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## **ORIGINAL ARTICLE**

# Factors of Breastfeeding Discontinuation among Working Mothers in UiTM Selangor Puncak Alam Campus

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#### **Abstract:**

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Breastfeeding provides optimum health outcomes in short and long-term among children and mothers. Maternal return to work reported as the main obstacle for breastfeeding continuation especially in Selangor that had higher rate of labour force participation among women. Our study aimed to determine the prevalence of breastfeeding practice and investigate the predictors of breastfeeding discontinuation among employed mothers. 45 working mothers with children aged below two years were recruited using purposive sampling in this cross sectional study. Iowa Infant Feeding Attitude Score were used to assess maternal attitude towards breastfeeding. Out of 45 respondents, 28.9% discontinued breastfeeding, meanwhile 46.2 % had breastfed their babies for more than six months and 50.0 % continued breastfeeding at two years old. Early breastfeeding initiation rate was 60.0%. Exclusive breastfeeding rates were 22.5%, 12.5% and 65.0% at 2 months, 3 to 5 months and more than 6 months respectively. Majority of mothers (66.7%) introduced complementary food as recommended. Breastfeeding discontinuation was associated with the level of knowledge, breastfeeding attitudes and employer support (p< 0.05). Further analysis revealed the odds of breastfeeding discontinuation were higher for women with low attitude towards breastfeeding and did not receive employer support. Therefore, it is important to improve workplace settings into breastfeeding-friendly for mothers to continue to breastfeed their infants while still working.

**Keywords:** Breasfeeding, Working mothers, Infants

## 1. INTRODUCTION

Breastfeeding referred as an unequalled way to provide ideal food for the infants' growth and development as well content biological and emotional influence that give positive health outcomes for both mother and child [1]. Breastfeeding is a superior feeding method that supply optimal source of nourishment for infants such as nutrition and living fluid that rich with protective factors such as hormones, antibodies and enzyme where cannot be replaced by any formula milk [2]. Hence, breast milk can be declared as the perfect food for children's diet during their first two years of their lives and no other replacement been introduced during this period [3]. It also provides positive long-term health outcomes where it becomes protective factors against few chronic diseases such as high blood pressure, hypercholesterolemia and type 2 diabetes mellitus [4]. Breastfeeding also beneficial to the mother's health such as decrease risk of breast and ovarian cancer and help for more significant weight loss or return to pre-pregnancy weights [5].

With the numerous benefits been reported by previous studies, Malaysian Breastfeeding Policy that been revised in 2005, supported the current recommendation from United Nations Children's Fund (UNICEF) and World Health Organization (WHO). Mothers are recommended to exclusive breastfeeding their child for the first six months of

delivery and continued by breastfeeding and complementary foods for up to two years or older [6]. Therefore, Malaysia promotes and supports the breastfeeding policy by implementing few programs such as Baby-Friendly Hospital Initiative since 1992 and Code Ethics for the Marketing of Infant Foods and Related Products [7].

Surprisingly, the effectiveness of the breastfeeding programmes implemented by all the sectors, improved the prevalence of exclusive breastfeeding as reported in National Health Morbidity Survey 2016. The proportion of infants below 6 months (0 to 5.99 months of age) who were fed exclusively with breastmilk was 47.1% [8]. The ever breastfeeding rates among children consistently higher which were 95.0% in 2006 and 98.6% in 2016 as reported in National Health and Morbidity Survey (NHMS) [6]. Nevertheless, after a decade the prevalence of continued breastfeeding practices at two years reported in the nationwide study where still lower which was 39.4% in NHMS 2016 while 37.4% in NHMS 2006 [8]. Continued breastfeeding is crucial for the children at age 6 to 23 months where significantly contribute to overall nutrient intake and remain as important sources of vitamin A, vitamin C and essential fatty acid. As contrast, in Iran the rate of early discontinuation of breastfeeding (before six months of age) was low (5.3%), and discontinuation was also relatively low after six months of age (11%) [9].

Even, the current breastfeeding pattern in Malaysia seemed increasing, but still lower from the recommended level in The Third National Plan of Action for Nutrition of Malaysia (NPANM III), 2016-2025 [10]. In the report, "Infant and Young Child Feeding," (2016) stated, that the percentage of exclusive breastfeeding for children less than six months for East Asia and Pacific Region was lower (31%) while 59% and 51% for South Asia and Eastern & Southern Africa respectively globally between years 2010 to 2016.

These findings may influence by the increasing numbers of female participation in the labour forces in Malaysia. Recent reports from the Malaysian Department of Statistics stated that the number of employment among female in Malaysia marked an increase from 45.8% in 2006 to 54.3% in 2016. In 2016, the female labour participation rates in Selangor was 65.4% which higher compared to Johor (49.9%) and Kelantan which was about 45.8 % while in Terengganu the rate was 43.4% [11]. Thus, this affects the breastfeeding outcome. As reported by National Health Morbidity Survey (NHMS) in 2016 which stated that, Selangor state recorded shorter median (21 months) duration of breastfeeding among the age group of children compared to Kelantan (31 months), Wilayah Persekutuan Putrajaya (30 months) and Terengganu (29 months) [8].

Muda, Aung, Ibrahim, & Ismail [12] found the prevalence of employed mothers were not breastfed increasing which is 73% if compared 50% from the results from the Second National Health and Morbidity (NHMS) in 1996 [6]. Whereby, a national study carried out in United States showed that mothers who were not employed were more than twice as likely to breastfeed at six months than mothers who worked full time [13].

Therefore, this study aimed to investigate the prevalence of breastfeeding practices and predictors of breastfeeding discontinuation among working mothers.

## 2. METHODOLOGY

A cross-sectional study was conducted in UiTM Selangor Puncak Alam Campus. As reported by Labour Force Survey Report Malaysia 2014, Selangor has higher population density [14] and shown the highest female labour participation rate if compared to other regions [11], where the probability of early termination of breastfeeding rate among employed mother will higher. This government university also had chosen to reflect how much the breastfeeding policy been implemented by the government sectors. All these factors were taken into consideration when selecting this study area.

Purposive sampling was used and involved all working mothers with full term babies aged 24 months and below without any sign of major births. Working mothers were defined as mothers that working for wages and had return to work during data collection [14]. Mothers were excluded if they are not citizens of Malaysia, mothers with twins or the infants with serious medical condition and mothers who can't to breastfeed due to illness.

The questionnaire was developed based on literature review and adopted from few previous studies regarding factors of breastfeeding termination among working mothers [12, 14-15]. This structured self-administered questionnaire was developed in English and translated to Bahasa Malaysia and was pre-tested on same population. The minimum sample size was calculated using Epi-Info version 6 software based on prevalence of the breastfeeding among working (25.3%) and non-working mother (56.2%) was 45 [16]. The proportion of working and non-working mothers was taken from the Department of Statistic of Malaysia data, stating the number of employed female at the reproductive age group [11].

In the analysis, we determined the infant feeding practice by looking the early breastfeeding initiation, ever breastfeed, exclusive breastfeeding, continued breastfeeding and introduction of complementary food as defined by World Health Organization [17]. Then, breastfeeding outcome referred the breastfeeding status at the time of data collection regardless the duration of exclusive and non-exclusive which categorized as continuation of breastfeeding after returning to work or discontinuation of breastfeeding after returning to work when they were completely stopped breastfeeding whether before or after return to work. Those mothers who do not breastfed anymore need to write the reasons stop giving breastfeeding and the duration of breastfeeding to their children. Factors affecting breastfeeding practice among working that be included in this study were sociodemographic, work-related factors, level of knowledge on breastfeeding and attitude toward breastfeeding.

All variables listed in the questionnaire were coded and entered into Statistical Package for the Social Sciences (SPSS) version 21. Chi-square analysis was used to determine the association of breastfeeding practice with socio-demographic, work-related factors, level of knowledge on breastfeeding and attitude toward breastfeeding. Bivariate logistic regression were examined the significant predictors factors associated with breastfeeding discontinuation while simultaneously controlling any confounding affects. Crude odds ratio, adjusted odd ratio and their 95% confidence interval were reported. P-value was calculated and value less than 0.05 was considered significant.

## 3. RESULT

A total of 45 women participated in this study, 78% were aged between 26 to 35 years old (mean age:  $33.2 \pm 3.84$ years). The mean of children's age among the participants was 23 months and about half of the children, 23 (51.1%) aged more than 12 months, followed by 17 (37.8%) aged 6 to 12 and 5 (11.1%) for below 6 months, (mean age: 14.24 ( $\pm$ 7.04 months old). Majority mothers were Malays by 93.3% compared to non-Malay. More than half of them had master for education level (57.8%), 10% for the degree, 5% for diploma holder and 4% only among secondary school education level. Almost two-thirds mothers (75.6%) were working in the professional career and about 51.1% of the participants were working in the health-related field. 77.8% of them were multiparous mothers. Majority (75.6%) delivered their baby through vaginal (normal) while most mothers (77.8%) delivered their baby in the government hospitals (Table 1).

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Table 1: Socio-demographic characteristics of respondents (N = 45)

Characteristic of subjects	n	(%)		
Mother's age (years)				
Means (± sd)	$33.2 (\pm 3.84)$			
26 - 35	35	77.8		
More than 36	10	22.2		
Children's age (months)				
Means	14.24 (7.04)			
Below 6 months	5	11.1		
6 to 12 months	17	37.8		
More than 12 months	23	51.1		
Ethnic				
Malays	42	93.3		
Non-Malays	3	6.6		
Education level				
Less than 12 years	4	8.9		
More than 12 years	41	91.1		
Type of job				
Professional	34	75.6		
Non professional	11	24.4		
Profession				
Health-related	23	51.1		
Non health-related	22	48.9		
Parity				
Primiparous	10	22.2		
Multiparous	35	77.8		
Type of delivery				
Normal	34	75.6		
Caesarean	11	24.4		
Place of delivery				
Government	35	77.8		
Private	10	22.2		

In this study, the rate of early breastfeeding initiation was 60.0%. All the mothers were having ever breastfeeding, but half of the participants continued breastfeeding until two years old. The exclusive breastfeeding rates for the infants were 22.5%, 12.5% and 65.0% at two months, 3 to 5 months and more than six months respectively. Majority of mothers (66.7%, 30/45) had introduced complementary food as recommended. Nevertheless, all mothers (10/10) that did not practice exclusive breastfeeding claimed they gave formula milk and about 40.0% (4/10) of mothers had introduced water to the baby before 6 months. Then, 10.0% (1/10) had reported introducing dates, prune, honey and baby cereal to the infants before their babies reached the recommended age of six months.

At the time of the study, 28.9% (13/45) had discontinued breastfeeding and among those mothers who discontinued breastfeeding, 38.5% (5/13) stopped breastfeeding less than 3 months, 15.4% (2/13) were between 3 to 6 months and another 46.2% (6/13) stopped when their babies aged more than six months. Concerning the reason for quitting breastfeeding, where majority of the working mothers (76.9%, 10/13) claimed they had inadequate milk supply and about one-third of mothers (30.7%, 4/13) were because working factors. Then, 7.7% (1/13) said they stop breastfeeding due to get pregnant and baby refuse to breastfeed (7.7%, 1/13).

Regarding the association of all socio-demographics variables and current breastfeeding practice among the working mothers, there was no significant association between all the variables and breastfeeding practice (p>0.05). However, mother who had vaginal (normal) delivery (73.5%, 25/34) and those delivered their baby at the government hospitals (74.3%, 26/35) tend more likely to

continue breastfeeding compared those had caesarean delivery (63.6%, 7/11) and those delivered their baby at the private hospitals (60.0%, 6/10). Then, the participants involved in non-professional job (45.4%, 5/11) showed less likely to continue breastfeed compared those engaged in professional jobs (23.5%, 8/34).

Next, regarding workplace facilities and policies, there was a significant association between employer's support and breastfeeding practice,  $\chi 2=7.816$ , df 1, p= 0.005). Other workplace facilities and policies to breastfeeding were not significantly associated with breastfeeding (p>0.05). Mothers who worked in the workplace that did not provide refrigerator to keep the breast milk (30.4%, 7/23) and not giving the breast pump incentive (30.8%, 8/26), were more likely to discontinue breastfeeding compared those working mothers with the refrigerator and breast pump incentive provided. On top of that, majority mothers who were provided with flexible time (74.4%) and a room (72.7%) to express breastmilk and flexible working time (82.6%) by the employers had the highest percentage to continue breastfeeding during working times.

Working mothers with higher knowledge seemed more likely to continue breastfeeding during working time (83.9%, 26/31). There was a significant association between level of knowledge and breastfeeding practice, p<0.05. For the association between breastfeeding practice and level of attitude toward breastfeeding among the participants, breastfeeding continuation was more common among mothers with high attitude toward breastfeeding (89.3%, 25/28). Hence, there was a significant association between mother's attitude and breastfeeding practice, p<0.05.

A binary logistic regression analysis was done to control the confounding effects and recognize the important predictors associated to breastfeeding discontinuation as shown in Table 3. Mothers without the employer support from working places (adjusted OR= was 18.340, 95% CI: 1.339 -251.198) and have low attitude toward breastfeeding (adjusted OR= 30.598, 95% CI: 2.330-401.795) were the predictors of breastfeeding discontinuation. Mothers who had poor knowledge on breastfeeding were 7.0 times more likely to discontinue breastfeeding compared to the mothers with high knowledge toward breastfeeding (crude OR 6.9, 95% CI of crude OR: 1.664 - 28.887). However, after adjusted, no association between the level of knowledge toward the breastfeeding practice, (p>0.05). Then, mothers without adequate breastfeeding facilities, not given lighter jobs and demographic factors such as type of delivery and place of delivery reported no association with breastfeeding discontinuation. The wide confidence interval was due to smaller sample size of this study and encouraging to perform the larger studies to confirm these results may be warranted, thus could confirm the finding and possibly reject H null.

## 4. DISCUSSION

The result from the study population showed the higher rate of early initiation of breastfeeding which was 60.0% that was almost similar to the previous national study 67.4% [8] and compared to Asia countries which have different socioeconomic studies and cultural practice such as

Indonesia (29%), Thailand (50%) and Philippines (54%)[18]. All mothers have ever breastfeeding and the exclusive breastfeeding rates for the infants at 6 months were 22.5%, 12.5% and 65.0% at two months, 3 to 5 months and more than six months respectively. This result comparable with the national data [6,8] and other study done in Malaysia [16]. The complementary breastfeeding below 6 months was lower compared to other local study [19] as the small number of the participants had introduced the complementary food below the recommended age and almost mothers that had introduced complementary food prior to 6 months were given formula milk to their child.

Table 2: Odds ratios and 95 % confidence intervals for the factors significantly associated with breastfeeding discontinuation.

Factors	Crude OR	P	Adjusted Odds	P	
	(95%	value*	Ratios (95 %	value*	
	Confidence		Confidence		
	Interval)		Interval)		
Sociodemographi	cs				
Type of					
delivery					
Normal	1	0.531	1	0.470	
Caesarean	1.587 (0.374-		0.411 (0.037-		
	6.737)		4.592)		
Place of delivery					
Government	1	0.384	1	0.299	
Private	1.926 (0.441-		3.985 (0.293-		
	8.417)		54.111)		
Work factors					
Given lighter job					
Yes	2.900 (0.502-	0.234	24.688 (0.995-	0.050	
	16.760)		612.654)		
No	1		1		
Get employer support					
Yes	1	0.010*	1	0.029*	
No	8.286 (1.651-		18.340 (1.339-		
	41.579)		251.198)		
Level of knowledge					
High of	1	0.008*	1	0.704	
knowledge					
Poor	6.933 (1.664-		1.526 (0.173-		
knowledge	28.887)		13.478)		
Level of attitude on breastfeeding					
High attitude	1	0.002*	1	0.009*	
Low attitude	11.905 (2.556-		30.598 (2.330-		
	55.449)		401.795)		
**Facilities					
Adequate	1	0.149	1	0.361	
Inadequate	2.941 (0.680-		3.476 (0.240-		
	12.730)		50.274)		

Based on the socio-demographic factors assessed in this study, our study failed to show any association between socio-demographics of mothers and the discontinuation of breastfeeding practice. Nevertheless, mothers who delivered their babies at the private hospitals more likely to discontinue breastfeeding compared those delivered in government hospitals that was accredited as Baby Friendly Hospital (BFH). Similar finding reported by a longitudinal study done in Kuwait where women that delivered in hospital that not accredited as BFH reported lower rates of fully breastfeed and higher of introduction the prelacteal feeding to the newborn (Dashti et al. 2010). In addition, mothers who delivered through caesarean reported less likely to continue breastfeeding compared those delivered through vaginal. This finding was consistent with few studies done abroad, where mothers who had given birth by caesarean section were less likely to exclusively breastfeeding after

discharge due to feeling pain after underwent operation and concerning the side effect of medicine that may pass through breastmilk [20-21].

Others socio-demographics predictors were failed to show any significant differences. Most studies observed ethnicity to be associated with the continuation of breastfeeding practice [14,16,19]. However, the inconsistency in the finding due to lack of comparison between Malay and other ethnic groups which they only constitute 6.6 % of non-Malays. The current study also did not find association can be explained by the fact that majority of respondents in the study had attained high level of education and came from the health-science background. Hence, they are knowledgeable with the breastfeeding policy and infant feeding practice as formulated by Minister of Health [22]. Also, as all the mothers stayed in the urban area, allowed them to gain knowledge easily regarding breastfeeding practice by assessing in any social network which offered many support groups particularly in breastfeeding that assisted by certified lactation counsellors.

In our study, insufficient of breastmilk become one of top reason discontinuation of breastfeeding that aligned with a cohort study done in Kelantan [23]. Expressing the breast milk can efficiently empty the breast and increase milk supply to the infants [7] especially among the working mothers. Our study reported, majority mothers were provided with flexible time and a room to express breastmilk which contribute the higher rate of breastfeeding continuation. Contrary finding by few studies done in Malaysia, where majority working mothers claimed that they did not have adequate breastfeeding facilities that associated with the high risk breastfeeding discontinuation [7,12,14]. Nevertheless, our study failed to prove the association between inadequate of workplace facilities and discontinuation of breastfeeding practice. This can be explain due to our setting as government sectors that tend to have flexible time to express breastmilk compared to private sectors that were more rigid and had short resting time [14].

This study revealed mothers without the employer support were 18 times more likely to discontinue breastfeeding than mothers with employer support. In our setting, there was no policy specified on flexible time or time break to breastfeed or breast milk expression in the workplace, but the flexibility of employer in term of support and positive perception on breastfeeding are more crucial toward breastfeeding practice. Soomro [26] reported, some employers in Karachi have lacking of knowledge on health benefits of breastfeeding as they claimed the breastfeeding support at the workplace only lead to financial burden and affect the quality time of work which can increase the risk of early breastfeeding discontinuation among the working mothers. Employers who offers support and good environment of breastfeeding at workplaces will help in the continuation of breastfeeding among working women

In a study conducted in Karachi, Pakistan revealed lighter job is a vital predictor to facilitate working mothers to breastfeed [24]. Nevertheless, our study revealed contrast finding where majority mothers did not receive lighter job, but they still reported higher rate of breastfeeding Health Scope 423

continuation (74.4%). The inconsistency could be due to the strong self-motivation to continue breastfeeding where probably majority mothers overcome their breastfeeding difficulties by using their own equipment such as breast pump and storage also accommodate timing for express breastmilk during break time by shortened or skipped their meal. The dissimilarity also due to the presence of support from the colleagues to continue breastfeeding by giving advice on breastfeeding or breast milk expression or offering help to cover their duties while the mothers went to express milk. The findings also supported by a study done in Ireland where mothers were having an issue to continue breastfeeding after return to work due to negative attitude and stigma among the colleague [25].

Our study found, mothers who had poor knowledge on breastfeeding were 7.0 times more likely to discontinue breastfeeding compared to the mothers with high knowledge toward breastfeeding (crude OR 6.9, 95% CI of crude OR: 1.664 – 28.887), although the results were not statistically significant, once adjusting for confounder (adjusted OR 1.526 95% CI of adjusted OR: 0.173 – 13.478). Consistent finding reported by national and abroad studies where having good knowledge on breastfeeding is good predictor for breastfeeding continuation among mothers [15]. This could be because mothers who acknowledge the benefits, techniques and contraindications of breastfeeding would naturally breastfeed longer [26].

## 5. CONCLUSION

As increasing trend among woman participates in labour forces, give negative impacts on breastfeeding rate. Several factors were reported associated with breastfeeding discontinuation among working mothers such as level of knowledge, maternal attitude toward breastfeeding and working support that aligned with previous studies. The government sectors were more likely associated with the breastfeeding-friendly support and the promotion breastfeeding policies. However, the extent implementation may differ among the workplaces need to be studied. Mother's knowledge and attitude breastfeeding also need to be strengthened as to motivate them to breastfeed according to the recommendation. The employers also should be responsible for providing the facilities and policy that breastfeeding-friendly among the breastfeeding working mothers. Encouragement from the employers are crucial in breastfeeding continuation as well the necessary facilities such as breastfeeding room and refrigerator should be provided to minimize the problem related with insufficient breastmilk that claimed among working mothers. A special team that consists of staff and nurses that have expertise in breastfeeding field should be recruited in every workplace where comprehensive antenatal education class can be held in the workplaces to improve the knowledge and attitude toward breastfeeding consistently among the employee as well the employers. With the commitment from all the parties can aid to improve the breastfeeding practice and achieve desired target of breastfeeding practice in Malaysia.

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