ORIGINAL ARTICLE

Assessment of knowledge and practices about breastfeeding and weaning among working and non-working mothers

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Abstract

Objective: To assess the knowledge and practices of working and non-working mothers regarding breastfeeding and weaning.

Methods: This cross-sectional study involving working and non-working mothers was conducted from May 2015 to May 2016 at different hospitals of Karachi. Data was collected from women who had at least one child aged below 5 years and who had previously breastfed their child. Non-probability quota sampling technique was used. SPSS 20 was used for data analysis.

Results: Of the 414 participants, 207(50%) were non-working while 207(50%) were working mothers. The overall mean age was 29.6±6.3 years. Moreover, 277(66.9%) mothers breastfed their youngest child and a significant difference was observed among the breastfeeding practices of working and non-working mothers ($p<0.05$). Bottle-feeding was adopted by 320(77.9%) mothers as an alternative method although 259(62.6%) mothers were aware about the harmful effects of bottle-feeding. Home-made products were used for weaning by 389(94%) mothers.

Conclusion: Knowledge and practices regarding breastfeeding showed significant difference in most of the aspects between working and non-working mothers. As for weaning, both groups had the same knowledge and practices.

Keywords: Knowledge and practices, Breastfeeding, Weaning, Working and non-working mothers. (JPMA 67: 332; 2017)

Introduction

Breast milk offers multiple benefits to the health of mother as well as to the health of newborns and infants.[1,2] It is uniquely engineered for newborns and infants[2] and is found to have numerous properties, including nutritional, anti-infective, immunological and anti-inflammatory properties.[3] A newborn infant is not able to combat himself from the pathogenic attack of infectious micro-organisms because he starts making protective antibodies several weeks and several months after his birth.[4] It is breast milk that provides protection to children against the attack of various infectious agents.[5] Breast milk contains all 5 forms of antibodies (Ab) or immunoglobulins (Ig), i.e. IgA, IgD, IgE, IgG, IgM, and children's immune response is not fully developed until the age of 5 years.[4] Therefore, breast milk protects children from infections like polio, staphylococcus infections, infectious diarrhoea, respiratory syncytial virus (RSV), pneumonia, sudden infant death syndrome (SIDS), necrotising enterocolitis, otitis media (OM), urinary tract infection (UTI) and neonatal septicaemia. Breast milk also reduces the risk of breast cancer, ovarian cancer and post-partum haemorrhage among mothers who breastfeed their children exclusively.[3,5,6]

During the first 4 to 6 months of life, it is breast milk that fulfils all the nutritional needs of a newborn.[5] Therefore, it is essential to breastfeed a newborn exclusively for the first 4 to 6 months of life.[7-9] According to the American Academy of Paediatrics (AAP), the exclusive breastfeeding is to feed the infant with only mother's milk for a period of 6 months. No other liquid, solid and semi-solid food is permissible during this period,[3,9] with exception to medicines, vitamins, drops and syrups.[9] Children older than 6 months must receive complementary feeding in addition to breast milk in their diet as proposed by the World Health Organisation (WHO), the United Nations Children's Emergency Fund (UNICEF), the United States Agency for International Development (USAID) and the Demographic Health Survey (DHS) of 1991.[9] The WHO and UNICEF have recommended all nursing mothers to breastfeed their children, preferably up to 2 years of age.[4,9]

Despite tremendous recommendations for the support and promotion of breastfeeding, its initiation rate and duration among mothers are not up to the recommended duration.[10] There are multiple factors that influence the initiation and duration of breastfeeding among mothers, including their age, education, income, marital status, ethnicity, uncertainty about breast milk quantity, professional career, information from the media and literature and support of family members.[10,11]

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The practices of mothers regarding breastfeeding declines with the increase in the child age. The breastfeeding initiation rate was found to be 44 to 70%, which declines to 13% by 6 months of age.[11,12] Among South Asian countries, Pakistan has the lowest breastfeeding rate. The first 2 hours after birth are called sensitive period. It is the optimum time for breastfeeding initiation, but only 29% children receive mother's milk during this period.[13] Exclusive breastfeeding (EBF) rate among South Asian countries is 44%,[14] but according to the Pakistan Demography and Health Survey, the EBF rate is 37% among mothers of children aged less than 6 months and median EBF duration is around one month among women of Pakistan.[13]

Karachi is a metropolitan city of Pakistan where both genders are almost treated equally. But despite getting support from their spouse for continuing their professional career, 63% women fail to breastfeed their children exclusively[13] because of lack of breast feeding healthy initiatives (BFHI) for supporting women to continue their breastfeeding to their children. The current study was planned to assess the challenges faced by working women and to find the difference between the knowledge and practices of working and non-working women regarding the breastfeeding and weaning practices.

Subjects and Methods

This cross-sectional study was conducted from May 2015 to May 2016 and comprised working and non-working mothers visiting the outpatient departments (OPD) of different hospitals of Karachi. Women of reproductive age who had at least one child aged below five years and who had breastfed their child were included. However, women who did not have children, were unable to understand the local language, and mentally unstable to participate in the study were excluded.

Sample size was calculated using WHO sample size estimation calculator on the basis of 37%[15] prevalence of exclusive breastfeeding in Pakistan according to the UNICEF, keeping 95% confidence level with 0.05 precision. The original calculated sample size was 359. However, it was extended to avoid data wastage. Multistage sampling technique was used. In the first stage, hospitals were selected by using convenience sampling technique while in the second stage mothers were selected by quota sampling technique. Each quota of mother was comprised of equal number of working and non-working mothers. Similar sample size and technique was used by Hassan et al. in their studies on the same topic from Dhaka, Bangladesh.[16]

For the collection of data a pretested structured questionnaire was used. Self-administered technique was adopted for data collection. However, if there was problem in self-administration, interview technique was also used and questionnaire was also translated into Urdu. Verbal and written consent was obtained from all participants. Data was analysed using SPSS 20. All quantitative variables were presented as mean and standard deviation and all qualitative variables were presented as frequency and percentages. Chi-square test with 95% confidence interval was used to compare the categorical variables. In case of cell count less than 5, Fisher's exact test was used. $P<0.05$ was considered significant. The study was approved by the ethical review committee of the Institute of Business Management.

Results

Of the 414 participants, 207(50%) each were working and non-working mothers. The overall mean age was 29.6±6.3 years. Besides, 189(45.7%) participants were aged between 20-29 years, 155(37.4%) between 30-39 years, 38(9.2%) were 40 years or above and 32(7.7%) were aged below 20 years. Also, 177(42.8%) participants were graduates or postgraduates while 119(28.7%) were professionals (Table-1).

The mean number of children per mother was 2.2±1.2 (range: 1 to 7). Moreover, 155(37.4%) mothers had only one child and 2(0.5) had 7 children.

In addition, 277(66.9%) mothers breastfed their youngest child while 137(33.1%) did not. Moreover, 177(85.5%) of the non-working mothers practised breastfeeding compared to 100(48.3%) of the working mothers

Table-1: Demographic details of the study participants.

	Demographic Variables	Frequencies	Percentage
Age	Less than 20 years	32	7.7%
	20 to 29 years	189	45.7%
	30 to 39 years	155	37.4%
	40 years or more	38	9.2%
Education	No Formal Education	16	3.9%
	Primary School	5	1.2%
	Middle School Certificate	3	0.7%
	High School Certificate	25	6.0%
	Intermediate	69	16.7%
	Graduate or Post Graduate	177	42.8%
	Professionals	119	28.7%
Occupation	House Wife	207	50.0%
	Academics	35	8.5%
	Health Sector	121	29.2%
	Office Job (Management/ Administrative)	33	8.0%
	House Maids	18	4.3%

Table-2: Breast feeding and weaning knowledge and practices of working and non working mothers.

Breast Feeding Practices		Working Mothers (n=207) n (%)	Non Working Mothers (n=207) n (%)	P-value
Initiation of Breast Feeding After Child Birth	Soon after Birth (n=169, 40.8%)	78 (18.8)	91 (22)	0.001
	First Day (n=95, 22.9%)	22(5.3)	73 (17.6)	
	First Week (n=11, 2.7%))	0	11 (2.7)	
	First Month (n=2, 0.5%)	0	2 (0.5)	
	Did not Breastfeed the youngest child (n=137, 33.1%)	107 (25.8)	30 (7.2)	
Frequency of Breast Feeding	1 to 2 times (n=5, 1.2%)	3 (0.7)	2(0.5)	0.001
	3 to 4 times (n=42, 10.2%)	31 (7.5)	11 (2.7)	
	5 to 6 times (n=95, 23%)	35 (8.5)	60 (14.5)	
	More than 7 times (n=134, 32.4%)	30 (7.3)	104 (25.2)	
	Did not Breastfeed to youngest child (n=137, 33.1%)	107 (25.8)	30 (7.2)	
Knowledge of Mother about Exclusive Breast Feeding Period	2 months (n=6, 1.4%)	5 (1.2)	1 (0.2)	0.001
	6 months (n=112, 27.1%)	87 (21.0)	25 (6.0)	
	1 year (n=115, 27.8%)	35 (8.5)	80 (19.3)	
	2 year (n=176, 42.5%)	76 (18.4)	100 (24.2)	
	Don't know (n=5, 1.1%)	4 (0.9)	1 (0.2)	
Reasons for Stopping Breast Feeding Before Recommended Period of 2 years	Job related (n=96, 24.2%)	96(24.2)	0	0.001
	Education (n=17, 4.3%)	9 (75)	3 (25)	
	Health related (n=20, 5.1%)	7 (31.8)	15 (68.2)	
	Family related (n=20, 5.1%)	12 (52.2)	11 (47.8)	
	Others (n=34, 8.6%)	11 (26.8)	30 (73.2)	
	Not Applicable (not stopped) (n=227, 54.8%)	67 (16.2)	160 (38.6)	
Alternative Method for Feeding used in absence of Breast Feeding	Bottle (n=320, 77.3%)	147 (35.5)	173 (41.8)	0.001
	Cup and Spoon (n=74, 17.9%)	42 (10.1)	32 (7.7)	
	Others (n=5, 1.2%)	5 (1.2)	0	
	Not Applicable (n=15, 3.6%))	13 (3.1)	2 (0.5)	
Knowledge of Mother about Side effect of Bottle Feeding	Yes (n=259, 62.6%)	145 (35)	114(27.5)	0.002

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	No (n=155, 37.4%)	62 (15)	93 (22.5)	
Side Effects of Bottle Feeding	Increased Risk of infection (n=185, 44.7%)	113(27.3)	72 (17.4)	0.001
	Altered Feeding Behaviour (n= 120, 29%)	57 (13.8)	63 (15.2)	0.516
	Economic Burden due to formula milk (n=93, 22.4%)	51 (12.3)	42 (10.1)	0.289
Type of Milk Used in Absence of Breast Milk	Cow Milk (n=38, 9.4%)	23 (5.7)	15 (3.7)	0.016
	Formula Milk (n=344, 85.1%)	158 (39.1)	186 (46)	
	Expressed Milk (n=22, 5.5%)	16 (4)	6 (1.5)	
Mothers faced any Health related issues while Breast feed their child	Yes (n=78, 18.9%)	45 (10.9)	33 (8)	0.125
	No (n=336, 81.1%)	161 (39)	174 (42.1)	
Weaning Practices				
Opinion about Appropriate Age to Start Weaning	4 Months (n= 27, 6.5%)	27 (6.5)	0	0.001
	6 Months (n= 98, 23.7%)	93 (22.5)	5 (1.2)	
	1 Year (n=85, 20.5%)	27 (6.5)	58 (14)	
	2 Year (n= 204, 49.3%)	60 (14.5)	144 (34.8)	
Personal Practice to Start Weaning	4 Months (n=80, 19.3%)	45 (10.9)	35 (8.5)	0.005
	5 Months (n=98, 23.7%)	43 (10.4)	55 (13.3)	
	6 Months (n=226, 54.6%)	109 (26.3)	117 (28.3)	
	Others (n=10, 2.4%)	10 (2.4)	0	
Food Items used for weaning	Home made Products (n=389, 94%)	189 (45.7)	200 (48.3)	0.023
	Market based Products (n=25, 6%)	18 (4.3)	7 (1.7)	
Wash Hands Prior to Feeding their Child	Yes (n=238, 58%)	149 (36.3)	89 (21.7)	0.001
	No (n=172, 42%)	55 (13.4)	117 (28.5)	
Time of Breastfeeding after Initiation of Weaning	Stopped Breastfeeding immediately upon Weaning (n=106, 25.6%)	67 (16.2)	39 (9.4)	0.001
	Continued Breastfeeding till Child's First Birthday (n=96, 23.2%)	44 (10.6)	52 (12.6)	
	Continued Breastfeeding before Child's Second Birthday (n=86, 20.8%)	37 (8.9)	49 (11.8)	
	Continued Breastfeeding till Child's Second Birthday (n=95, 22.9%)	36 (8.7)	59 (14.3)	
	Continued Breastfeeding for more than Two Years (n=15, 3.6%)	8 (1.9)	7 (1.7)	

(p=0.0001). Reasons given by mothers for not breastfeeding their youngest child were professional or job-related problems 85(20.5%), mother's own health issues 26(6.3%), child's health issues 11(2.7%) and some other non-specific reasons 15(3.6%).

Furthermore, 78(18.8%) participants faced some personal health issues while breastfeeding their child as 33(8%) consulted obstetrician, 32(7.7%) consulted general physician, 16(3.9%) paediatrician, 5(1.3%) did some other home remedies while the rest of them did not take any

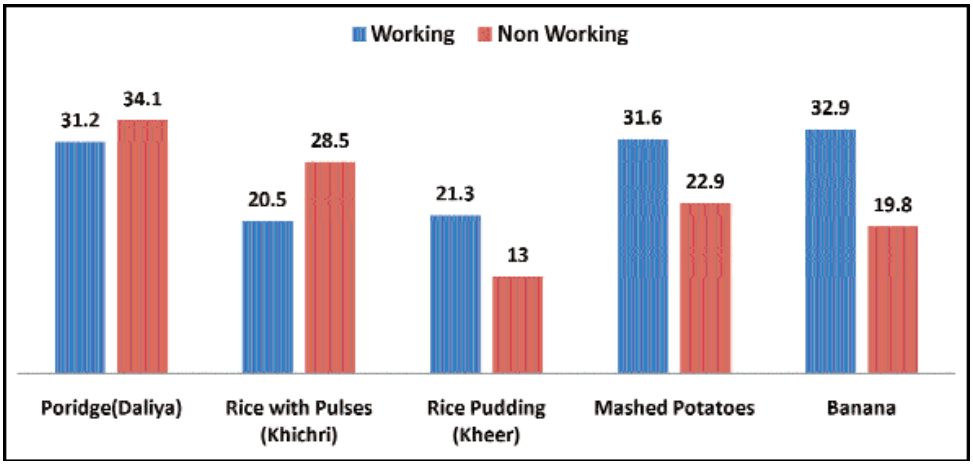

Figure: Food items consumed by working and non-working mothers for weaning (%).

measure for the health issue.

Of the 320(77.3%) females who bottle-fed their child even for once due to any reason, 259(62.6%) were aware about the side effects associated with bottle-feeding. It was stated by 199(47.9%) mothers that their children faced health-related issues like diarrhoea 72(17.2%), acute respiratory tract infection (ARI) 69(16.7%) and vomiting 58(14%) due to bottle-feeding. Among the children of working and non-working mothers, the prevalence of ARI was 26(6.3%) and 43(10.4%) (p=0.025), of diarrhoea was 42(10.1%) and 30(7.2%) (p=0.120) and of vomiting was 33(8%) and 25(6%) (p=0.257), respectively (Table-2).

The majority of the mothers preferred home-based products and food items apart from breast milk: 135(32.6%) used porridge (daliya), 101(24.4%) rice with pulses (khichri), 71(17.1%) rice pudding (kheer), 113(27.3%) used mashed potatoes and 109(26.3%) used bananas (Figure).

Of all, 120(29%) mothers experienced an episode of illness of their child during the period of weaning. The nature of the illness was diarrhoea, ARI, vomiting and others in 105(25.4%), 43(10.4%), 10(2.4%) and 2(0.5%) cases, respectively. For these health problems, 78(18.9%) mothers consulted a general physician, 71(17.1%) a paediatrician and 12 (2.9%) mothers did home measures.

Discussion

Breastfeeding and weaning are the fundamental elements in the development of a child[17] and their importance was also highlighted by the yearly World Breastfeeding Week.[18] It is assumed that breastfeeding requires commitment and determination.[19] This brought an idea to enquire about the knowledge and practices of working and non-working mothers about breastfeeding and the same idea was extended to know further about weaning.

It is obvious from the study results that there is a significant difference (p<0.001) between the breastfeeding practices of working and non-working mothers. The commutative breastfeeding rate among working and non-working mothers was 277(66.9%). When segregating the cumulative breastfeeding rate, the breastfeeding practices of working and non-working mothers was 100(48.3%) and 177(85.5%), respectively. The breastfeeding practices of women of working group was nearly half to that of breastfeeding practices of women of non-working group. This decline among working mothers was obviously due to their job responsibilities. A similar study conducted in Karachi found breastfeeding rate at 78.7% among working mothers, all of whom were either medical doctors or nurses.[20] However, results of a study by Ong showed significant reduction in breastfeeding duration among working mothers than non-working mothers.[21]

Women of both groups gave different reasons for initiating alternative methods of feeding. For example, 85(20.5%) women from the working group had to refrain from breastfeeding practices because of their professional career and education. However, women from non-working group had different issues for discontinuing breastfeeding, such as health-related issues, family-related issues and other issues like another pregnancy, Hajj and Umrah travelling, etc. Therefore, among working mothers, it was the work that seemed to be a major constraint towards effective breastfeeding practices.[22]

Regarding weaning practices, there was no significant difference in the knowledge and practices of working and non-working mothers. There were only 98(23.6%) mothers who knew the WHO-recommended weaning initiation time, but it is surprising to know that 226(54.5%) mothers initiated weaning practice by 6 months of the child's age. Mehkari S. et al. found weaning initiation rate to be 53.2% among female healthcare workers of Karachi. However, their knowledge about optimum age for weaning initiation was 77%.[20] This variation in the knowledge about appropriate age for weaning initiation

could be because of inclusion of women of every profession in this study.

The majority of mothers initiated weaning practices from 4 to 6 months of their child age, but the practice of mothers of working and non-working groups was significantly different ($p<0.0001$) about the continuation of breastfeeding after weaning initiation. Besides, 148(71.4%) mothers of the working group stopped breastfeeding before children's second birthday, but cessation of breastfeeding among non-working mothers was slightly lower, i.e. 140(67.6%) before child's second birthday. There were only 36(17.3%) working mothers who continued breastfeeding till child's second birthday. This could be due to maternal employment.[22] Moreover, the women feeling uncomfortable to breastfeed their children at the workplace preferred to stop breastfeeding and started weaning their children before their recommended age.[23] The practice for prolonged feeding via breast milk was more prevalent among non-working women.[24]

Among working and non-working mothers, 389(94%) used home-based food items for infants weaning. The different food items used for the initiation of weaning were banana, mashed potato, khichri, daliya and kheer. Similar types of food were also used by female health care workers of Karachi.[20] Mothers from both working and non-working groups responded that bottle-feeding was associated with different types of adverse effects on child's health.

On the whole, various aspects of breastfeeding and weaning were presented in the current study. Unlike this study, most of the other studies on breastfeeding practices were on women as a whole or only among working mothers. However, the results of this study may provide difference in two important subgroups of women population, i.e. working and non-working mothers. In this study, the working women belonged to different professions, including teachers, doctors, bankers, office workers, etc. The practices of women of different professions regarding breastfeeding and weaning are different with respect to their occupation, knowledge, job nature and working hours.

One of the limitations of this study was that its findings may not be generalised as data was mainly collected from three private hospitals due to convenience of accessibility. There is a need to conduct similar studies among women of different professions, so that their actual issues related to breastfeeding and weaning practices can be traced out.

Besides, every member in the household must have knowledge about the basic rights of nursing mothers, for example appropriate breastfeeding and weaning duration with respect to the guidelines dictated by religion and health authorities. Furthermore, provision of maternal leaves, day care facilities and BFHI services by the employer could promote breastfeeding practices among working mothers. This in turn reduces working women turnover, increases their job satisfaction and productivity. All these measures together will produce a healthy mother and child, as well as a healthy nation and society in the long run.

Conclusion

Many mothers preferred to stop breastfeeding and weaned their children before the recommended age. The cessation of breastfeeding before the recommended age was observed among working mothers. Moreover, the maternal employment and professional careers forced mothers for choosing alternate feeding methods and early weaning practices. There is a dire need to promote the knowledge on importance of breastfeeding, not only among women but also among their husbands and other members of society, such as employers.

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