely look towards adopting. Based on the Department of Social Welfare Statistical Report, 2011 the applications to register and adopt totalled 1,697 (See Table 1).

At the same time, statistics show that the number of children who require protection and care has increased from 1,999 to 3,428 (See Table 2) since 2006 to 2011. The Ministry of Women, Family and Community Development had suggested that more financially capable parents, who are interested in adopting, to register themselves with the Department of Social Welfare (JKM). The Minister, YB Dato' Sri Rohani Abdul Karim stated that parents who meet all requirements may begin the familial bonding by caring for the child during school holidays. Through the observation of JKM, when the bond becomes stronger, the parents will usually adopt the children and this will allow more

children to live in a family ("KPWKM suggests financially able parents to register application to adopt", 2013).

Table 1 Applications case to register adoption and adoption of children, 2011

State	No. of Cases
Johor	46
Kedah	107
Kelantan	9
Melaka	138
Negeri Sembilan	100
Pahang	55
Perak	70
Perlis	0
Pulau Pinang	0
Sabah	0
Sarawak	0
Selangor	852
Terengganu	52
W.P. Kuala Lumpur	268
W.P. Labuan	0
Total	1,697

Source: Department of Social Welfare Statistical Report, 2011

Table 1 Number of cases of children requiring care and protection based on gender, 2006-2011

Year	Male	Female	Total
2006	633	1,366	1,999
2007	806	1,673	2,479
2009	846	1,943	2,789
2010	1,019	2,238	3,257
2011	1,253	2,175	3,428
Grand Total			13,952

Source: The Department of Social Welfare Statistical Report, 2011

One of the methods to build and create a bond between adopted children with his adoptive parents, specifically his adoptive mother, is through nursing. In theory, an adoptive mother can stimulate the production of breast milk via certain techniques and procedures. At the same time, Islam as a merciful religion, allows a woman to nurse a child not her own. Further, breastfeeding carried out by an adoptive mother will create a *mahram* relationship with the child. This permissibility in Islam will allow the child to be raised by the family. However, in practice, not all adoptive mothers can realize this noble intention. This is due to lack of accurate information obtained by these adoptive mothers in the effort to breastfeed their children. A small number of these mothers assume that consumption of hormones can lead to automatic production of natural milk. This assumption is not true based on the concept of breastfeeding itself (Noor Lita, 2013).

Therefore this article will discuss the experience of 12 Muslim Malaysian women who had difficulty having children and had then adopted children. The adopted children were all under 2 years old, as the prospective mothers wanted to breastfeed their children. This article will elaborate on the method carried out by non-pregnant women who wanted to nurse their children and it will help to assist the women who wish to breastfeed to meet the survival needs of their child.

## 2.0 ADOPTION FROM THE ISLAMIC PERSPECTIVE

Under Islamic law, there are clear rules on adoption. Firstly, adoption or *tabanni* means caring after another person's child, taken from young or older, and putting the bin or binti ('child of')

to the adopted father, as well as registering the adoption under the laws, where in the context of Malaysia, is the Adoption Act 1952. Secondly, fosterage or *al-kafalah*, which means caring for other people's children either from young or when older, without connecting the child's parentage to the adopted father (Md Som Sujimon, 2014).

Based on these two practices of adopting, the first practice is forbidden in Islamic law, whereas the second practice is allowed in Islam. This rule is based on Quranic basis in Surah Al Azhab verse 4-5. Islam does not acknowledge the concept of adoption but accepts the concept of fosterage. Fosterage is allowed as it contains the concept of *takaful*, where Muslims help each other by raising an adopted child so that the child grows up well, complete and is independent. When the child can be independent the adopted parents' duties are complete (Najibah Md Zin, 2012).

Whereas the adoption system is forbidden in Islam as it accepts the adopted child to be equal in law to the parents' own child. This means the child is released from its original bond of parentage; the adopted child will be entitled to a portion of the adopted parents' properties; the adopted child will be free to mingle with the adopted family and is considered to have a bond that prohibits marriage between them (Siti Zalikah Md Nor, 2008).

### ■3.0 THE CONCEPT OF BREASTFEEDING OF AN ADOPTED CHILD

Islam appreciates and celebrates a woman's desire to experience motherhood, despite not having the fortune to have her own child. The concept of *al-kafalah* or fosterage can be used for parents who wish to raise other people's children. However there are many restrictions such as *aurat*, touch, and interaction, which must be considered arising from the child not being blood relations (*mahram*) for the adopted family.

In this respect, Islam has provided a solution and an alternative to ease the daily interactions in the family, by allowing the mother to breastfeed her adopted child. This will cause the child to have a blood relationship with his family. In Islamic law, a child who has been nursed by a woman other than his birth mother will have imposed on him the restrictions of marriage (Abdul Karim Zaydan, 1997). This restriction applies to his nursing mother, father and siblings, as they are considered birth parents and siblings as was stated in the Quran, which means:

“Prohibited to you [for marriage] are your mothers, your daughters, your sisters, your father's sisters, your mother's sisters, your brother's daughters, your sister's daughters, **your [milk] mothers who nursed you, your sisters through nursing...**”

(Surah An-Nisa': 23)

### ■4.0 METHOD OF INDUCED LACTATION

After Islam permitted caring for adopted children (or fosterage) and allowing the foster mothers to nurse the child to create a blood relationship between them, the next question is would a woman who is not pregnant, and not having given birth, be able to produce this milk? Generally it is known that only women who had given birth would be able to nurse their child with breast milk.

The answer to that question is that a woman who has never been pregnant or who has not been pregnant for some time may also produce breast milk. The latest medical technology has made available protocols and pharmacological assistance for these women especially adoptive mothers or surrogate mothers (for non-Muslim Western women) in order to fulfil their desires to be a mother by nursing their child even though they did not give birth to the child. This induced lactation method is one method of producing breast milk (Zaharah & Tengku Alina, 2011) whereby it occurs without pregnancy preceding it (Kathleen, 1981).

Among the reasons which would encourage nursing through the method of induced lactation are to save the life of a baby whose mother dies soon after his birth (Abejide OR *et al.*, 1997; Chaturvedi & Dubey, 1985; Kuria Nemba, 1994), to build a strong bond between mothers with the children which they did not give birth (Gribble, 2007; Kathleen, 1981), to meet the nutritional needs for breast milk in the case of babies carried by surrogate mothers (M & L, 2001; Szucs, Axline, & Rosenman, 2010) and especially for Muslim communities, nursing an adopted child is to create the restriction against marrying amongst nursing siblings (Zilal Saari & Farahwahida M Yusof, 2014).

Induced lactation involves the process of replicating the physiology of a woman's body during pregnancy and birth. According to Zaharah and Tengku Alina (2011), amongst the categories of women who can undergo the process of induced lactation are women without ovaries, women without wombs, women who had not been pregnant or given birth, women who had reached menopause, women whose pregnancy ended in miscarriages and pregnant women whose infant died in the womb or after birth. Anatomical factors, such as having an ovary and womb, or the actual birth of a baby are not factors which would influence the production of milk (Cheales-Siebenaler, 1999).

In theory, a woman who undergoes the process of induced lactation will not go through any physiological changes which occur during pregnancy, nor will her breasts undergo the memogenesis phase (where the milk glands grow), lactogenesis (production of milk) phase and galactopoiesis phase (maintaining milk production). However, there are medications that can be taken to allow the body to experience the same changes and thus stimulate the production of milk (Zaharah & Tengku Alina, 2011). Two main methods of stimulating milk production are the hormone simulation and the breast simulation methods. For the former, the assistance of pharmacological agent is required to create certain vital hormones to create the milk glands as well as produce milk (See Table 3). Generally, there are two types of medication used, the contraceptives and galactagogues. Contraceptives are used to replicate the pregnancy stage where high levels of estrogens and progesterone exist. Both these hormones will enable the alveoli glands and ducts to produce milk as it would occur during a normal pregnancy (Wittig, Nurse, & Spatz, 2008).

After changes are felt in the breasts, such as tightening and swelling, the contraceptives intake will be stopped and replaced with galactagogues, to produce the hormone prolactin, Metoclopramide and domperidone are two things that are frequently used as galactagogue. Several herbs such as fenugreek and blessed thistle are also used (Byrant, 2006). At the same time, stimulation of the breasts must still be carried out, whether by using a breast pump or by suckling (Campbell-Yeo *et al.*, 2006). For clarification, the author demonstrates the phases of replication which are carried out during the induced lactation period, in Figure 2 and Table 3.

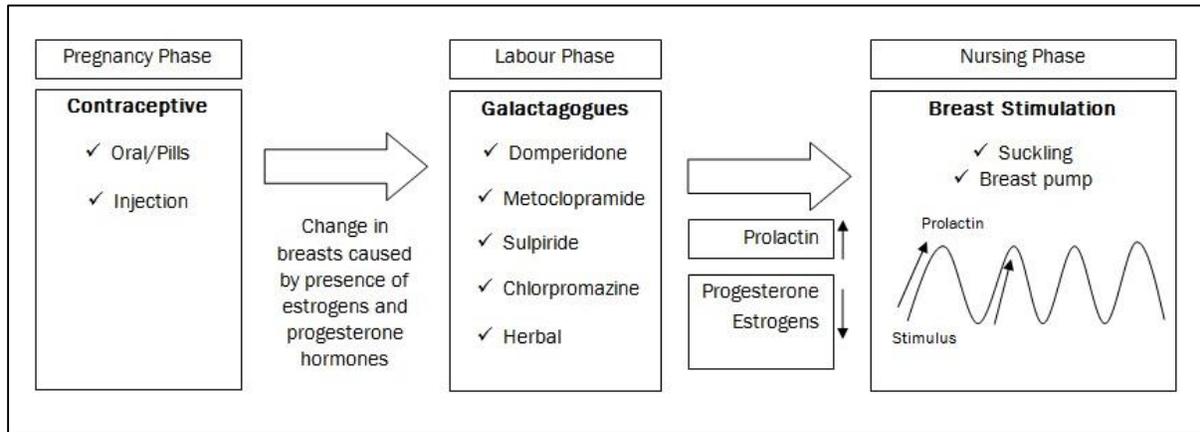


Figure 2 Phases of induced lactation

Table 2 Pharmacological agents for induced lactation

Agent	Mechanism of Action	Recommended Dosage	Availability in the United States	Side Effects	Hale's Lactation Risk Category*	References
<b>Metoclopramide</b>	Dopamine antagonist; crosses blood-brain barrier	Oral: 10-15 mg, 3 times per day	Yes	Diarrhea, sedation, depression, tremor, bradykinesia	L2	Biervliet <i>et al.</i> , 2001; Bryant, 2006; Gabay, 2002; Hale, 2006
<b>Domperidone**</b>	Peripheral dopamine antagonist; crosses blood-brain barrier minimally	Oral: 10-20 mg, 3-4 times per day	From a compounding pharmacist	Dry mouth, skin rash or itching, headache, gastrointestinal disturbance	L1	Bryant, 2006; da Silva & Knoppert, 2004; Gabay, 2002; Hale, 2006; Riordan, 2005
<b>Sulpiride</b>	Selective dopamine antagonist	Oral: 50 mg, 2 times per day	No	Tremor, bradykinesia, acute dystonic reactions, sedation	L2	Emery, 1996; Gabay, 2002; Hale, 2006
<b>Chlorpromazine</b>	Central nervous system tranquilizer; blocks dopamine receptors	Oral: 25 mg, 4 times per day reported; use not recommended because of associated adverse reactions	Yes	Sedation, lethargy, tremor, bradykinesia, weight gain.	L3	Gabay, 2002; Hale, 2006; Nemba, 1994
<b>Fenugreek</b>	Herbal supplement; reputation as a galactagogue, but mechanism of action unknown	Oral: 2-3 capsules, 3 times per day; variable	Yes	Maple syrup odor in urine and sweat, diarrhea, hypoglycemia, dyspnea	L3	Bryant, 2006; Hale, 2006
<b>Blessed Thistle</b>	Herbal supplement; reputation as a galactagogue, but no data support this use	Unknown	Yes	None	L3	Bryant, 2006; Hale, 2006

\* Hales's Lactation Risk Categories are as follows: L1 (Safest) = The drug is not orally bioavailable in the infant, or no increase in adverse effects to the infant has been noted in controlled studies or observed with a large number of breastfeeding mothers; L2 (Safer) = A limited number of studies of this drug has shown no increase in adverse effects to the infant and/or little evidence exists of risk to breastfeeding infant; L3 (Moderately Safe) = No controlled studies by breastfeeding women exists, but risk of untoward effects to infant is possible. Therefore a risk benefit assessment should be made

\*\*In 2004, the U.S. Food and Drug Administration issued a statement warning against the use of domperidone to induce lactation, citing published reports and case studies of cardiac arrhythmias, cardiac arrest, and sudden death in patients receiving intravenous domperidone as an antiemetic during cancer chemotherapy. No data suggest that the use of oral domperidone in breastfeeding mothers produces similar effects.

Adopted from: Sarah L. Wittig and Diane L. Spatz (2008). Induced Lactation: Gaining a Better Understand.

To make induced lactation a success, the hormone simulation methods cannot be done independently without being followed by the method of stimulating the mother's breasts. These simulation methods form the basis of effective milk production (Byrant, 2006). Amongst the techniques of stimulation that can be done are frequent nursing of child (Emery, 1996), breast massages, usage of multiple breast milk pump (Cheales-Siebenaler, 1999), hand/manual pumping (Emery, 1996), and suckling on the mother's breast with special tubes for the flow of the milk to the baby (supplementary feeding tube device). In addition, the Kangaroo care methods, or skin to skin contact, massaging, relaxation techniques, pumping milk beside the baby present, and increasing the frequency of pumping milk, all of

these contribute towards the increase in milk production (Cheales-Siebenaler, 1999).

Several devices can be used to aid in the process of stimulation to increase the production of milk. Amongst them are supplemental feeding device and breast pump (Zilal Saari & Farahwahida M Yusof, 2014). Supplemental feeding devices function as dummies which will flow the formula food to the baby while waiting for the adoptive mother's breast milk to flow. Whereas, breast pump can effectively stimulate the breasts especially when the baby is unable to do the same as frequently due to the adoptive mother having to go to work or the baby's long sleeping hours.



Figure 3 Devices for induced lactation

Table 3 Profile of the research respondent's

PROFILE OF ADOPTIVE MOTHER				PROFILE OF ADOPTIVE CHILD				
Respondents	Age at getting married (years)	Age at delivering own baby (years)	Age at adopting (years)	Age of baby when adopted	Age of baby when induced lactation is started	Age of baby at time milk is first produced	Age of baby upon completion of five satisfying	Age of baby at weaning
<b>Group 1: Women who had been pregnant and had breastfed</b>								
A	30	31	38	2 days	3 days	2 weeks	2 months	6 months
B	23	24	30	7 days	10 days	3 weeks	3 months	3 months
C	25	27	36	7 days	7 days	3 weeks	2 months	4 months
<b>Group 2: Women who had never been pregnant and never breastfed</b>								
D	27	-	32	5 days	1 months	2 weeks	3 months	3 months
E	24	-	29	1 week	2 weeks	3 weeks	2 months	2 months
F	25	-	30	2 days	1 weeks	1 months	2 months	4 months
G	26	-	33	6 months	10 months	14 months	22 months	23 months
H	24	-	37	14 days	14 days	3 weeks	2 months	36 months
I	23	-	27	1 days	2 weeks before birth	3 weeks	3 months	19 months
J*	24	-	<sup>[i]</sup> 31	10 days	10 days	2 weeks	3 months	5 months
			<sup>[ii]</sup> 36	10 days	10 days	2 weeks	3 months	5 months
			<sup>[iii]</sup> 42	10 days	10 days	3 weeks	3 months	5 months
K*	21	-	<sup>[i]</sup> 26	1 days	7 days	2 weeks	1 months	2 months
			<sup>[ii]</sup> 32	6 days	6 days	2 weeks	2 months	2 months
L**	29	-	32	1 days	1 months	2 weeks s	7 months	10 months

Source : Field Work from December 2012- June 2013  
 Notes : \* Mothers who have adopted more than one child.  
 \*\* Mothers who have adopted twins  
<sup>[i]</sup> First adopted child; <sup>[ii]</sup> Second adopted child; <sup>[iii]</sup> Third adopted child

**5.0 CASE STUDY METHODOLOGY**

This study is a qualitative study to analyse how induced lactation is carried out by adoptive mothers. According to Cresswell (2007), qualitative studies are aimed at exploring an issue in detail and in depth. In-depth information about a particular issue can only be obtained when the researcher face the study sample

in the context and atmosphere of a real situation. The design of the case studies were selected for this study by focusing on the question: 'how do adoptive mothers stimulate lactation to nurse their adopted children?'

The method of data collection used is by conducting semi-structured interviews of 12 adoptive mothers who had successfully nursed their children using induced lactation

method. By identifying the study samples which can provide accurate information on the process of induced lactation, the researcher used purposive sampling method where she obtained the particulars of the adoptive mothers from two organisations carrying out counselling/consultation for induced lactation, i.e., the National Lactation Centre and Susuibu.com.

After the sampling process was completed, the researcher successfully compiled twelve adoptive mothers who agreed to take part in this study. The semi-structured, face-to-face interview sessions were carried out over a period of 6 months, that is, from December 2012 to June 2013. All respondents were contacted by the researcher first to obtain their consent and agreement to participate in this study. After receiving their consent, the researcher commenced the semi-structured interview sessions based on the place and date set by the respondents. These are to ensure that the respondents were comfortable while relating their experience. Each session lasted between one to two hours. The researcher recorded the sessions using Mp3 recorder after receiving each respondent's agreement to do so.

Once the interview was over, the researcher transcribed the interview verbatim, and subsequently submitted the text of the interview to the respondent for confirmation. Next, data analysis was carried out using the methods of content analysis, code based analysis and word based analysis aided by the NVivo7 computer software. The data was organized in a matrix schedule to show the frequency of induced lactation undertaken by each respondent and thereafter producing cognitive mapping to summarise the findings obtained.

## 6.0 RESEARCH FINDINGS

### 6.1 Profile of the Research Respondent's

Table 4 shows an analysis of the respondents' profile. A total of 12 respondents had been divided into two groups, that is, Group 1 for women who had been pregnant before and had breastfed before the data was compiled. The Group 2 was women who had never been pregnant and never breastfed before. As many as three people were in Group 1 while nine were in Group 2. The ages of the respondents when they first married were between 21 to 30 years old. For Group 1, having a child took one to two years after getting married. However, after 6 to 9 years of trying to add to their family and failing, all three respondents made the decision to adopt. For Group 2, the period from getting married to adopting is between 4 to 13 years.

The adopted child's profile was divided into 5 phases. The age of the child when first adopted was ranged from 1 day to 6 months. The adoptive mother started the induced lactation process between 2 weeks prior to birth of the baby, to 10 months after. The first milk flow occurred after induced lactation for a period of 2 weeks to 6 months. To complete the feeding sessions of at least 5 satisfying nursing, the periods required were ranged from 1 month to 8 months. The age of the child when weaned off breast milk was between 2 to 36 months.

The varying age profile of the mother and child as shown in Table 4 shows the difference between each parent-child pairing in this induced lactation process. It is generally suggested that the ideal age for the child is at newborn as he would not have been introduced to the artificial teat. However this study has found that even when the child is 10 months old it is still possible to induce lactation successfully (the adoptive mother had to rely on pumping breast milk only). The age of the adoptive mothers at the time of starting induced lactation also varied from late 20s to early 40s. The findings have shown that the age of the mother is not a barrier to a successful induced lactation.

### 6.2 Induced Lactation Method

Table 5 shows that the methods used by the 12 adoptive mothers to induce lactation were stimulation of hormones and breast stimulation. The first method of induction is to create hormonal stimulation with the help of pharmaceutical medication. The medicines are materials that can aid in the process of induced lactation as it can duplicate a situation where a woman is pregnant and gives birth. However, a large part of society assumes that merely by taking the hormones the success of induced lactation is assured. This assumption is inaccurate and incorrect from the aspect of breastfeeding itself. This method of hormone stimulation can be divided into two types, the Contraceptive and the Galactagogues.

Based on the findings obtained, only five respondents took contraceptives. The type of contraceptive taken was in pill form (Yasmin) and injection. For example, respondent G took contraceptive pills for 5 months and respondent L took Yasmin pills for 40 days. The remaining three respondents, i.e., respondent A, D and L used a onetime injection only.

After the usage of contraceptive which aimed at preparing the breasts to mimic pregnancy, the next category of medicines are the galactagogues. This analysis found that all 12 respondents took galactagogues to stimulate milk production. Five respondents took domperidone (respondent D, B, L, J and I) while only one respondent took the Maxolon galactagogues, that is, respondent I (this respondent has taken both galactagogues). Aside from Domperidone and Maxolon, seven other respondents could not determine what type of galactagogues they consumed. For respondent H, she only took a 'white coloured pill'. Respondent E mentioned that she took a 'pill for hormone', while respondent J stated that she took 'pill for sicknesses'. Other respondents only mentioned that they took 'medicine' as they had either forgotten or they did not know the name of the medication prescribed by the doctor to them.

After going through the hormonal stimulation using pharmaceutical agents, the next lactation method is to commence frequent breast stimulation. Based on the data obtained, there are five stimulation techniques which were performed by the respondents of the study. The most dominant method is by having the child suckle, followed by the usage of breast pump, and body and breast massages. Two less dominant methods are skin to skin contact and hand expression.

Data analysis found that out of 12, about 11 respondents using the method of direct suckling. Respondent G did not carry out the suckling method of stimulation as she begun the induced lactation process when her child was 10 months old, and in fact the child did not want to latch on her breasts. Therefore she had to rely on the stimulation from pumping milk and hand expression methods.

For techniques of stimulation using breast pump, about 9 to 12 respondents used this method, while two other respondents did not use it at all, being respondent C and H. Both these respondents used the induced lactation process during school break (they were school teachers). They did not require the breast pump as they were able to directly breast feed their child until the child completed five sessions of full breastfeeding.

The next technique of stimulation is by massaging, applied by nine of the respondents. The respondents tried to find masseurs or midwives who could do massage or who had massaged them. The part of body massaged was the entire body, at the back and the front, and at the axilla area. The respondents also stated that their main aim of massaging is to stimulate and increase milk production. The findings of the study are that the induced lactation process is not only dependent on technology and modern

medicine. Traditional methods of assistance such as hand massage from an experienced masseur are also needed. Next, the fourth method of stimulation was to perform skin to skin contact, carried out by three respondents. This technique was carried out by having the mother's skin touch the child without the barrier of any cloth or materials. The aim of this was to provide stimulation so that milk is produced faster and also to create maternal instinct.

Finally, the fifth stimulation technique carried out was by hand expression. This technique was used by only two

respondents, i.e., respondents J and G. Both respondents had also used the breast pump methods but they preferred hand expression, as it was faster to collect milk and also avoid wastage from having the milk stick to the bottle's mouth and nozzle when using an electrical breast pump. In addition to producing and collecting milk, expressing by hand was also used to stimulate the breasts. This is because a mother's touch on the breast is able to stimulate natural production and flow of milk.

**Table 4** Induced lactation method

HORMONAL SIMULATION			BREASTS STIMULATION				
Respondents	Contraceptive	Galactagogues	Suckling	Pump	Massage	Skin to skin contact	Hand Pump
<b>Group 1: Women who had been pregnant and breastfed</b>							
A	√	√	√	√	√	√	-
B	-	√	√	√	-	-	-
C	√	√	√	-	√	-	-
<b>Group 2: Women who had never been pregnant and never breastfed</b>							
D	√	√	√	√	√	√	-
E	-	√	√	-	-	-	-
F	-	√	√	√	√	√	-
G	√	√	-	√	√	-	√
H	-	√	√	-	√	-	-
I	-	√	√	√	√	-	-
J*	-	<sup>[i]</sup> √	√	√	√	-	√
		<sup>[ii]</sup> √	√	√	√	-	√
		<sup>[iii]</sup> √	√	√	√	-	√
K*	-	<sup>[i]</sup> √	√	√	-	-	-
		<sup>[ii]</sup> √	√	√	-	-	-
L**	√	√	√	√	√	-	-

Source : Field work from December 2012-June 2013

Notes : \* Mothers who adopt more than one child.

\*\* Mothers who adopt twins.

<sup>[i]</sup> First adopted child; <sup>[ii]</sup> Second adopted child; <sup>[iii]</sup> Third adopted child.

'√' Data mentioned by the respondent; '-' Data not stated by the respondent.

**Table 5** Equipment for induced lactation

NEW BORN SUCKLING STIMULATION		BREASTPUMP STIMULATION				
Respondents	Supplemental feeding device	Type			Mode	
		Electric	Manual	Battery	Double pumping	Single pumping
<b>Group 1: Women who had been pregnant and breastfed</b>						
A	√	√	-	-	√	-
B	√	√	-	-	-	√
C	-	-	-	-	-	-
<b>Group 2: Women who had never been pregnant or breastfed</b>						
D	√	√	-	-	√	√
E	√	-	√	-	-	√
F	√	√	-	-	-	√
G	-	√	√	√	√	-
H	√	-	-	-	-	-
I	√	√	√	-	√	√
J*	√	-	√	-	-	-
K*	√	√	-	-	√	-
L**	√	√	-	-	-	√

Source : Field work from December 2012-June 2013

Notes : \* Mothers who adopt more than one child.

\*\* Mothers who adopt twins.

<sup>[i]</sup> First adopted child; <sup>[ii]</sup> Second adopted child; <sup>[iii]</sup> Third adopted child.

'√' Data mentioned by the respondent; '-' Data not stated by the respondent.

### 6.3 Devices for Induced Lactation

It had been discussed that the most important method of induced lactation was breast stimulation. There are many devices that can help to increase the effectiveness of breast stimulation done. Table 5 shows the usage of the devices for breast stimulation process. Two equipments used to aid in the induced lactation process are (1) *Supplemental feeding device* (SFD); and (2) Breast pump.

Based on Table 5, SFD was used by 10 respondents. The respondents who did not use SFD were respondents C and G. The main reason they did not use SFD was because respondent C had frequently nursed directly without any aid of devices. For respondent G, she had begun the induced lactation process when her child was 10 months old. She had tried to use SFD before, however the child refused to latch on to the breasts.

When asked to describe the SFD used, the respondents all stated that it was a “special bottle”, an “artificial bottle” and “like a container”. There are two narrow tubes connecting the bottle to the mother’s nipples. The narrow tubes were described by the respondents as “straw”, “thin wire”, and “rope”. Both these thin tubes would be patched on using a tape, close to the nipple to allow the supplement milk (formula or pumped breast milk) to the child. The respondents using SFD all stated that they only used it at the initial stage while waiting for the natural milk to flow. After breast milk had successfully flowed, the mothers no longer rely on the devices as they wanted their child to only nurse from the breast. This situation is important to comply with the requirement to make the relationship between mother and child “mahram” or as family, where the child requires breastfeeding which satisfies his appetite for at least five sessions.

Aside from SFD which was used during the suckling stimulation stage, the usage of breast pump was also able to provide stimulation replacing the child’s suckling. There are many brands of breast pump in the market. However, in general breast pumps are divided into different types and modes. The majority of respondents used electric breast pump as according to them, this saved time and energy. Respondents also could do other things whilst the machine stimulated the breasts. For manual and battery operated pumps only five respondents used these. The respondents considered the usage of manual breast pump as tiring while the battery operated breast milk as painful. The choice of breast pump also comes with double pumping mode or single pumping. As many as five respondents preferred using breast pumps with double pumping while six respondents preferred using the single pumping mode.

## 7.0 DISCUSSION

This article discusses the method of induced lactation performed by 12 Muslim women in Peninsular Malaysia. Based on semi-structured interviews conducted, the researcher has found that all respondents took hormone medications, with varying regimes according to the individual. The difference in prescriptions depended on the health professional giving the treatment of induced lactation to the respondent. Amongst the 12 respondents, only one followed the induced lactation protocol as recommended by Jack Newman and Lenore Goldfarb (2000).

This study did not intend to explain in depth the regime of medication taken by the respondents, such as name, brand or costs. It only categorized the medication according to the type and name (if mentioned by the respondents). Hence, the result of this study has found that two types of medication taken by the respondents for the purpose of induced lactation are contraceptives and galactagogues. There are many types of galactagogues available whether as a hormone (Bryant, 2006) or herbal (Diana West & Lisa Marasco, 2009). This study only found two galactagogues mentioned by respondents, which were Domperidone and Maxolon. However, some respondents were unable to recognize the name of the medicine they consume, and the researcher had to put them under the category of anonymous or nameless. This study has found that dependency on galactagogues differ according to the respondent. For example, two respondents only took galactagogues over a period of one week and when milk flow began then they ceased to consume the galactagogues. This is different to the other 10 respondents who had to take the galactagogues for as long as they wish to breastfeed their children. The individual difference in the induced lactation protocol whether by stimulation method or hormonal simulation may be caused by other factors which require further study.

The second method for induced lactation is to stimulate the breasts, via five techniques which are suckling, breast pump, massage, skin to skin touching, and hand expression. The majority of respondents used the suckling, breast pump and massage techniques. However, there was no one single methods of stimulation used by all the respondents. For example, the suckling technique was used by 11 out of 12 respondents. The different techniques used by different respondents’ shows that the methods of induced lactation are unique and has to be adapted to each individual.

There are also two types of devices used to facilitate the induced lactation process. They are the Supplemental Feeding Device (SFD) and breast pump. The majority of the respondents used both of these equipments. According to them, SFD and breast pump helped them to continue stimulating their breasts in the effort to increase milk production. The effectiveness of the usage of the devices had been proven in increasing the production of and flow of the milk for mothers who give birth, or mothers who stimulate breastfeeding (Borucki, 2005; Mitoulas, Lai, Gurrin, Larsson, & Hartmann, 2002; Ramsay, Mitoulas, Kent, Larsson, & Hartmann, 2005). Similarly, the results of the study conducted by Lenore Goldfarb (2009) proved that the majority of the respondents in her study used SFD throughout the process of induced lactation. However, a minority of her respondents stated that they did not use any SFD in the effort to stimulate the production of milk. The findings of the Lenore (2009) study are in line with the findings of this study, whereby the usage of SFD was not the determinant of successful induced lactation.

Figure 4 shows the summary of induced lactation obtained by the semi-structured interview conducted with 12 women who had nursed their adopted children. This figure shows that the hormonal simulation method is related to the breast stimulation method. The equipments used also are related to the breast stimulation methods.

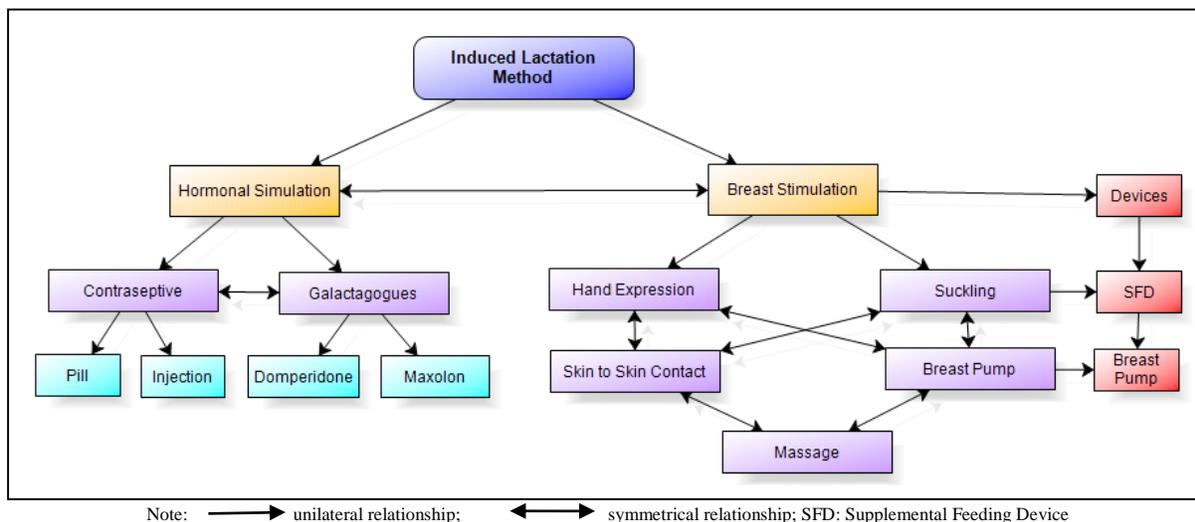


Figure 4 Summary of induced lactation methods

## 8.0 SUMMARY

Women, who have never had children or breastfed, have the potential to produce milk just as a mother who had been pregnant and breastfed. Two methods of induced lactation performed in this study were the hormonal simulation method and the breast stimulation method. The hormonal simulation method aimed at replicating or mimicking a woman's physiological state when pregnant and going through the process of birth. Meanwhile, the breast stimulation method mimicked the suckling of a new born child. To facilitate the stimulation activities, two types of equipments can be used; the SFD and breast pump.

Aside from the technical aspects, the adoptive mother must also have a high level of discipline and motivation in this process of induced lactation especially during the phase of stimulation. The suggested frequency of pumping or suckling is every 2 to 3 hours to ensure that the rate of prolactin hormone remains at sufficient levels to maintain the production of milk. In addition, during the intake of medication, whether the contraceptives or galactagogues, the adoptive mother must prepare herself for changes to herself such as weight gain, headaches, gastric, breast size changes, depression and irregular periods. The fatigue arising from irregular sleep during the process of induced lactation may cause adoptive mothers to be under great pressure. The feeling of giving up, or having failed, must be quickly overcome by sharing with a lactation consultant, so that the induced lactation initiative would not stop prematurely. Moral support from the husband and immediate family can increase the mother's motivation and spirit to complete the process of breastfeeding of adopted children, for the sake of making the child a blood relation to the family.

In the writer's opinion, adopting and breastfeeding an adopted child is a manifestation of the love of two souls who need each other. A woman with no hope of having her own child may finally experience the feeling of being a mother by adopting a child and nursing that child. From another aspect, a child who had been cast aside by its natural birth family will be cared for by parents who are willing to care for and raise the child. In fact, by receiving milk from his adoptive mother, his status has been elevated to that of a birth child (in some respects).

In summary, induced lactation is a blessing and gift allowed by Islam for the sake of preserving harmony in the life of an

adopted child. Islam also encourages the caring of orphans or abandoned children based on the following hadith:

The Prophet Muhammed (PBUH) said, "I and the person who looks after an orphan will be in paradise together like this," reports al-Bukhari, describing the motion as raising his forefinger and middle finger together.

(Hadith narrated by Muslim, no. 5296)

In addition, under Malaysian law there are several provisions protecting the rights of adopted children specifically Muslims. Amongst them are the Registration of Adoptions Act 1952 and the Islamic Family Law (Federal Territories) Act 1984. Based on the Registration of Adoptions Act 1952, a child is allowed to live with the adopted family without worrying of being moved to another family. This provision guarantees the position of the child in the family and provides stability in his life by offering permanent care (Azizah Mohd, 2012). Protection of adopted children continues with the provisions found in the Islamic Family Law (Federal Territories) Act 1984 where Section 78 (1) set the obligation to support the children accepted into the family. For children who had been breastfed by the adopted mother, section 9(3) provides that there is a prohibition of marriage between them who are related through this nursing (Islamic Family Law (Federal Territories) Act, 1984).

Several questions are often asked in relation to breastfeeding adopted children. Amongst them are 'what is the rule about unmarried woman breastfeeding her adopted child?' This question came about from certain female celebrities who are seen to adopt even though they were at the time unmarried. From the fiqh aspect, it is not a condition for a woman who desire to breast feed a child not her own, to be married. This means, an unmarried woman, whether virgin or widow, if she nurses a child, the restriction against marriage will be imposed between her and the child (Abdul Karim Zaydan, 1997). However, if the woman clearly rejects the institution of marriage and only wants to have children via adoption, then the medical professional cannot allow the induced lactation treatment to her (Hairin Anisa, 2013). This is because Islam strongly urges marriage and the propagation of generation according to the Prophet (PBUH) sunnah. The Prophet (PBUH) said:

“Indeed amongst my sunnah is to pray and sleep, fast and eat, wed and divorce. Those who dislike my sunnah are not from amongst my people”

(Hadith narrated by Ad-Darimi, no. 2075)

Aside from the question of breastfeeding by unmarried women, there are those who question the rule of giving breast milk through a bottle, and whether it is sufficient to create the restriction of marriage between the mother and adopted child? According to *Jumhur* (al-Hanabilah, al-Syafi’ayah, al-Hanafiyah and al-Malikiyah) when a child drinks milk from a woman, whether the milk reaches its stomach through the child’s mouth, via suckling, or by flowing directly into his throat, or through his nose, then the breastfeeding is considered as sufficient even though the child may have been sleeping (Al-Kasani, 2004; Al-Sharbini, 1997; Ibn Qudamah, 1997; Ibn Rushd, Abu al-Walid, 2004). This is as the restriction is imposed once the mother’s milk becomes the source of food and nourishment to the adopted child that can grow muscle, strengthen bone and satisfy hunger. Hence the milk must reach the baby’s stomach. If the milk is inserted through the ear, injected through a wound or through the rectum, then the breastfeeding is not declared as sufficient (in Islamic law) (Al-Bahuti, 1997; Al-Dusuqi, 2004; Al-Nawawi, 2003; Ibn Qudamah, 1997).

This article discusses the induced lactation methods done by the adopted mothers in the effort to mahramise (or legalise) the relationship between them and their adopted children. Clearly, successful breastfeeding by a woman who had never been pregnant is not impossible. Further, Islam allows this, with certain conditions. The rights of the adopted children are also preserved based on certain legal provisions in Malaysian law. However, the Malaysian society in general views adoption with negative connotations as adopted children are often linked to illegitimacy. Exposure and the correct information have to be disseminated to the public so that every child born is given the right to be raised as a normal human being.

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