

Factors affecting breastfeeding practices in working women of Pakistan

Jamil Ahmed Soomro



Supervisor: Professor Per Nafstad

**University of Oslo, Faculty of Medicine
Institute of Health and Society, department of Community Medicine
Section for International Health**

**Thesis submitted as a part of the Master of Philosophy Degree in International Health
May 2015**

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ACKNOWLEDGEMENTS

Thanks to God, for blessing me with the power and health to continue this study.

Various foundations, individuals provided valuable contributions at every phase of my master thesis and they really deserve special thanks and admiration. I am especially indebted to the Norwegian government for offering me the study fund through quota program, this serves as the cornerstone by giving me the chance to take part in this master program and got my life easy in Norway. Thanks to the international office, University of Oslo team for being always available for assistance and guidance from the beginning of my stay in Norway. I would like to extend my special thanks to my supervisor, Professor Per Nafstad for his guidance, valuable comments and suggestions. His support, patience and continuous encouragement take me through this challenging journey to complete this work. This work would have not been possible without you. I am likewise thankful to Dr Zeeshan Noor Shaikh, Assistant professor Dow medical university for his support during my field study, which enable me to successfully complete my fieldwork in time.

Great thanks go to institute of health and society, the Department of community medicine, section of international health teachers, staff and our sweet coordinator Terese Eriksen for providing best academic environment and support throughout our master study. I would wish as well to thank Abraham Mdala for his help in statistics during my data analysis. I am indebted to my M.Phil, fellow colleagues who made my stay in Norway very comfortable with their nice company and support, tusen takk!. Mazim the great, I will always remember your funny jokes and phrases that reminded me there is more to life than academia...

Special thanks to Dow university Karachi members represented by Vice chancellor professor Masood Hameed Khan for their support and providing me with the institutional backing to complete my fieldwork. Furthermore, I also extend thanks to Department of public health at the Dow university for their support and encouragement throughout my fieldwork. All thanks to my research assistant who helped me allot during data collection and shared all the agony and problems that I encounter during my fieldwork.

I would like to thank all mothers and employers who participated in my study for willingly sharing their experience and spared their valuable time through data collection and also thanks to the organizations for providing me access to conduct my study.

To my wife, Nayab Soomro, thank you for your untiring support in so many ways, which enable me to fulfil my passions and dream. I cannot forget to thank my children (Rutaba & Aryan) and my parents, their love, support and encouragement made it possible for me to follow my aspiration. I would like to express my great thanks to my friend Ziauddin Khoso in Pakistan, who was always available for me whenever I am in need of him.

ABBREVIATIONS

ANC	Antenatal visit
CI	Confidence interval
CPR	Contraceptive prevalence rate
FP	Family planning
IRB	Institutional review board
GDP	Gross domestic product
ILO	International labour organization
IYCF	Infant and young child feeding
MDGs	Millennium development goals
NIPS	National institute of population studies
NSD	Norwegian social science data service
NGO	Non-government organization
PTH	Parathyroid hormone
PDHS	Pakistan demographic and health survey
PHC	Primary health care
PMDC	Pakistan Medical and dental council
PNC	Postnatal care
REC	Regional ethical committee
SPSS	Statistical package for social sciences
UK	United Kingdom

UN	United Nations
UNICEF	United Nations children's emergency fund
USA	United States of America
WBTI	World breastfeeding trends initiative tool
WHO	World health organization

ABSTRACT

Background, rationale and aim of the study

Breastfeeding is considered to be an important measure to secure child's optimal health and survival. In urban areas of Pakistan most of the women can't afford to live at home longer because they serve as an important contributor of their family income. A woman's return to work has frequently been found to be a main contributor to the early termination of breastfeeding. Most workplaces do not have the supportive environment for breastfeeding. This will probably result in discontinuation of mother's milk and breastfeeding. Little research exists regarding workplace breastfeeding facilities. The current study aimed to assess the factors affecting breastfeeding practices among employed mothers in the workplace.

Methodology

A cross-sectional study was conducted in Karachi, Pakistan, using a random sampling procedure where 297 workplace sites were assessed. One mother and one employer from each site were interviewed using a structured questionnaire. Data were collected between June 2014 to December 2014. The eligibility criterion for mothers was that they had initiated breastfeeding 3-24 months prior to the survey. Studied factors were workplace breastfeeding facilities.

Results

Only 12 % of the sites were providing breastfeeding breaks for working mothers. Almost 86% of the mother's had received 3 months maternity leave. Provision of lighter jobs and information about breastfeeding options upon mothers return to work were reported from 15% and 5% of the work places respectively. Less than 1% of the sites had separate lactation rooms, a nursery for childcare, breast milk pump and refrigerator for storing mother's milk. There were statistically significant difference by type of employer (government or private) and site level (national or multinational) with regards to flexible time, lactation room, lighter job, paid maternity leave and provision of breastfeeding options upon mothers return.

Conclusion

We found that the majority of the workplace sites lacked basic facilities to support mothers to combine breastfeeding with work such as breastfeeding breaks, lactation room, and nursery for childcare, breast milk pump, refrigerator and provision of lighter job.

Key words: Breastfeeding, working mother, workplace, breastfeeding support, employer.

Chapter One
BACKGROUND AND INTRODUCTION

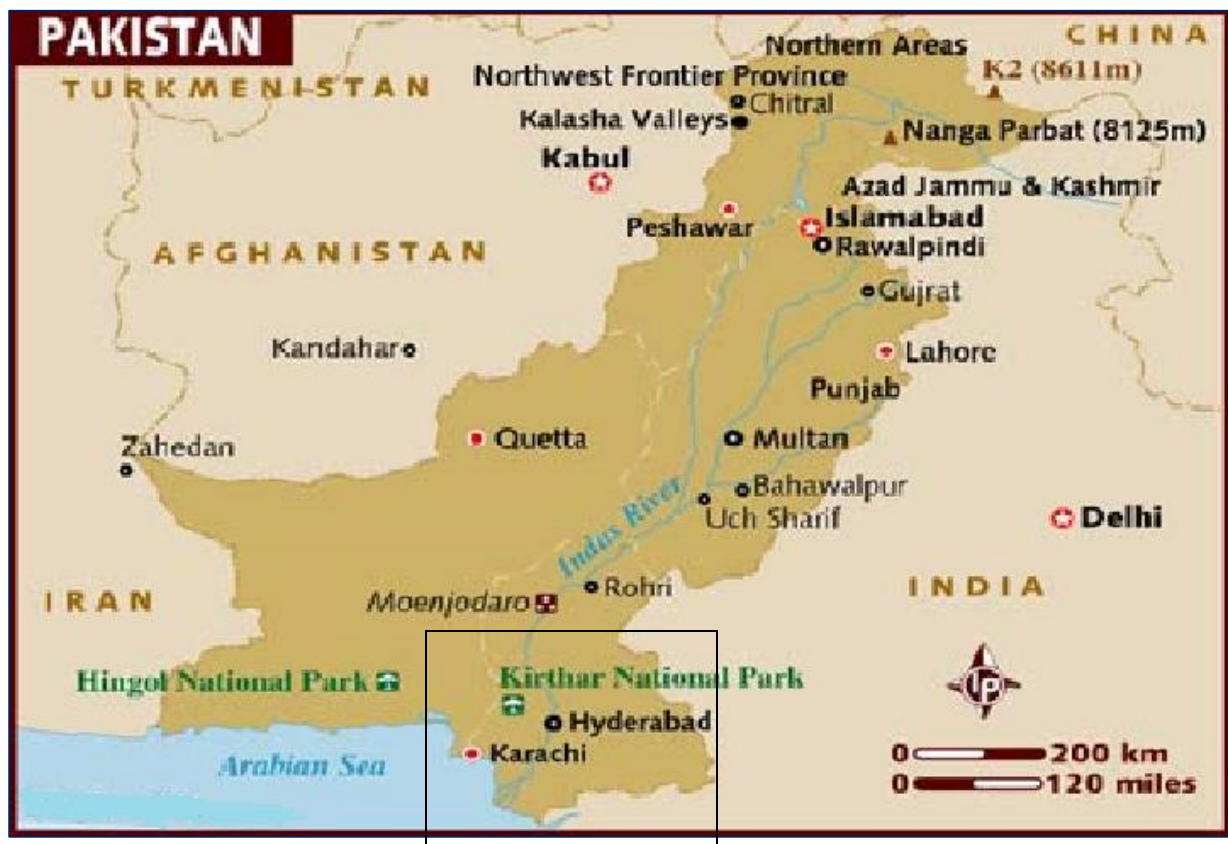
I. BACKGROUND, INTRODUCTION AND LITERATURE REVIEW

1.1 Introduction to the study area

1.1.1. Country location and climate

Pakistan is a sovereign country, located in south Asia with a population exceeding 180 million people. It shares borders with four countries: Afghanistan and Iran to the west; India to the east and China to the north (1). Pakistan covers an area of 796,095 km² with the dry climate and hot near the coast, becoming progressively cooler toward the northeast uplands (1).

Figure 1: Map of Pakistan and location of Karachi city where research was performed (1).



1.1.2. Economy

Pakistan has a semi-industrialized economy. It has an estimated gross domestic product (GDP) of US\$ 928.43 billion, with US\$ 4882 GDP of per capita income. During the current century, the country has the potential to become one of the world's largest economies. However, after decades of war and societal instability, severe deficiencies in basic services such as railway transportation and electric power generation, large government outlays on public enterprises, bad administration, low tax revenues, high degrees of defense expenditure, and a rapid rise in

imports with expanding domestic demand led to severe financial and current account deficits in the economy (1-2)

1.1.3. Karachi city

The research was conducted in Karachi city. It has a population of more than 23.5 million, which ranks it the largest city in Pakistan and 2nd in the world. Karachi's population represents almost every social class and ethnic group living in Pakistan. Karachi is home to Pakistan largest business sector and hub of higher education in Southeast Asia. It has the highest percentage of female participation in the labor force compared to other areas of Pakistan (1-2).

1.1.4 Health profile

Healthcare in Pakistan is offered mainly through private sector, which accounts for around 80% of all outdoor patient visits (3). Since June 2011, the administration of the public sector was transferred from the federal ministry of health to provincial health departments (decentralized system) (3). The Government through provincial health department and the private sector are responsible for primary, secondary and tertiary health care. Health services are financed through a mixture of sources, out of pocket payments, government sponsored, in-kind donations, local community financial, grants from international community and health insurance premiums (3, 5). Pakistan has allocated 2.7% of its GDP budget on health sector during the year 2014-2015. This ranks Pakistan on 3rd globally, with minimum expenditure of GDP on health sector (3-4).

Life expectancy at birth in Pakistan as of 2012 is 65 and 68 for male and female respectively. The maternal mortality and morbidity has declined compared to the past, but globally it is considered still high (6, 7). In 2012 maternal mortality rate was 260/100000 live birth, while under five mortality was 89 deaths per 1000 live births (7).

About 19% of the general population and 30% of children under age of five are malnourished (5) Breastfeeding practices and starter of complementary foods are an essential determining factor of the nutritional status of children (5-7). According to Pakistan demographic and health survey (PDHS) 2012-13 the prevalence of exclusive breastfeeding for the 1st six months of life is 38%, the data indicates hardly any improvement compared to PDHS 2007 survey, where it was 37%. The national survey results also indicate that the percentage of using formula milk has increased mainly due to the increase in number of working mothers (5, 7).

1.2. Breastfeeding: History, physiology, health benefits and cultural view.

1.2.1. Workplace breastfeeding history and working mothers

The women labor force in 1870 was 14%, which grew to 42% in 1980 (8). The classical model of 1960s revealed that, the woman's life was mostly passed in the home to look after home chores and the outside world was male dominant –the breadwinner. This trend is discarded among new females generation, as they adopted more independent life style. The women are playing totally new roles in that transition phase (8). Increase enrolment of women in work forces has positive impact on the economy by increasing service sector jobs. On other hand, new family models have emerged because of the decline in fertility and marriage rates and the rise in divorce rate.

The new model brought up many challenges for females and especially for working mothers. The working mother is stretched between family and employment. They are anticipated to accomplish duties as mothers and wives, in addition to meeting their professional responsibilities.

After birth, the child is totally dependent on mother's milk until six months as recommended by WHO (10). Hence, if the workplace is not mother friendly, then it is hard for a mother to continue with breastfeeding. Often some working women experienced feelings of selfishness or guilty if they place their job interests first. Since family demands and work go parallel, these demands bring major influence on women's careers. Therefore, career building may be more challenging for women than for men (9, 12).

A study in Brazil reported that most women, who return to work or study after delivery, usually discontinue lactation, if they are not provided with the due support by an organization (13). Some studies indicated that mothers who have easy access to their babies during the workday, have longer breastfeeding duration than other mothers (12,14,15,16).

1.2.2. Workplace breastfeeding: Physiological view

It is established that most of the women after giving birth are physiologically capable to breastfeed. Many working mothers mistakenly believe that frequent lactation required to sustain milk supply, but once breastfeeding is established the frequency of lactation decreases and prolactin level also reduces. Thus if the lactation continues, it is surely possible for mothers to breastfeed twice or thrice a day and continue lactation for many months (17). With regard to working mothers who wants to express and store breast milk in refrigerator, it is quite possible to do so for several hours to days depending on the refrigerator temperature, e.g.

can store up to 48 hours at 4 °C and for several days at -20°C to -70 °C. Storing mother's milk in refrigerator has been reported to decrease bacterial growth (17, 18).

Infant use different techniques for breast sucking and bottle sucking, so it is recommended to avoid plastic nipple in early weeks. When the lactation is established and mother return to work, then the introduction of plastic nipple for mother's expressed milk will not interfere with the lactation (17, 18). Unlike formula milk, breast is more compatible with child's growth (18).

1.2.3. Workplace-breastfeeding: Socio-cultural view

The breastfeeding at work is influenced by several social and cultural factors that influence the frequency, duration and initiation of breastfeeding practices among mothers (19-21). Economic factors compelling mothers to work during breastfeeding (19,21).

Socioeconomic status, race, ethnicity, employer's attitude and other factors have been found to affect the working mother's choice whether or not to breastfeed, and how long she breastfeeds her child (19, 21). The cultural support for breastfeeding differs, still some societies identify the mother as either work oriented or family oriented (mother or worker) and to combine breastfeeding with work seems quiet struggling for working mothers (20).

Most female employees maintain both social roles (mother and worker) simultaneously and reported to negotiate the boundaries on daily basis (20-21). Cultural variations in breastfeeding can bring visible change on the effect of the usual demographic variables on breastfeeding prevalence (21).

A study on the attitudes of Asian and Caucasian working mothers with regard to breastfeeding and formula feeding identified that the negative perception about breastfeeding in public or workplace settings compels women to feel embarrassed while practicing breastfeeding, because of sexual associations related to breasts (19).

The cultural environment of western society mainly seems not to promote breastfeeding in public places. A study shows that the majority of the people believed that women should not be allowed to breastfeed in public (22). Thus, the humiliation associated with breastfeeding in public and workplaces can lead mothers to look for an alternative to breastfeeding, even at the cost of their child's health.

1.3. Benefits of breastfeeding

1.3.1. Benefit for mother

In addition to the nutritional benefits of repeated and exclusive breastfeeding to the child, it also benefits the mother. Firstly, it helps mother with birth spacing through lactational amenorrhea. Secondly, it reduces the risk of postpartum bleeding by accelerating uterine involution. Thirdly, it strengthens maternal bonding due to increase release of pituitary hormones. Finally, it saves mother's time, money and efforts required in preparing formula milk (23, 24).

Studies indicate that breastfeeding relates to a reduced risk of some non-communicable diseases such as heart disease and type 2 diabetes in the mothers (23-25). The significantly lower incidence of illness in the breastfed infant also allows parents more time for attention to siblings and other family duties and reduces parental absence from work (25).

1.3.2. Benefit to infants

Breastfeeding is considered an important measure to secure optimal health and survival for children (24). The breastfeeding provides multiple benefits to babies, ranging from general health to optimum growth and development (10). Infants who are not breastfed are more likely to have an increase in risk of developing acute and chronic diseases such as: respiratory infection, bacteraemia, bacterial meningitis, ear infections, botulism, necrotizing entero-colitis and urinary tract infection (10).

The Lancet Journal of Nutrition also reported that the breast infant seems to have reduced risk of obesity in later stages of life (26). It is well documented that the breastfeeding is correlated with better motor and cognitive development in childhood while the risk or severity of depression, delinquent behaviour, attention issues and other psychological problems are reduced. (23, 24, 26). World health organization (WHO) suggests that the non-breastfeeding children in developing countries are six times more likely to die before the age of one month than children who receive at least some breast milk (24).

1.3.3. Benefit to the employer.

Regarding employers, the benefits of providing a working environment favourable to breastfeeding outweigh the costs. If breastfeeding is supported in the workplace, women are more likely to return to work earlier, which contributes to women preserving their job skills, as well as reducing staff turnover (25, 26). Women are also more likely to have reduced incidence and length of work absenteeism due to rarer and less severe baby-related sicknesses

(10). Furthermore, women are more likely to have higher self-respect and improved level of concentration, which leads to increased productivity (26). Obliging breastfeeding mothers may also contribute towards the development of a positive corporate image (10, 26). Incorporating workplace breastfeeding friendly measures can also enhance the diverse group of potential employees that the business may not otherwise attract (25-26).

1.4. Barriers to breastfeeding at work

Several factors affect mother's infant feeding choices and options, including their social roles, availability of artificial baby milks, cultural norms and hospital birth practices (10,25). A woman's return to work has frequently been found to be a main contributor to the early termination of breastfeeding (4,6,24).

There are many issues that disrupt mother's breastfeeding plan at work. Commonly cited issues are lack of workplace breastfeeding facilities, lack of family support, mothers inadequate knowledge about breastfeeding and feeling of embarrassment (11,22,28).

Working mothers often face inflexibility in the working hours, unable to find facility for childcare at or near the workplace, lack privacy for breastfeeding, place to store breast milk (refrigerator), limited paid maternity leave and fear over job insecurity (11,12,13,14,17,26).

Almost all mothers can breastfeed, as long as they have correct information and support from their family, employer, health care system and society (10,26). Often healthcare providers have limited knowledge and training on breastfeeding and breastfeeding support at work (11, 29). A study described that significant number of primary healthcare providers were unable to provide mothers with the necessary information on breastfeeding (8).

1.5. Workplace breastfeeding facilities

Within two to three months after delivery, working mothers are expected to resume their work and perform like normal employees. Most workplaces do not have the supportive environment for breastfeeding this will probably result in discontinuation of breastfeeding (6,24). Mothers need a safe, clean and private place in or near their workplace to be able to continue breastfeeding. A supporting environment at work, such as paid maternity leave, part time work engagements, facilities for expressing and storing breast milk and breastfeeding breaks can help (4,11, 28).

A recent WHO internal employee's based study recommended that the employer should provide, prenatal/ postpartum services, which include separate rooms for breastfeeding, nursery for childcare, provide flexible time and lighter job to working mothers (30).

1.6. Breast milk substitute and workplace breastfeeding policies

Before the development of breast-milk substitutes in the late 1860s, breast milk were the primary source of nourishment for infants and young children (31). In the early 1870s, mother's milk was considered as the prime source of nutrition for children's under two years of age. Following a century later formula companies started massive marketing campaigns, especially when women started to enter into the workforce, resulting in decline in breastfeeding rates, which ranges from 70% to 14% in the 1930s and 1970s respectively (32,33).

In developing countries, the high fertility rate provided a potential big market for breast milk substitutes. Vigorous advertising tactics were exercised, such as the sales workers dressed up like nurses to advise and donate formula milk to mothers and several gifts along with formula milk were served to health workers (33). Illiteracy, poor hygiene and sanitation often lead formula milk to be contaminated with bacteria due to the incorrect formula preparation and storage, resulting in an increase in the Infant morbidity and mortality from diarrhoea, malnutrition and pneumonia (33,34). In 1981, WHO released a code of conduct in order to restrict advertisements of breast milk substitutes and protect and promote breastfeeding (35).

There are several breastfeeding strategies and policies emphasise the significance of providing backing for lactating mothers and focus on need to encourage recommended intervention in the workplace.

The global policy for infant and young child feeding (IYCF) recommended that every workplace should have access to full support in order to sustain exclusive breastfeeding up to 6 months, followed by complementary food and breastfeeding until 2 years. Additionally, the government should pass a legislation promoting the female workers breastfeeding rights and instituting means for implementation in accordance with international labour laws (36-37).

The implementation of mother friendly workplace initiatives in the light of recommended policies will motivate mother`s plan to sustain breastfeeding practices at the workplace for the optimum period of time.

1.7. Literature Review

Pubmed database was used to search relevant review articles and original reports on the area of the study. Additionally, textbooks, unpublished material on working mothers, breastfeeding and workplace facilities were read.

1.7.1 Studies worldwide

1.7.1a. Breastfeeding and maternal employment

Scientific reports have revealed that breastfeeding has many advantages for baby and mothers (23, 24, 38). Exclusive, frequent and early breastfeeding secure infant from infective diseases, such as acute respiratory infections, gastrointestinal infections, which are leading causes of mortality and morbidity especially among developing countries (23, 24).

The female participations worldwide have increased in labour markets from the last few decades (24, 25, 27, 11,12). According to the US bureau of labour statistics, 57% of females with babies under one year of age contribute in labour force, which involve 40% full time worker (42). There is enough literature available on workplace breastfeeding facilities. However, most of the existing literature on the same topic as our study is from high-income countries.

Many mothers who return to work give up breastfeeding partially or completely because they do not have appropriate time, or place to breastfeed or express and store breast milk (39-42).

A study conducted in Mexico to assess the association between working mothers and breastfeeding using secondary data source from three national health survey (1999, 2006 & 2012), the findings of study suggest that maternal full time employment was negatively associated with breastfeeding among mothers with a child under age one year. The study further elaborated that full time employed mothers were 20% less likely to breastfeed compared to part time employed mothers. While, full time employed mothers were 27% less likely to breastfeed compared to non-employed mothers (39).

The previous study design was cross-sectional study, which has a limitation to measure causal association between maternal employment and breastfeeding duration. Moreover, the study did not consider identifying the factors, which compel or repeal employed mothers to continue or discontinue breastfeeding and its relation with the socio-demographic variables. Finally, the study provided limited information on employment detail, and mothers distance from the home to give better understanding of the relation of various factors affect breastfeeding practices at workplaces.

The decision of the women to continue with breastfeeding on return to work mainly comes from two sources, family and non-family. The family support predominantly comes from spouse or parents and then from other family members. The non-family support drive chiefly from employer at work, socio-cultural system and mother attribute which may be her knowledge, education, commitment, and other personal factors that influence her decision for breastfeeding. Most of the researchers have studied each factors separately (12,13,16,40-43).

Bai et al studied non-family support using a cohort study, the Hong Kong based study reported that 85% of the full time working mothers return to work within 10 weeks following delivery, 32% of women were able to continue breastfeeding along with the work. While, short working hours, higher maternal education was associated with exclusive breastfeeding. Additionally, the workplace breastfeeding facilities and additional support for lower educated mothers were also associated with exclusive and continuous breastfeeding (40).

However, the study ignored certain confounding factors such as type of employer support, the nature of the job and mother attributes. Given that the study included working mothers who delivered in public hospital, different results could be obtained in working mothers who delivered in private hospitals.

In a hospital based cross-sectional study in USA, non-family lactation support for working mothers was examined. The data showed that 70% of hospitals were providing breastfeeding support for expressing breast milk, 15% provided with the direct access to the lactating infant by providing a nursery for child care, 35% provided paid maternity leave other than granted vacation or sick leave (41).

The previous study was self- reported survey from key informants, where no standard protocol was followed to identify respondents. Moreover, the study only considered hospitals with maternity home (selection bias). The hospitals without maternity home and several sites other than hospitals where female also, works were not taken into the account.

A qualitative study examined the attribution of the workplace environment on breastfeeding mothers, which showed a positive impact on sustaining optimum breastfeeding (43). However, due to the qualitative nature of the study design, with limited sample size and single study setting may restrict the external validity of the study.

The collective support (family and non-family) for the working women to continue breastfeeding was studied by Weber et al, using mailed questionnaire through cross-sectional study. The findings reflected that the return to work was the main reason that mother

discontinues breastfeeding. Almost 60% mothers planned to breastfeed on return to work, while 40% actually practice it. The family, partner and organization support found to be 74%, 83% and 13% respectively. Additionally, the factors identified by women that facilitate breastfeeding when it comes to work were access to a separate room, flexible time to breastfeed and lactation breaks (44).

The latter study (44) relied on a poor source of information gathering (mailed questionnaire), which could have influenced the study results by information bias. Moreover, the mothers at home filled the questionnaire. A physical assessment of breastfeeding facilities at work along with mother's interview would have been more reliable source for data collection.

Maternal knowledge and awareness motivate and encourage mothers to continue breastfeeding at work. (11,16, 40, 44, 45). A randomized control interventional comparative study was done in Malaysia. The lactation counselling through telephone compared with routine postnatal visit (PNC) of mothers in the control group. The result highlighted that the exclusive breastfeeding was higher in intervention group compared to control group, 84% and 74% respectively (45). However, the chosen source of intervention (telephonic) considered as a poor source of communication, the message had better communicated by face to face interaction along with providing books, CD's, pamphlets, cards etc.

1.7.1b. Characteristics of working mother and workplace breastfeeding facilities

Mother perception of workplace support is influenced by employer behaviour. Employer may influence the workplace environment of breastfeeding support by abiding or ignoring organization policies, discouraging breastfeeding employees, handling or informally supporting or disowning problems encountered by female workers (12, 13,44)

Breastfeeding offers exclusive health benefits for both the mother and baby and therefore a friendly workplace breastfeeding climate for the working mother is recommended to encourage the initiation and prolongation of breastfeeding (10,23,24,25). Mother's employment status is the most essential factor, influencing duration of breastfeeding (25, 9,12). A cross-sectional study in India investigated the feeding behaviour of working women. The study described the challenges of working women in adjusting breastfeeding in concordance with work. The data showed that the work is largely responsible for the deviation from the standard breastfeeding behaviour. The working group of women shared common characteristics such as: 77% age below 30 years, 83% education level up to graduation, 66% work in private and 63% live in nuclear family (46).

The previous study showed more than three years gap between fieldwork accomplishment and data publication date. Additionally, the study setting represent a posh area, women visiting particular area physicians in Delhi, which does not hold true representation of the majority of working women in that area.

In a study investigating the factors affecting breastfeeding duration among Ethiopian mothers who received prenatal and postnatal care. The data showed larger breastfeeding duration among unemployed mothers compared to employed mothers. Inadequate maternity leave and absence of nursery at work site were reported as the major factors affecting breastfeeding practices at work (47). The study population (community-based survey) seems inappropriate with regards to workplace breastfeeding facilities assessment. Furthermore, breastfeeding awareness through the media and community workers has not been taken into the account.

Hirani et al reported frequently discussed physical facilities, which support breastfeeding practices at the workplace including lactation room, job site childcare, refrigerator, breast pumps and, most importantly, breastfeeding breaks (49). The review article (49) was irrational in generalizing the findings of studies conducted in western countries on the Pakistani population (due to different socio-demographic characteristics).

Ahmadi et al also reported the similar occupational factors responsible for discontinuation of breastfeeding. The study highlighted that 52% of working mothers with baby less than 6 months age used formula milk. (50). Nevertheless, the study only enrolled mothers referred to particular hospital for childcare, which may not represent all the working mothers. The study also failed to consider animal milk in the study, commonly used as an alternate to breastfeeding by most mothers in developing countries.

A qualitative study in New Zealand also found the similar physical factors affecting breastfeeding on mothers return to work, which include separate room, flexible time, employer support and in addition social attitude towards breastfeeding (51). The previous study has limitations in external validity due to its qualitative design.

The assessment of multiple workplaces is more informative for studying breastfeeding facilities compared to including only few sites. Two studies included large number of mothers but samples were restricted to a small number of sites (52, 53).

The first was conducted by Amin et al on four sites and showed that 55% of mother's did not have a separate room for practicing breastfeeding. Whereas, 76% of mothers were not provided with lighter job for breastfeeding, instead, they had to use their meal and regular

break times for breastfeeding. Inadequate workplace facilities were found to be associated with breastfeeding discontinuation, while a significant difference ($P < 0.03$) was reported between government and private facilities with regard to workplace breastfeeding facilities (52).

The other study carried out in 19 sites. It reported that 26% of the workplaces had allocated a separate room for breastfeeding. Only 11% of hospitals allowed employees to take breaks as needed to use a breast pump at workplaces. There was a significant difference ($P < 0.03$) between government and private setups with regard to breastfeeding facilities (53).

1.7.1c. Workplace breastfeeding support and practices among medical staff

It is anticipated that the medical counsels and hospitals should serve as a centre of excellence regarding workplace breastfeeding facilities. In contrary, a study performed in an academic medical centre in the USA showed that 25% of working mothers did not have access to or aware of existence of a lactation room. Forty four percent of mothers complained about inadequate maternity leave, almost 30% failed to continue exclusive breastfeeding up to 6 months, 92% mothers felt that their negative personal experience make it difficult for them to counsel clients regarding breastfeeding (54). These results (54) cannot be compared with the similar non-medical staff studies in the USA because of inconsistent methodology.

A study at one of the regional offices of WHO reported almost similar breastfeeding challenges to female employees at WHO offices compared to mothers work outside the WHO. The study stated that returning to work (40%) was the most common reasons reported by mothers for not continuing breastfeeding. The female employees recommended the following workplace breastfeeding support: Separate room, breast pump, separate refrigerator and breastfeeding counselling service (30).

In contrast, similar study in the UK based hospitals reported very positive breastfeeding trend among female paediatricians. More than 90% of the respondents initiated early breastfeeding and the total average duration of breastfeeding was nine months. With regard to workplace breastfeeding, facilities flexible working hours and extended maternity leave after child birth were shown to have a statistically significant association with the total duration of breastfeeding (57). The findings of the previous studies cannot be generalized because the participants were highly qualified health professionals.

A study in the USA examined the breastfeeding facilities offered to working mothers in hospital against non-hospitals settings. The results showed that all the employers were below comprehensive score on a pre-designed scale, 81% of hospitals were offering separate room compared to 36% in non-hospitals. There was also a significant difference in breastfeeding policies and additional support for working mothers among hospital against non-hospitals was 35% and 7% respectively (55). However, use of convenience sample deficit in respondent's diversity may have exposed study to self –selection bias.

The breastfeeding practices and support vary between high income and lower income countries (30, 44, 49,54,55,58). A study on female health care workers in one of the developing country (Nigeria) had reported only 3% of medical staff practiced exclusive breastfeeding with all their children. Whereas, just 1% working mothers were able to breastfeed all their children up to two years. Among those who did not breastfeed, the main reason was inappropriate workplace support, reported by 62% of the participants (58).

1.7.1d. Workplace breastfeeding policies and support

The workplace breastfeeding friendly policies influence the exclusive breastfeeding, duration and continuation of breastfeeding practices for optimum period (4,6,44,56). The absence of policies may reflect the absence of workplace support for breastfeeding. Many developed countries are still devoid of precise policies for breastfeeding promotion at the workplaces. Whereas, the developing countries are extremely lacking in several areas (39, 41, 56, 59, 60). Numerous studies indicated large gap between written and implemented policies (44,49,52,53,56,59).

A study on 193 United Nations (UN) member states assessed the policy trend in ensuring 6 months postpartum paid maternal leave and breastfeeding breaks in the workplaces between 1995 and 2014. The findings indicated that 55 countries in 1995 did not legislated paid breaks or maternity leave for the first six months after delivery and by 2014, only seven countries legislated six months maternity leave with full pay. However, 48 countries did not develop policies for six months paid breastfeeding breaks or paid maternity leave (59).

Vera et al found that the majority of the employed women discontinue breastfeeding after returning to work and the common reason cited was the lack of proper workplace breastfeeding policy. Additionally, the employer considers breastfeeding at work is mother's

personal issue, therefore, the lack of facilities and time resulted in increased use of formula milk (60).

The previous study did not focus on the specific areas of workplace support and policy (breaks, maternity leave, lactation room, breast pump, lactation counselling, etc.), which may bring confusion to readers and may be policy makers (60).

In a breastfeeding supportive workplace, policy for provision of separate lactation rooms, flexible time to breastfeed and ample break for use of a breast pump to express breast milk proved crucial in encouraging mothers to resume breastfeeding after returning to work (46,56,59).

A study was conducted in Taiwan to assess the availability and utilization status of workplace breastfeeding policies (61). The study revealed that 90% of workplaces were claimed to have breastfeeding support policy, while only 36% mothers were provided facilities based on available policy (61).

It is perceived that the absence of workplace breastfeeding supportive policies may reflect the absence of work site support for breastfeeding (44,46,49,52,53,56).

A qualitative study in Malaysia examined the rights of women for breastfeeding in the workplace. The data showed a wide gap between available workplace breastfeeding policies and implementation, the policies on breastfeeding support was found inconsistent and perceived differently by various ministries, therefore breastfeeding supportive policies were not implemented properly in the country (62).

Inadequate maternity leave prevent female employees from breastfeeding their baby until the recommended period (66). According to the international labour organization (ILO), the purpose of maternity leave is to safeguard the health of mother and child and every working woman is entitled for at least 14-18 months paid maternity leave (64).

1.7.2. Studies in Pakistan

Little knowledge exists regarding workplace breastfeeding facilities in Pakistan (67-68). No national survey or policy available regarding workplace breastfeeding facilities, except maternity benefit ordinance 1958, which states that an employee has the right of three months fully paid maternity leave (69-70).

In Pakistan, from 1983 to 2008, the prevalence of one year breastfeeding has declined from 96% to 31% (49,70,71). Mother's return to work has been reported as one of the major reasons for early cessation of breastfeeding. (5, 7, 49, 68)

According to the federal bureau of statistics, female participation among labour work force is increasing progressively (71). However, little to no attention paid by decision makers for workplace breastfeeding support programs. Subsequently, working women's struggle to continue their breastfeeding practices at work (49, 68).

Black et al and Bhutta et al found that south Asian region had the highest global burden of malnutrition in under 5 years children (41% stunted, 33% underweight and 16% wasted) (72-73). PDHS national survey 2007 data showed that 63% of the infant under 6 months were on bottle-feeding and majority of the mothers with children on bottle feeding were employed (74, 75,76).

A single qualitative study conducted in Pakistan, focused entirely on workplace facilities (68). The study reported workplace barriers, as one of the main reasons that results in early cessation of breastfeeding among working mothers (68). This was the first study in Pakistan published in an international journal. However, due to the nature of the study such as single workplace setting, highly educated background of majority of the participants and small sample size the study results cannot be generalized in a particular setting. (68).

In a male dominant society, female workers often face workplace harassment, gender discrimination and criticism (49,77). While, due to the lack of policy for workplace breastfeeding facilities, the mothers are at the mercy of employer which have little understanding or interest to support breastfeeding practices (68,77).

The available studies indicate that the workplaces are lacking minimum measures to support breastfeeding practices such as, flexible time for breastfeeding, separate room for breastfeeding, separate refrigerator for storing breast milk, breast pump, child care and adequate maternity leave (49,68).

1.7.3. Contradictory research findings

Limited number of studies showed contradictory findings. The available research showed wide difference in lactation facilities at work among developed and developing countries. This is mostly due to the difference in the level of awareness, education, economic status, availability and implementation of breastfeeding policies at workplaces, gender equality and women empowerment (39,41,44,58).

Burks et al in a descriptive research reported working woman's perception of breastfeeding support at workplace. The data showed that the mothers had satisfactory perceptions of

breastfeeding support in their workplace (48). The difference is most likely due to the presence of lactation programs and breastfeeding policies in particular setting.

An American hospital based study assessed the breastfeeding support at work. The worksite breastfeeding facilities reported to have minor impact on continuation of breastfeeding. The commonly reported support by mothers was partner support (79). Another USA based study found that the breastfeeding friendly policies at work place are not adequate. Positive interactive communication approaches may improve the accomplishment of workplace breastfeeding support (80).

The settings of the previous American studies represent selected hospitals in USA considered for lactation programs and policies interventions. The reported studies are post-interventional studies. Other similar studies with different settings within USA have different results (41,54,55).

A study in the UK highlighted that workplace nursery was available to 37% of the mothers, while only 31% mothers interested in using it. The availability of one of the workplace service (nursery) does not guaranty usage may be due to the unavailability of other services (lactation room, regular breaks, breast pump, refrigerator etc.) which are linked with each other to enable mother to successfully practice breastfeeding (81).

1.8. Problem statement and rationale

1.8.1. Problem statement

The 1st year of life of a child is very decisive in developing countries like Pakistan, due to extreme morbidity and mortality (4,6). Pakistan has the second highest child mortality rates in South Asia after Afghanistan (5,82). The commonest causes of under five year children mortality are respiratory infections, diarrhea and under nutrition. Whereas, the lack of exclusive breastfeeding and the use of formula milk, teats and unhygienic bottles are proved to be the main contributor of these diseases (5,82).

Breastfeeding has direct relation to reducing the under-five children's mortality (5, 82,83). According to UNICEF, 22% of neonatal deaths in Pakistan could be prevented by exclusive breastfeeding (83) Pakistan national survey (PDHS-2007) stated that 63% of the infant under 6 months were on bottle feed and majority of their mothers were reported employed (5).

In Pakistan, from 1983 to 2008, the prevalence of breastfeeding up to one year has declined from 96% to 31% (49,68,71). Workplace barriers have been reported as one of the major reasons for early cessation of breastfeeding among working mothers. (5, 7,49,70)

Return to work for a mother after delivery proves very harmful for her breastfeeding status (46,47,49,52,56,57). Several studies reported that facilitating working mother at workplace increase her chances to breastfeed (52, 53, 59, 68,76)

In urban areas of Pakistan most of the women cannot afford to live at home longer because they serve as an important contributor of their family income. Within two to three months after delivery they are expected to resume their work and perform like normal employees. Most workplaces do not have the supportive environment for breastfeeding. This will probably result in discontinuation of breastfeeding. The situation is assumed to be worse in private compared with the governmental sector as in the private sector the country's maternity leave ordinance is not strictly followed (49,68,69). These findings suggest the need for more observational studies to investigate the status of workplace breastfeeding facilities. Present research will provide useful insights to understand the available breastfeeding facilities status and will help further in policing and implementation level.

1.8.2. Rationale

In Pakistan, female labor force participation, especially in urban areas is progressively increasing, while the availability of workplace breastfeeding support for women is limited (77,70). It is worth mentioning that Karachi has some of the maximum female participation in the labor force in Pakistan (5,49,71). Most researches on working mothers and breastfeeding have been performed in higher income countries, where working environment and maternity leave requirements often vary from Asian countries.

A qualitative study conducted in Karachi, Pakistan has reported workplace barriers, as one of the reasons that result in early cessation of breastfeeding among working mothers (68). It was the first study in Pakistan, published in an international journal. However, due to small sample size, single workplace setting, the study results cannot be generalized in a particular setting. Investigating the barriers to breastfeeding among working women are significant to find possible policy initiatives to assist working mothers, which ultimately contribute to improvement in overall breastfeeding prevalence in Pakistan. The current study aimed to assess the factors affecting breastfeeding practices among employed mothers at workplaces.

1.9. Objectives and research question

1.9.1. Objectives

To assess workplace breastfeeding facilities provided to working mothers in Karachi Pakistan.

To compare workplace breastfeeding facilities for working women in private and public sectors of Karachi Pakistan.

To compare workplace breastfeeding facilities for working women in national and multinational sectors of Karachi Pakistan.

1.9.2. Research questions

1. What kinds of breastfeeding facilities are available to working mothers at workplaces?
2. Are there differences in workplace facilities for breastfeeding practices in private and public sector?
3. Are there differences in workplace facilities for breastfeeding practices in national and multinational sector?

Chapter Two
METHODOLOGY

2. Methodology

2.1. Study Population

The study was performed in Karachi city, which is the capital of Sindh province of Pakistan. The city has a population of around 23.5 million, which rank the city first in Pakistan and 2nd in the world in population size (71,86). Karachi is a metropolitan city, which represent almost every social class and ethnic group living in Pakistan (87). It is home to Pakistan's largest firms such as textiles, shipping, and automobile and various industries, banking, trade, economic activity, hospitals, entertainment, fashion, art, advertising, publishing, software development and is the hub of higher education (98,87). The majorities of the females in Karachi are working and serve as an important contributor of their family`s income (49,87). The workplaces were surveyed for assessing breastfeeding facilities provided to employed mothers. The included study sites were: hospitals, schools, banks and factories, based on the assumption that, more than two thirds of women in Karachi work in these sites (71,87). In each study unit (work placement site), a questionnaire based interview was conducted from one working mother and an employer or a person representing the employer.

2.2. Workplaces selection criteria

Study Setting

The study was conducted in Karachi, Pakistan.

Hospitals: All the hospitals in Karachi, registered with Pakistan medical, dental council (PMDC) were considered as the relevant study population for the current study, and the list of the registered hospitals was collected from PMDC (88).

Banks: All banks in Karachi registered with State bank of Pakistan were considered as the relevant study population for the current study and the list of registered banks was taken from state bank of Pakistan (89).

Factories: All types of factories in Karachi, registered with the government labour department were considered as a relevant study population for the current study and the list was obtained from the same department (90).

Schools: All the schools in Karachi, registered with the education and literacy department, were considered as the relevant study population for the current study and the list of schools were obtained from the same department (91).

2.3. Sampling Technique

A simple random sampling technique was used to select the workplaces from the data (sampling frame) provided by the government or concerned authorities. The sites were selected randomly from hospitals, schools, banks and factories. The mothers were selected conveniently. Mother's selection was based on inclusion criteria. It was assumed that some of the employer in the randomly selected sample would refuse to take part in the study. Therefore, 315 sites were enrolled instead of 296 which is the sample size of the study. The addresses and contact numbers of randomly selected sites were taken from appropriate authorities, as defined in the study population.

2.4 Selection Criteria

Inclusion Criteria (Mother)

1. Working mothers 3 to 24 months postpartum who had initiated breastfeeding prior to the survey and returned to work at the time of the interview.
2. Working women aged between 18 and 45 years.

Exclusion Criteria (Mother)

1. Having a baby unable to breastfeed due to illness.
2. Twins or more

Inclusion Criteria (Employer)

The head or his/her representative in a workplace, regardless of age, gender (e.g. Owner or general manager in a factory, manager in a bank, principal at school, medical superintendent at the hospital)

Exclusion Criteria (Employer)

Others who do not fulfil the inclusion criteria.

2.5. Sample Size^{53, 92}

The sample size was calculated using Openepi software version 3

Figure: 3. Sample Size for Frequency in a Population

Population size (for finite population correction factor or fpc) (N): 1000000

Hypothesized % frequency of outcome factor in the population (p): 26% +/- 5

Confidence limits as % of 100 (absolute +/- %) (d): 5%

Design effect (for cluster surveys- $DEFF$): 1

Sample Size (n) for Various Confidence Levels

Confidence Level (%)	Sample Size
95%	296
80%	127
90%	209
97%	363
99%	511
99.9%	833
99.99%	1164

Equation

$$\text{Sample size } n = \frac{[DEFF * N * p * (1-p)]}{[(d^2 / Z_{1-\alpha/2}^2 * (N-1) + p * (1-p))]}$$

Results from OpenEpi, Version 3, open source calculator--SSPropor

2.6. Operational Definition

Working mothers: Working mothers 3 to 24 months postpartum who had initiated breastfeeding prior to the survey and returned to work at the time of the interview.

Flexible time for breastfeeding: If the mother is provided additional time on demand for breastfeeding by the employer during her working hours other than her routine breaks was deemed yes and no in the case of vice versa.

Maternity leave: Three month paid maternity leave (with full salary) according to the government of Pakistan ordinance 1958 (69).

A separate room or lactation room: A separate locked room in the organization allocated only for lactating mothers.

Separate refrigerator: A separate refrigerator placed in the lactation room in an organization, with the access of lactating mothers only.

Nursery or childcare: A room or a hall with at least one staff in an organization allocated for childcare. This also includes a day-care centre where children below two years of age are looked after.

Breast milk pump: A breast milk pump will be labelled as yes if it is provided or made available at the site by employer or even arranged by the lactating mother to use during work and will be deemed no if it is not arranged by either side at workplace site.

Task adjustment or lighter job: If the mother is transferred to the place near her home to facilitate with her breastfeeding or mother in a similar site offered a lighter job after her return to work until two years of lactation period will be deemed yes and no in the case of vice versa.

2.7. Ethical Consideration

Local ethical approval was obtained from Institutional Review Board (IRB) of Pakistan. The Norwegian Regional Ethics Committee (REC) responded that the current study project does not fall under the health act area and referred to the Norwegian social science data service (NSD) which granted the exemption from ethical approval.

Eligible participants (mother and employer) were provided with the invitation letter, the purpose of the study was explained and stated that how their participation can contribute to the current study project. Informed consent was taken from employers and eligible working mothers prior to start of the study.

The study did not collect any identifiable or sensitive data. The participants were informed about the purpose, use and confidentiality of the data. The participant's decision to participate or withdraw from the research was considered voluntary. Culturally, it was presumed that some working mothers might feel uncomfortable with male (researcher) in discussing breastfeeding issues in a particular cultural setting. A female research assistant was recruited to serve the purpose.

Table: 1. Project Timetable:

Project Timetable (May - December 2014)																																
Activities	May				June				M1 (July)				M2 (August)				M3 (September)				M4 (October)				M5 (November)				M6 (December)			
	w 1	w 2	w 3	w 4	w 1	w 2	w 3	w 4	w 1	w 2	w 3	w 4	w 1	w 2	w 3	w 4	w 1	w 2	w 3	w 4	w 1	w 2	w 3	w 4	w 1	w 2	w 3	w 4	w 1	w 2	w 3	w 4
Applied for ethical approval from REK (Norway)																																
Applied for ethical approval from IRB (Pakistan)																																
Collected workplace list from appropriate authorities of Pakistan																																
Hired & trained female research Assistant																																
Pre-tested questionnaire (Karachi, Pakistan)																																
Finalize questionnaire																																
Rented car																																
Started data collection																																
Data Entered																																

2.8. Data collection procedure, management and analysis

I. Data Collection Procedure

The structured questionnaire was designed in English and Urdu. The questionnaire was conducted in two languages because some of the female worker and employer had difficulty to understand in English. Therefore, it was important to design it in local language to collect authentic data. There was no instrument available to measure workplace breastfeeding support in particular settings. Hence, the questionnaire was developed using previous qualitative study and a systemic review article on similar settings (49,68). One female assistant was recruited by the researcher to collect data from mothers who feel uncomfortable to be interviewed by the main researcher (male). The research assistant was a nurse with bachelor degree in nursing. She had 10 years working experience in local non-governmental organization (NGO) on mother and child health program and was experienced in data collection. The research assistant was trained prior to the start of the survey. Initially pilot test was done in eight sites. Each selected site was considered a single sampling unit with two interviews, one from the mother, the other one from an employer. Mothers were selected conveniently based on inclusion criteria. Before enrolling participants, informed consent was taken from employers and eligible working mothers.

It was ensured that the mother should be interviewed where she feels comfortable (normally at her duty station, lounge, or canteen). The experience from the pilot test showed that the employer and mothers were influenced by colleagues. Therefore, during data collection it was ensured that the participant is not accompanied.

II. Data management

Researcher and research assistant filled the information obtained from the participants on pre-structured questionnaire. Immediately after completion of interview from each site, the researcher double-checked the questionnaire for consistency and completeness of answers. The data entry was done at the end of fieldwork. The data were entered on Statistical package for the social sciences (SPSS) by researcher himself. Cross checking and data cleaning was done. During data cross checking and cleaning of computer, missing information was obtained and was streamlined by going back to the questionnaire. In order to avoid data entry errors, the data entry on SPSS was double-checked by researcher and an independent person. Finally, the data was analysed on SPSS version 22 and Stata version 13.

III. Data Analysis

The data were analysed on Stata version 13 and SPSS software. All the variables were categorical. Therefore, descriptive statistics were computed by running frequencies and crosstab to obtain percentages and confidence intervals. Statistically significant was considered when $P < 0.05$. Charts were also developed using graph and chart builder. Stata version 13 was used to compare proportions. The commands (prtesti at 95% confidence interval) was run to see the difference in proportion of the status of the breastfeeding facilities by the type of the respondent (mother/ employer) type of employer (government/ private) and site level (national / multinational). For the purpose of comparison by type of employer and site level, we use the mothers' responses.

2.9. Funding source

The study was funded by the Norwegian government under the quota scheme.

Chapter Three
RESULTS

3. Results

3.1 General Characteristics of the sample

The data were collected from 297 sites. The included sites were banks (n=123), schools (n=87), factories (n=66) and hospitals (n=21). One employer and one mother selected from each site. 594 participants completed the questionnaire (employer: 297, mothers: 297). There were no self-employed mothers. The type of employer were predominantly private (n=222) compared to government (n=75). The majority of the mothers were found working with national (n=226) than multinational (n=71) sites as shown in table. 2.

Table: 2 General Characteristics of the sample		
Characteristics	Count	Percent %
No of Sites	297	100
Banks	123	42
School	87	29
Factories	66	22
Hospital	21	7
No of Interviews	594	100
Mother	297	50
Employer	297	50
Type of employer	297	100
Private	222	75
Government	75	25
Site Level	297	100
National	226	76
Multinational	71	24

Table: 3. Comparison of provided breastfeeding facilities in workplaces by different type of the respondent (mother and employer)

Workplace breastfeeding Facilities	Mother (n=297)		Employer (n=297)		Test of proportion Difference (95%CI)	P-Value
	N	%	N	%		
Flexible time to express breast milk Yes	36	12	285	96	84 (80-88)	<0.01
Separate room to express breast milk Yes	2	0.7	17	6	5 (2-7)	<0.01
Separate refrigerator to store breast milk Yes	0	0	0	0	-	-
Breast milk pump Yes	2	0.7	3	1	.03 (.01-.081)	0.653
Nursery or child care available Yes	2	0.7	5	1.7	.01 (-.02- .07)	0.254
Maternity leave Yes	255	86	297	100	14 (10-18)	<0.01
Task adjustment or lighter job Yes	45	15	134	45	30 (23-37)	<0.01
Provided breastfeeding options Yes	16	5	63	21	16 (11-21)	<0.01

3.2. Workplace breastfeeding facilities

3.2.1 Provided workplace breastfeeding facilities, described by the mother respondent group

The flexible time or breaks to express breast milk was provided in 36 (12%) sites, while only two (0.7%) workplaces were providing separate rooms for breastfeeding practices. All the sites (297) did not provide a refrigerator to store mother's milk. Only two (0.7%) workplaces provided breast pump and on-site nursery service for childcare. At-least three months paid maternity leave was offered to 255 (86%) mothers. Most of the job assignments for female employees were fixed. With the exception of banks, some factories and schools, no other site had franchises or branches with similar owners to relocate mother to a site near her home to facilitate breastfeeding practices. However, 45 (15%) sites were providing lighter jobs or were transferring mothers to a place near her home. Mothers from 16 (5%) workplaces were provided with the information about breastfeeding options upon their return to work. (Table.3).

3.2.2 Provided breastfeeding facilities to working mothers, described by employer respondent group

Ninety six percent of the employers were confident that they provided flexible time or regular breaks to lactating mothers in the workplace for breastfeeding or expressing milk for the baby. Separate room for maintaining privacy during breastfeeding practices was provided by 17 (6%) sites. No employer claimed to provide a separate refrigerator to mothers for storing breast milk. The breast milk pump and nursery for childcare were available in three (1%) and five (2%) sites respectively. All employers provided three months paid maternity leave. Almost half of the employers responded that they offered lighter jobs or task adjustments to mothers upon their return to work until lactation period. Sixty-three (21%) employers claimed that they discuss breastfeeding options with mothers upon their return to work. (Table 3).

3.2.3 Comparison of the provided breastfeeding facilities, described by employer and mother

Similar questionnaire was introduced to the mother and the employer to compare the responses from two different sources. Ninety six percent (285) of the employers said that the mothers were given flexible time to breastfeed compared to 12% (36) of the mothers. The difference in proportions between employer and mother was statistically significant.

A separate room for mothers to breastfeed or express breast milk was provided in 17 (6%) sites according to employer group compared to two (0.7%) sites as reported by the working mothers. The difference in reporting by employers and mothers was statistically significant. A separate refrigerator for storing breast milk was not available at any site according to both respondents. Breast milk pump was available in three (1%) workplaces reported by employer compared to two (0.7%) reported by the mothers which was statistically significant. Five employers (1.7%) responded that the mothers were provided with nursery for childcare compared to two (0.7%) mothers. There was statistically no significant difference.

All the employers claimed that they provided three months paid maternity leave compared to 255 (86%) of the mothers. The 14% difference was statistically significant. I also found a statistically significant difference in proportion of task adjustment of 30% between employers and mothers (45% and 15% respectively). Twenty one percent of the female employees said that the mothers were provided with information about breastfeeding options upon their return to work compared to 5% of the mothers. The difference in proportions between employers and mothers of 16% was statistically significant (Table 3).

Table: 4 Comparison of the provided breastfeeding facilities between government and private sectors (type of the employer)

(Mother respondent group)

Workplace Breastfeeding Facilities	Government (n=75)		Private (n=222)		Test of proportion Difference (95%CI)	P-Value
	N	%	N	%		
Flexible time to express breast milk Yes	17	23	19	9	14 (4-24)	<0.01
Separate room to express breast milk Yes	0	0	2	0.9	.09 (.03-2.1)	0.409
Separate refrigerator to store breast milk Yes	0	0	0	0	-	-
Breast milk pump Yes	1	1.3	1	.5	0.8 (-2-4)	0.418
Nursery or Childcare available Yes	1	1.3	1	.5	0.8 (-2-4)	0.418
Maternity leave Yes	74	99	181	81	17 (11-22)	<0.01
Task adjustment or lighter job Yes	10	13	35	16	2 (-11-7)	0.6115
Provided breastfeeding options Yes	0	0	16	7	7 (4-11)	<0.01

3.3. Comparison of the provided breastfeeding facilities between government and private sectors

Twenty three percent of the mothers working in government sites said that they were provided with flexible time or regular breaks to express milk or breastfeed their children compared to 9% of the mothers working in private sites. The difference in proportions between government and private sites was statistically significant. Only 1% of the government sites were providing separate rooms for lactation. No workplace provided refrigerators to store mother's milk for

their babies. Breast milk pump and nursery for childcare were provided by 1.3% of the government facilities compared to 0.5% of the private facilities.

Ninety nine percent of the government sites were providing three months paid maternity leave to mothers compared to 81% of the private sites. This difference in proportions between government and the private sectors of 17% was statistically significant. The task adjustment or lighter jobs were provided to working mothers in 16% of the private sites compared to 13% of the government. The difference in proportions between private and government sector of 3% was not statistically significant. Only mothers from private sites (7%) were provided with the information about breastfeeding options upon their return to work (Table 4).

Table: 5 Comparison of the provided breastfeeding facilities between national and multinational sites (Site level)

(Mother respondent group)

Workplace Breastfeeding Facilities	Multinational (n=71)		National (n=226)		Test of proportion Difference (95%CI)	P-Value
	N	%	N	%		
Flexible time to express breast milk Yes	18	25	18	8	17 (7-28)	<0.01
Separate room to express breast milk Yes	2	3	0	0	3 (1-6)	<0.01
Separate refrigerator to store breast milk Yes	0	0	0	0	-	-
Breast milk pump Yes	0	0	2	1	-.08 (0.3-2)	0.426
Nursery or Childcare available Yes	0	0	2	1	-.08 (0.3-2)	0.426
Maternity leave Yes	71	100	184	81	19 (14-24)	<0.01
Task adjustment or lighter job Yes	27	38	18	8	30 (18-42)	<0.01
Provided breastfeeding options Yes	12	17	4	2	15 (6- 24)	<0.01

3.4. Comparison of the provided breastfeeding facilities between national and multinational sites

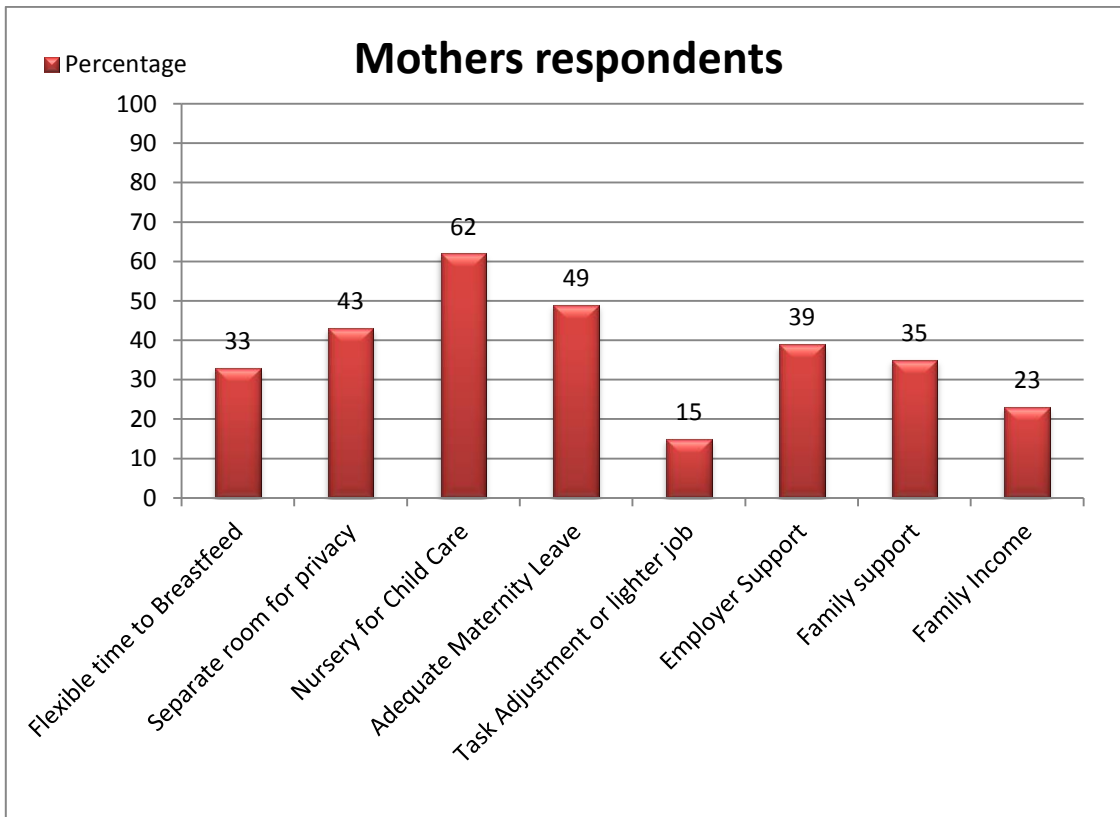
Table 4 shows the difference in proportions of the workplace breastfeeding facilities among multinational sites and national sites. Twenty five percent of the multinational sites were provided with the flexible time or regular breaks to mothers to breastfeed their children compared to 8% of the mothers working in the national sectors. The difference in proportions between multinational and national sites was statistically significant. Separate room for

lactation was offered in 3% of multinational sites. The refrigerator was not provided by any of the sites. Breast milk pump and nursery for childcare were offered by 1% of the national sites. All mothers from multinational sites claimed to get paid maternity leave compared to 81% of mothers from national sites. The difference in proportions between multinational and national sites was statistically significant. The task adjustment of the working mother to a place near her home was only possible in the banks that were having branches network throughout the city unlike other sectors. The lighter job was an important option to facilitate mothers during her lactation period. The data shows that 38% of multinational sites were providing lighter jobs or task adjustment compared to 8% of national sites. The difference in proportion of between multinational and national sites with regard to task adjustment or a lighter job was statistically significant. More employers from multinational sites (17%) compared to national sites (2%) were providing information regarding breastfeeding options to mothers upon their return to work. The difference in proportions was statistically significant.

3.5.1. Mother's perception of breastfeeding support

To understand the mothers' perspective on workplace breastfeeding support, an open-ended question was introduced to mothers to describe any three factors supporting breastfeeding practices. The data revealed that 62% of the mothers believe that nursery for childcare was very important. 49% of the mothers were of the view that adequate maternity leave would support their breastfeeding practices. Forty three percent of the mothers thought that separate rooms or privacy at workplace is essential for breastfeeding continuation. For certain mothers (39%) employers' support was crucial. Family support and flexible time to breastfeed reported by 35% and 33% of mothers respectively (Figure.3).

Figure. 2: Proportion of mothers responding 'yes' to factors supporting breastfeeding practices. Note that multiple responses were permissible.

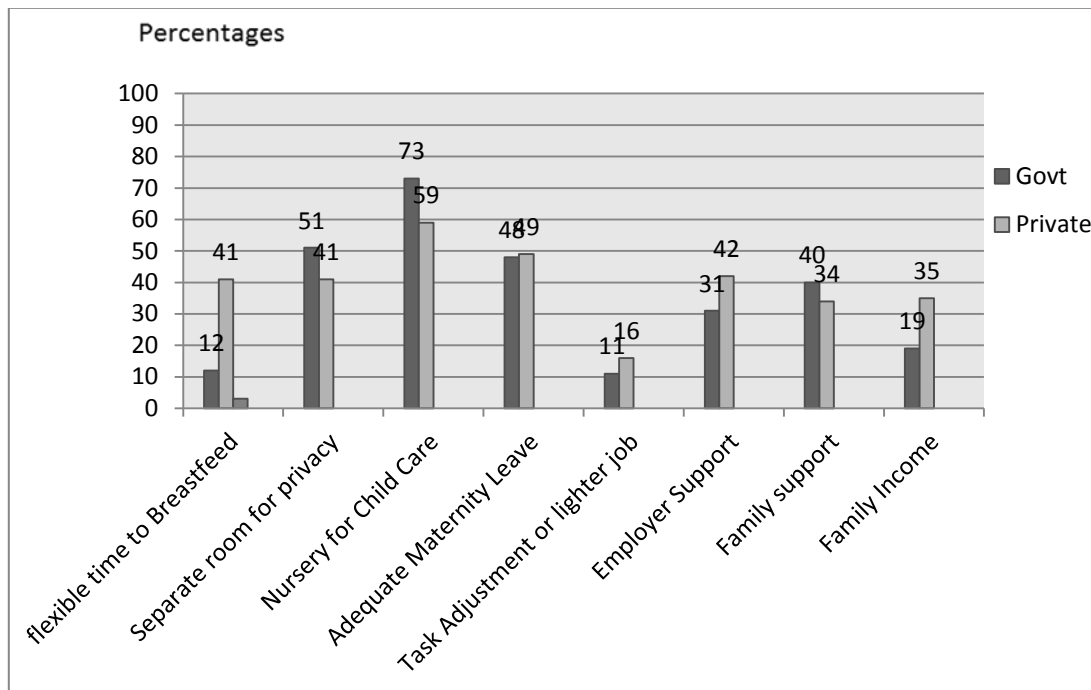


3.5.2. Comparison of mother’s perspective of breastfeeding support at work between government and private sectors.

Mother’s perception of breastfeeding support was compared between government and private sectors to measure the difference in perception of breastfeeding support of mothers. The data shows that most of the mothers from government sector (73%) reported nursery for childcare compared to 59% of the mothers working in the private sector. Fifty one percent of the government workers considered separate room or privacy more important compared to 41% of mothers working in private sector. Flexible time or breastfeeding breaks appeared more significant to mothers working in private sites (41%) compared to mothers working in government (12%). Family income seemed more important to mothers working in private (35%) compared to government (19%). Similarly, employer support was mentioned by 42% of mothers working in the private sector compared to 31% of the mothers in government sites.

Figure.3: Proportion of mothers responding ‘yes’ to factors supporting breastfeeding practices by type of employer (government/private)

Note that multiple responses were permissible.

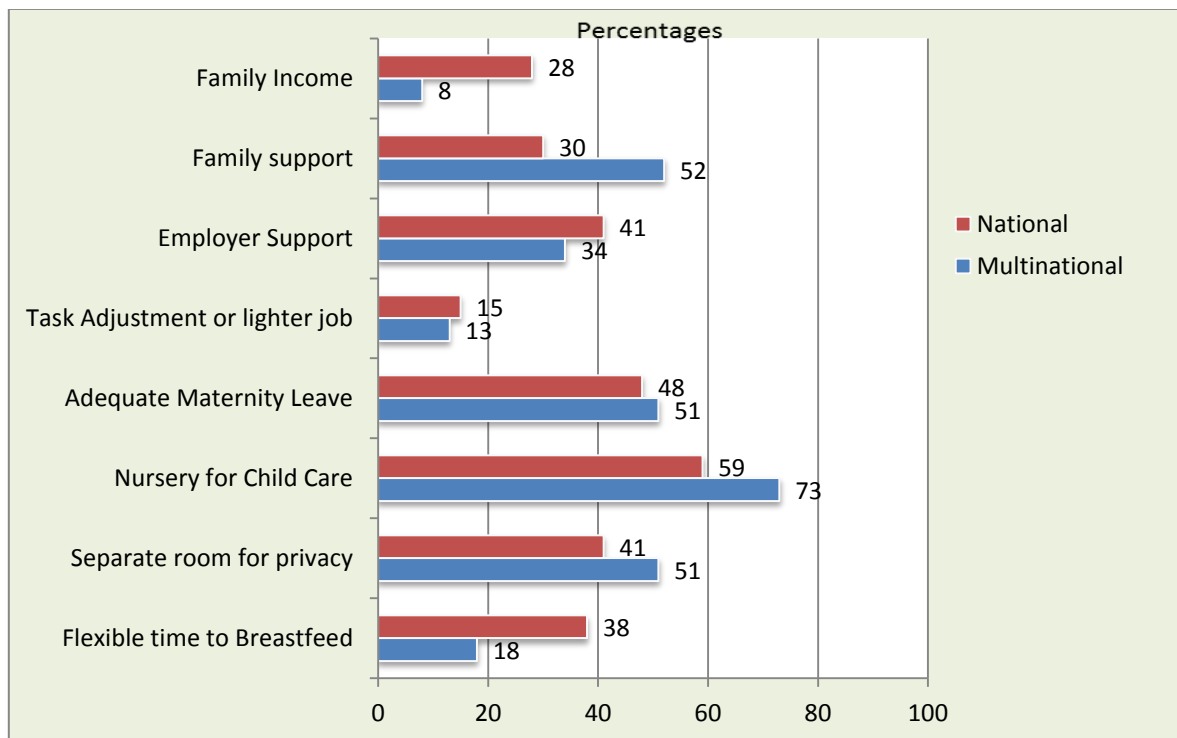


3.5.3. Comparison of mother’s perspective of breastfeeding support at work between national and multinational sectors.

The mother's perspective regarding workplace breastfeeding support was analysed to assess the difference between mothers working in multinational and national sites. The data shows that 28% of the mothers working in national sites considered family income as a common factor influencing breastfeeding practices compared to 8% of the mothers working in multinational sites. Family support seemed as an important factor to mothers working in multinational sites (52%) compared to national sites (30%). Flexible time for breastfeeding was reported by 38% of mothers from multinational sites compared to 18% in national sites. Nursery for childcare was considered the main factor supporting breastfeeding practices at work by mothers from multinational sites (73%) compared to national sites (59%). There were minor differences in the proportions of other factors affecting breastfeeding practices among multinational and national sites such as employer support and separate room for privacy (Figure.5).

Figure.4: Proportion of mothers responding ‘yes’ to factors supporting breastfeeding practices by site level (national/multinational)

Note that multiple responses were permissible



Chapter Four
DISCUSSION

4. Discussion:

This study is the first quantitative study in Pakistan, exclusively focusing on workplace breastfeeding facilities, to the best of the researcher's knowledge. The study includes interviews based on a structured questionnaire regarding factors affecting breastfeeding practices among employed mothers at work place. The information was extracted from two sources, the mothers and the employers on the same type of questionnaire in order to compare the responses from two different sources. Additionally, mothers were put on an open-ended questionnaire to improve the understanding of their perspective. The included workplace breastfeeding facilities variables were, provide flexible time for breastfeeding, separate room, breast pump, nursery, paid maternity leave and task adjustment. It was found that the majority of the breastfeeding facilities were inadequate, except paid maternity leave. The results from the private and national sites were slightly disappointing compared to the governmental and multinational sites.

4.1. Methodological discussion

4.1.1. Study design

This is a cross-sectional study design. The design was chosen because it is the only design, which gives prevalence data of multiple factors at one point in time. There are no previous quantitative studies on workplace breastfeeding facilities in Pakistan. Therefore, it was deemed suitable to focus on descriptive data presentation. The present study could be useful for future cross-sectional studies on workplace breastfeeding facilities to compare possible improvement after interventions (policy and lactation programs). Moreover, cross-sectional studies can provide some statistics about breastfeeding facilities' status, which will help policy makers to revise their policies in the light of our study findings and international guidelines. As, most of the studies were conducted in the developed world, a similar study in the developing country like Pakistan will be beneficial for comparison of the results.

4.1.2. Sample size.

The study was conducted in Karachi city with the population of 23.5 million. Study setting represents almost every social class and ethnic group in Pakistan (87). Unfortunately, there was no local quantitative study focusing entirely on breastfeeding facilities at the workplace, therefore we used prevalence of an Asian study, which was related to our study (53). The

sample size that was randomly calculated was 296. The sites included were hospitals, Schools, factories and banks, assuming that, more than 2/3rd of women in the Karachi work at these sites (71,87). It was expected that a few employers could refuse or may not be eligible. Therefore 315 sites were enrolled instead of 296 sample size. And we were successful in achieving the sample size of 297. The characteristics of women working in other cities may be slightly different in comparison to Karachi, which may affect the external validity of our study. The multicity study was not feasible due to the limited time and resources.

4.1.3. Systematic errors

It is expected that, regardless of method of research there is a possibility of systematic errors. The main errors under consideration are: Information and selection.

Selection bias:

The possibility of this type of bias is by using the inappropriate procedure of selecting subjects from the study population (93).

This was unlikely in our study. The sample in our study included the workplace sites to assess breastfeeding facilities and the lists of all sites in a study setting were arranged from appropriate authorities. The list was used to randomly select appropriate sample size and we were able to meet that sample size. At each site, we interviewed one employer and one mother. Unfortunately, due to limited time and resources the mothers were recruited through convenience sampling, which could possibly bring in the errors. Therefore, we also interviewed employers to enhance confidence in quality of our findings and reduce this type of possible bias. Amin et al and Dodgson et al found that all the participant mothers were taken from 4 and 19 sites respectively, and the mothers were considered as the subject of the study for assessment of the workplace breastfeeding facilities (52, 53).

The previous studies were exposed to participant selection bias in a way that they included a large number of mothers but samples were restricted to a smaller number of sites. The assessment of multiple workplaces is more informative for studying breastfeeding facilities as compared to a limited number of sites. Therefore, we interview single mother from each site and consider a large study sample of workplaces to better understand the status of the breastfeeding facilities.

Information bias:

In a study in South Africa, Reimers et al selected mothers and employers together as the subject of the study for assessing workplace breastfeeding facilities and she discovered two separate perspectives of mother & employer (94). Our study also intended to explore two different perspectives regarding workplace breastfeeding facilities. Each perspective could turn out to be the source of information bias. The employers may have given the exaggerated responses to researcher with a fear that the gaps could be shared with the government for initiating action. However, to minimize this fear factor leading to information bias, the questionnaire did not include identifiable data, reassurance and information was given by the researcher for confidentiality and safety of the data. The mother could also be the source of information bias in a way that she was not able to share the workplace breastfeeding facilities gaps with the researcher due to the fear of the employer's action as the consequences of the gap-information shared with outsiders (researcher). The mothers were reassured about the confidentiality of the data, identifiable data were not included in the questionnaire and mothers were interviewed at a place where she finds herself comfortable.

Weber D, et al found that the support required to combine lactation and work is attributed mainly from partners, family and organization 74%, 83% and 19% respectively (44). In contrast, our study only considered organization factor. The reason behind only considering workplace related factors was that this area is less studied in a particular setting. There are some other factors affecting breastfeeding when it comes to work. Contrary to our study variables, the Pakistani based qualitative study showed that knowledge regarding breastfeeding, self-commitment, planning, social support apart from workplace support is needed to facilitate working women to continue with breastfeeding (68). The PDHs survey 2007 & 2013 in Pakistan underlined that the majority of the mothers who bottle-fed their babies were reported as working mothers (5,7). Additionally, our study reflects almost similar workplace breastfeeding factors and findings in studies of Hirani et al, Amin et al, Dodgson et al and some other studies (49,53,68).

4.2. Discussion of findings

The purpose of this study was to assess the workplace breastfeeding facilities. Our study findings revealed that the workplaces were largely unsupported by the employers with regard to breastfeeding facilities. A significant difference was noticed between government versus private and national versus multinational sites in the areas of flexible time for breastfeeding, separate room, lighter job, paid maternity leave and provision of breastfeeding options for mothers returning to work. The study sites were mainly deprived of key facilities for practicing breastfeeding at workplaces, as per international labour standard and a world alliance for breastfeeding action (64,95).

4.2.1 Workplace breastfeeding facilities: Mother`s perspective.

In our study, 12% of the mothers claimed to get flexible time to breastfeed or express breast milk. This was almost similar to the findings of Dodgson et al (11%) (53). Heymann et al, found that globally the rate of exclusive breastfeeding of children under 6 months of age was 9% greater in countries that assured paid breastfeeding breaks at workplace and vice versa (75). A qualitative study in Pakistan by Hirani et al, also found that the job flexibility and flexible schedule at workplace setting were important to working mothers for sustaining breastfeeding while employed (68). With little difference, Weber et al found that the 16% of the facilities were offering paid breaks for breastfeeding (44). It has previously been reported by several studies that flexible time or breaks offered to working women for breastfeeding are important to maintain breastfeeding at workplaces (44,48,50,51,52,53,61). Allowing flexible time for mothers to breastfeed or express milk would reduce the strain in job, as the minimal time required for mother to express breast milk (44,52). However, our findings with regard to flexible time for breastfeeding are not consistent with many studies in the west, the reason being the existence of workplace breastfeeding policies, lactation programs and additional support provided to mothers through education, knowledge and resources in those countries (30,40,41,48,50,54,55,57). Pakistan has failed to develop any policy pertaining to flexible time or breastfeeding breaks at workplace (49,68). According to the ILO 2014 report, 136/183 (71%) countries around the world had a policy of offering mothers with the breastfeeding breaks during the workday until their baby reaches the minimum age of six months(59). Availability of separate room, breast pump and refrigerator, would allow women to feel more confident and encourages them to practice breastfeeding (49,52).

Our study reported that less than 1% sites were provided with the facilities of a separate room, separate refrigerator and nursery for childcare. Thus, the findings are almost similar to the previous studies (52,53) and different from the studies by Allen et al and Bai et al which reported 70% and 80%, respectively (41,55). The vast variation is most likely due to the presence of policies, programs and awareness provided to women, through lactation consultant in those study settings, which was lacking in our study settings.

Almost 86% of the mothers were provided with paid maternity leave for 3 months in our study, almost similar to the studies in India and Malaysia (93%) (46,52), however the paid maternity leave cannot be compared to many similar studies in countries offering more than 3 months paid maternity leave, additionally paternity leave and unpaid maternity leave following paid maternity leave. (41,43,44,48,51,54,61,75,79,80). Insufficient and inadequately paid maternity leaves either compel mothers to give up their jobs, leading to a considerable financial loss in their income during the most productive years, or forces them to resume the work too quickly, resulting in adverse effects on both child and maternal health (46,59). Women who have longer paid maternity leaves breastfeed for longer time and also ensure that proper arrangements are made for the care and nutrition for their children when they get back to work. (39,41,44,46,47).

Five percent of the employers in our study have reported to provide breastfeeding options to mothers upon their return to work. This is consistent with the findings of Weber et al (5%) (44). The lack of the policies and lactation programs in our study population limits the comparison of the findings with other workplace studies. (41,48,55,57,50).

4.2.2 Workplace breastfeeding facilities: Employer's perspective.

There is little literature available on assessment of workplace breastfeeding facilities from the perspective of the employer or owner to be made comparison with. Earlier a qualitative study in Pakistan recommended that the employer's perspective is critical to understand and support the breastfeeding practices at workplaces (68). Tan et al reported that the employer's behavior influences working mother's perception of workplace breastfeeding support (96). In the current study, 96% of employer claimed to provide flexible time to mothers for breastfeeding at work. Contrary to 12% mothers by mother respondents in the same study. The large difference between two respondents could be due to the limited understanding of flexible time by

employer (49,78,94,96). The mother`s perspective in several studies showed that the employer consider regular breaks to be enough for mothers to practice breastfeeding at work, which does not seem sufficient to mothers. (24,29,39,41,44,50,59,68). A study by Reimer et al also supports this claim that breastfeeding support at work is not a priority for employers (94). Tsai et al discovered that the female employees' perception of breastfeeding support at work compel or repeal their decision regarding breastfeeding (61). Our study further explored that less than 2% of the workplaces were providing breast pump, nursery and refrigerator. This is inconsistent with the findings of Amin et al and Dodgson et al (52,53). The difference is most likely due to the different type of respondents (94). Most of the previous studies compared the status of breastfeeding (continued or discontinued) with employer`s support such as breaks, provision of breast milk pump, separate room, refrigerator, child care and task adjustment(40,44,49,52,61,68). Whereas, this study focused only on the assessment of workplace breastfeeding facilities (instead of breastfeeding status of mothers) in the light of recommendation made in previous local studies (49,68,74). Moreover, numerous studies reported that the absence of support at workplace hampers the mother`s breastfeeding plan, that has resulted in early cessation of breastfeeding among employed women. (30,39,40,41,44,49,50,52,53, 57,68).

4.2.3. Difference between sites

The significant difference (<0.01) was observed in our study between private and public organizations with regards to breastfeeding breaks, maternity leave, task adjustment and information regarding breastfeeding options on mothers return to work, consistent with the studies by Weber`s et al, Amin et al and Dodgson et al (44,52,53).

In Pakistan, mothers working in the public organization tend to have greater workplace breastfeeding support compared to the private sector because of the nature of the job. The majority of the banks, factories, companies with rigid type of job and short resting periods are privately owned, in contrast to job in schools and hospitals in government sector which are less hectic. Moreover, the public sector is more likely to adopt breastfeeding friendly policies (44,52,53).A significant difference was also visible among national and multinational sector in the areas of flexible time, separate room , maternity leave, task adjustment and information provided by the employer regarding breastfeeding options on mothers return to work. There is no previous study comparing breastfeeding support in national versus multinational sites. However, the difference in our study could be due to the fact that most of the multinational

companies are owned by people of high income countries in Pakistan, where the breastfeeding policies exist in some form, that influences multinational employer to support working mothers in some way (38,44,49,59,66). The other reason could be the higher adherence to international labour laws by multinational companies as compared to national companies in developing countries like Pakistan (59,64,95). Adhering to the needs of breastfeeding worker is best achieved when organizational infrastructure is present with clear cut policy to address these issues. Without policy these problems are not brought to the attention of the employer to make changes within an organization (64,95).

4.2.4. Mother perception of breastfeeding support

The mother's perception was sorted by putting an open-ended question to collect information regarding mother perception of breastfeeding support at work. The common facilities reported by mothers in our study were: Nursery, adequate maternity leave, separate room, employer support, which are widely reported in previous studies (43,44,46,52,59,68). Anderson et al found almost similar factors as in our study, such as employer support, flexible time, private room and refrigerator (81). However, mothers in our study did not report the last factor (refrigerator), this might be due to difference in study setting and priority of mothers (maximum three responses were allowed). In contrast to our findings, Hirani et al and Hameed et al reported that mother's attribute is one of the important factors on deciding to breastfeed at work (16,68). While, several studies reviewed that the majority of the women find it incompatible to combine work and breastfeeding, because of low expectation of workplace breastfeeding support. Therefore, mother's decision to breastfeed at work is influenced by employer support (41,44,48,51,61,94). Other studies, also have proven that lactation room, flexible working hours, paid maternity leave and other employer support prolong the breastfeeding duration of mothers at work (39,43,44,52,53,81). A qualitative study reported from Pakistan that despite the documented paid maternal leave policy on the organizational level, it was not possible for working women to avail these leaves if they did not get their employers' permission (68). Heymann et al found that the rate of exclusive breastfeeding of children under 6 months of age was 9% greater in countries that warranted paid maternity leave or breastfeeding breaks at work compared to those who did not (75).

The less common factors reported by mothers that support breastfeeding practices at work in our study were family support, family income and task adjustment. The factors were similar in studies by Anyanwu et al and Hirani et al (58,68), but different from the study by Weber et al

and Galtry et al, which reported family support and income as the main contributing factors influencing breastfeeding practices at work (44,65) Difference could be due to different study population, priority of mothers and methodological issues.

4.2.5. Overview of different perspectives about workplace breastfeeding facilities (employer and mother)

The difference between two respondents was prominent in flexible time, maternity leave, task adjustment and provision of information about breastfeeding options. None of the perspective could be deemed totally wrong or right.

Employers tend to overrate the available workplace breastfeeding facilities may be due to the fear of losing organization reputation. Secondly, if the data is shared with the government, it could have negative impact on their status. Thirdly, employers may consider facilitating mothers with breastfeeding could be financially exhausting to the workplace. Fourthly, employers may consider breastfeeding as a personal activity which can affect the time dedicated for the job.

Fifthly, employers may perceive the possibility of communicating the data with the International organizations (WHO, ILO, World Alliance for breastfeeding), which in return could build pressure on government to take action against sites with missing facilities. Finally, breastfeeding facilities may be confused with other staff facilities (routine breaks over breastfeeding breaks, female common room as a lactation room etc.).

Mothers can underrate breastfeeding facilities in order to get additional benefits. Secondly, to get quick attention of decision makers by reporting more gaps. Thirdly, less awareness of mothers about her workplace breastfeeding rights set by labour organizations (local and international). Finally, in large working sites mothers may not be aware of the available facilities especially the less visible ones (separate room, separate refrigerator etc.).

Mothers could have exaggerated the responses with the fear that reporting gaps (missing breastfeeding facilities) to an outsider (researcher) could affect their relation with employers if the data were shared.

However, there was general agreement of both respondents on the following breastfeeding facilities: separate room, separate refrigerator, breast milk pump and nursery. The above agreement could be due to the fact that all areas were physical facilities and could possibly be verified.

The mothers probably are more reliable because the research area is of their interest and benefit. Moreover, it's a fact that the user (mothers) has better understanding of the services than the one who is not familiar (employer) to the area (breastfeeding facilities)

4.3. Strengths and Limitations

I. Strengths

1. This is the first study in Pakistan that evaluates workplace breastfeeding facilities with the large random sample.
2. Triangulation of the data was done to enhance confidence in quality of our findings (interviewing employer and a mother at the same time).
3. The minimization of recall bias was done by involving only mothers, who have started breastfeeding at work and their baby's age below 2 years.

II. Limitations of the study

1. Mix methods starting from qualitative to quantitative would have been used to better understand the mother's perspective of workplace breastfeeding facilities.
2. The study focused on urban area of Pakistan however, study results cannot be generalized to rural area, which still represent 1/3 of female workers.
3. Despite the claims that the study setting (Karachi city) has a population of more than 23 million (2nd world largest city) representing almost every social class and ethnic group in Pakistan, certain degree of error may be expected when generalizing the findings in other urban areas of Pakistan (87).
4. The unregistered workplaces such as shops, small health clinics and home based business were not taken into the account, though very small in number, but may influence the internal and external validity of our study.
5. The mother's respondent was enrolled conveniently due to the limited time and resources, which could have influenced the results.

4.4. What is already known about this topic

- Many women stop breastfeeding upon return to work.
- Workplace environment affects breastfeeding practices.
- Elements of workplace breastfeeding facilities have been identified.

Added knowledge by this study

- The first quantitative study analysing workplace support provided for breastfeeding employees in Pakistan.
- Inappropriate workplace breastfeeding support provided to working mother.
- Public and multinational sector provide more workplace support compared to private and national organizations.
- The type of breastfeeding support at work self-reported by mother includes nursery, adequate maternity leave, separate room, employer support, flexible time, family support, family income and task adjustment.

4.5. Generalization

The study was conducted in Karachi city, which is the largest city of Pakistan and 2nd largest city in the world by population size, representing almost every social class and ethnic group in Pakistan (71,87). I believe the results could be generalized to the other urban cities in the country, since it is likely that the working mothers have similar working conditions, similar tasks, similar culture, and socioeconomic status.

4.6 Conclusion

The involvement of female labour force in Pakistan is progressively increasing, while the prevalence of breastfeeding is declining, ultimately the child mortality and morbidity of Pakistan has strikingly remained high. Little research exists regarding workplace breastfeeding facilities, while no national survey or policy with regards to workplace breastfeeding facilities exists in Pakistan. Our study is first of its kind to investigate workplace breastfeeding support. The majority of the workplace sites were deprived of basic facilities to support mothers to combine breastfeeding with work such as breastfeeding breaks, lactation room, nursery for childcare, breast milk pump, refrigerator and provision of lighter job.

4.7 Recommendation

1. Combined workplace interventions are essential at the level of employer, workplace and mother in Pakistan to enable sustained breastfeeding at workplaces among working mothers.
2. Based on the study results and in the light of international guidelines the policies for workplace breastfeeding facilities in Pakistan may be revised.
3. The study could serve as a baseline survey in particular settings; the follow up studies can be done after policies revival and running workplace lactation programs to see the impact of interventions on workplace breastfeeding facilities.
4. For further research mix methods starting from qualitative to quantitative at multiple workplaces (urban and rural) are required to get a clearer picture about workplace breastfeeding support in Pakistan.
5. Our findings give opportunity for further comparison researches to similar studies in the developed countries.

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6. Appendices

1.1. Invitation letter and consent form 1 (English)

Request for participation in a research project "Factors affecting breastfeeding practices in working women of Pakistan".

Background and purpose?

This is a request for you to participate in a research study that intends to assess workplace breastfeeding facilities provided to working mothers. Your important feedback will help us to understand the issues with regards to your workplace environment and this data is collected with the financial and technical support of the University of Oslo, Norway.

What does the study entail?

Working women with the youngest child between 03 months and 24 months of age, a questionnaire will be handover to you, the researcher or research assistant will explain the questionnaire where needed, the informed consent will be taken from you, but in case a person does not wish to participate, he or she can withdraw consent to participate in the study at any time and without stating any particular reason. Refer chapter A for details.

Potential advantages and disadvantages?

The results of the research study will help government and policy makers to understand and resolve the workplace issues affecting breastfeeding practices in working women. The questionnaire will take 5 to 10 minutes of your valuable time.

What will happen to samples and information about you?

There will be no personal data or any sensitive data pertains to you or your workplace. The data that are registered about your workplace will only be used in accordance with the purpose of the study as described above.

Voluntary participation

Participation in the study is voluntary. You can withdraw your consent to participate in the study at any time and without stating any particular reason. If you wish to participate, sign or agree the declaration of consent on the final page. If you later on wish to withdraw your consent or have questions concerning the study, you may contact: Jamil Soomro.

Phone: +92 -3332855283

Further information on the study can be found in Chapter A – Further elaboration of what the study entails.

Chapter A – Further elaboration of what the study entails

Criteria for participation: All the working women of age between 18 to 45 years with a child aged between 03 three months and 24 months, who returned to work at the time of the interview, giving free informed consent will be enrolled for the study.

Background information about the study: Many mothers who return to work give up breastfeeding partially or completely because they do not have appropriate time, or a place to breastfeed, express and store their milk. Mothers need a safe, clean and private place in or near their workplace to continue breastfeeding. Supporting environment at work, such as paid maternity leave, part time work engagements, facilities for expressing and storing breast milk, and breastfeeding breaks, can help.

This project is designed to assess the factors affecting breastfeeding practices among employed mothers at the workplaces, the research findings will help the government and policy makers to understand, facilitate and develop uniform policy for workplace breastfeeding facilities. Therefore, your feedback is very much important for us.

You can withdraw consent to participate in the study at any time and without stating any particular reason.

A questionnaire will be handed over to eligible subjects, by female assistant, she will explain the questionnaire where needed. Filling in the questionnaire will take 5 to 10 minutes.

Information about the outcome of the study:

The results of the research study will help government and policy makers to understand and resolve the workplace issues affecting breastfeeding practices in working women.

Privacy and Confidentiality: There will be no personal data or any sensitive data pertains to you or your workplace.

Right to access and right to delete your data:

If you agree to participate in the study, you are entitled to have access to what information is registered about you. You are further entitled to correct any mistakes in the information we have registered. If you withdraw from the study, you are entitled to demand that the collected and data are deleted, unless the data have already been incorporated into analyses or used in scientific publications.

Organizational Support: This data is collected with the financial and technical support of university of Oslo, Norway.

CONSENT FOR PARTICIPATION IN THE STUDY

I am willing to participate in the study.

(Signed by the project participant, date)

Proxy consent when this is warranted, either in addition to or in place of the participant's consent.

(Signed by representative, date)

1.2. Invitation letter and consent form 1 (Urdu)

ایک تحقیقی منصوبے میں شمولیت کے لئے درخواست

"پاکستان کی خواتین میں چھاتی سے دودھ پلانا معمولات متاثر عوامل" پس منظر اور مقصد ہے؟

ہ آپکو اس تحقیق میں ہمارے ساتھ تعاون کی درخواست ہے، یہ تحقیق آپکو کو کام کی جگہ پر چھاتی سے دودھ پلانا کام ماؤں کے فراہم کردہ سہولیات کا جائزہ لینے کے لئے چاہتا ہے ایک تحقیقی مطالعہ میں شریک کرنے کے لئے ایک درخواست ہے۔ آپ کی اہم رائے ہمارے اپنے کام کی جگہ پر ماحول حوالے مسائل کو سمجھنے میں مدد ملے گی اور یہ ڈیٹا یونیورسٹی آف اوسلو، ناروے کے مالی اور تکنیکی معاونت کے ساتھ جمع کیا ہے

کیا یہ تحقیق ضروری نہیں؟

کام کردہ خواتین جن کے 3 ماہ - 24 ماہ کے بچے ہیں اک سوالنامہ مہیا کیا جائے گا، تحقیقی عملہ خود سوالنامہ واضح کرتا رہے گا جہاں وضاحت کی ضرورت ہوگی، آپ کی طرف سے معلومات لیتے رہینگے، اگرچہ کوئی بندہ

ممکنہ فوائد و نقصانات؟

تحقیقی مطالعہ کے نتائج حکومت اور پالیسی سازوں کو سمجھنے کے لئے مدد کرنے اور کام کرنے والی خواتین میں چھاتی سے دودھ پلانے کے طرز عمل کو متاثر کرنے والے کام کی جگہ کے مسائل حل کریں گے۔ سوالنامہ حل کرنے میں آپکے قیمتی وقت میں سے 5 سے 10 منٹ لگیں گے

آپکے فراہم کیے گئے نمونے اور معلومات کے ساتھ کیا ہوگا؟

کوئی ذاتی مداخلت نہیں ہوگی یا آپ یا اپنے کام کی جگہ کے لئے کسی بھی حساس ڈیٹا توثیق۔ مداخلت جو آپ کے کام کی جگہ کے بارے میں رجسٹرڈ ہیں صرف جیسا کہ اوپر بیان کیا اس تحقیق کا مقصد کے مطابق استعمال کیا جائے گا۔
رضاکارانہ طور پر شرکت۔

مطالعہ میں شرکت رضاکارانہ ہے۔ آپ کسی بھی وقت اور کسی خاص وجہ بتاتے ہوئے بغیر مطالعے کی وجہ سے اپنی رضامندی واپس لے سکتے ہیں۔ آپ شرکت کرنا چاہتے ہیں تو، شرکت کریں یا آخری صفحے پر رضامندی کا اعلامیہ اتفاق کرتا ہوں۔

آپ بعد میں اپنی رضامندی پر ڈیٹا واپس لے سکتے ہیں یا مطالعہ کے بارے میں مزید سوالات تو، آپ رابطہ کر سکتے ہیں:

92-3332855283+ جمیل سومرو، فون

میں پایا جا سکتا ہے A اس تحقیق پر مزید معلومات مطالعہ دوڑانے سے مزید معلومات - باب

پہلا باب - اس تحقیق کے مزید محنت اور وضاحتیں

شمولیت کے لیے معیار: تمام کردہ خواتین جن کی عمریں 18 سے 45 سال کے درمیان جن کے 3 ماہ - 24 ماہ کے بچے ہیں، جو اپنی منظوری سے کام کے وقت انٹرویو دے کر مفت انفارم منظوری دین وہی فارم واپس مطالعہ کے لئے مندرج ہو جائے گا۔

اس تحقیق کے بارے میں پس منظر اور مزید معلومات: بہت سی مائیں جو کام پر واپس آنے کے اپنی چھاتی سے دودھ پلانے کو جزوی یا مکمل طور پر چھوڑ دیتی ہیں کیونکہ انکو مناسب وقت نہیں ملتا، یا دودھ پلانا، کے لیے ایک الگ با پردہ اور صاف جگہ کا نہیں ملتی۔ ماؤں کو الگ یا چھاتی سے دودھ پلانا جاری رکھنے کے لیے اپنے کام کی جگہ کے قریب میں ایک محفوظ، صاف اور نجی جگہ کی ضرورت ہے۔ کام کرنے ک دوران ماؤں کو جزو وقتی کام کی مشغولیت، چھاتی سے دودھ پلانا یا ذخیرہ کرنے کے لئے سہولیات جیسے کہ ادائیگی کے ماحول کی حمایت کرنے میں مدد کر سکتے ہیں یہ منصوبہ ہم نے ملازمتوں میں ملازم ماؤں کے درمیان چھاتی سے دودھ پلانے کے معمولات کو متاثر کر رہا ان عوامل کا جائزہ لینے کے لئے ڈیزائن کیا گیا ہے،۔ تحقیق کے نتائج کو سمجھیں، سہولت اور کام کی جگہ پر ماں کے دودھ کی سہولیات کے لئے یکساں پالیسی کی ترقی کے لیے حکومت اور پالیسی سازوں کو مدد ملے گی۔ لہذا، آپ کی رائے ہمارے لئے بہت اہم ہے آپ کی منظوری سے انخلا کر سکتے ہیں کسی بھی وقت اور کسی خاص وجہ کے بتائے بغیر اس تحقیق میں حصہ لینے کے لئے۔

ایک سوالنامہ اہل مضامین، خاتون اسسٹنٹ کی طرف سے حوالے ہو گا، وہ سوالنامے سمجھا جائے گا جہاں کی ضرورت ہے۔ سوالنامے میں بھرنے سے 5 سے 10 منٹ لگیں گے۔

اس تحقیق کے نتائج کے بارے میں معلومات: تحقیقی مطالعہ کے نتائج سمجھ کر کام خواتین میں چھاتی سے دودھ پلانا معمولات متاثر کر رہا ہے کام کی جگہ پر مسائل کے حل کیلئے حکومت اور پالیسی سازوں کو مدد ملے گی۔

تحفظ اور رازداری: آپ یا آپکے کام کی جگہ کے لئے کسی بھی حساس ڈیٹا توثق یا کوئی ذاتی مداخلت نہیں ہو گی۔

رسائی کا حق اور حق کو آپ کے ڈیٹا کو حذف کرنے کے لئے: اگر آپ اس تحقیق میں حصہ لینے کے لئے اتفاق کرتے ہوں، ہو سکتا ہے بعد میں آپ کسی بھی معلومات جو آپ کے بارے میں رجسٹرڈ ہے تک رسائی حاصل کرنے کی حقدار ہیں۔ آپ مزید معلومات جو رجسٹرڈ ہے میں کسی غلطی کو صحیح کرنے کے لیے کے مستحق ہیں۔ آپ مطالعہ سے دستبردار ہونا چاہتے ہیں تو آپ اس کا مطالبہ کرنے کے اہل ہیں، اس سے پہلے کے ڈیٹا تجزیے میں شامل کر لیا یا سائنسی مطبوعات میں استعمال کیا گیا ہے جب تک کے اعداد و شمار، خارج کر سکتے ہیں۔

انتظامیہ کی حمایت: یہ ڈیٹا یونیورسٹی آف اوسلو، ناروے کے مالی اور تکنیکی معاونت کے ساتھ جمع کیا ہے۔

اس تحقیق میں شرکت کے لئے منظوری

میں اس تحقیق میں حصہ لینے کے لئے تیار ہوں

(منصوبہ شریک کی طرف سے دستخط کئے، تاریخ)

اس کے لئے یا شریک کی رضامندی کی جگہ میں اس کے علاوہ میں یا تو، ضرورت ہے جب پراکسی رضامندی

(نمائندہ کی طرف سے دستخط کئے، تاریخ)

6.3 Questionnaire (English)

Code:

Site Level: a) National b) Multinational

Job site: a) Bank b) School c) Hospital d) Factory

Type of Employer: a) Government b) Private c) Self Employed

A- To be filled by the employer

Q: 1: Do you provide breastfeeding mothers with flexible time at the work place to express breast milk?

a) Yes b) No

Q: 2: Do you have a separate room in your workplace for working mothers to express breast milk?

a) Yes b) No

Q: 3: Do you have a separate refrigerator at your work place for working mothers to store their milk?

a) Yes b) No

Q: 4: Do you provide mothers with breast pump at your work place to express breast milk?

a) Yes b) No

Q:5 Do you have a nursery available for childcare at your workplace?

a) Yes b) No

Q: 6 Do you provide maternity leave when it is due?

a) Yes b) No

Q: 7 Do you offer task adjustment or lighter job to working mothers during lactation period?

a) Yes b) No

Q: 8 Do you provide information regarding breastfeeding options for working mothers upon their return to work, after maternity leave?

a) Yes b) No

Code: Site Level: a) National b) Multinational

Job site: a) Bank b) School c) Hospital d) Factory

Type of Employer: a) Government b) Private c) Self Employed

B- To be filled by working Mother

Q: 1: Do you get time off or flexible time at the work place to express breast milk?

b) Yes b) No

Q: 2: Do you have a separate room at your workplace to express breast milk?

b) Yes b) No

Q: 3: Do you have a separate refrigerator at your work place to store the milk?

b) Yes b) No

Q: 4: Do you have a breast pump at your work place to express breast milk?

b) Yes b) No

Q: 5 Do you have a nursery available for childcare at your workplace?

b) Yes b) No

Q: 6 Do you get maternity leave when it is due?

b) Yes b) No

Q: 7 Do you get task adjustment or lighter job during lactation period?

b) Yes b) No

Q: 8 Do you get information regarding breastfeeding options by employer upon your return to work after maternity leave?

b) Yes b) No

Q: 9 Mention three important factors affecting breastfeeding practices, when it comes to work?

1.

2.

3.

سوئالنامہ

کوڈ نمبر..... . کام کی نویت : الف) نیشنل (ب) ملٹی نیشنل

کام کی جگہ: الف) بینک ب) اسکول س) ہسپتال د) فیکٹری

ادارہ: ایک) حکومت ب) نجی c) نفس ملازم

حصہ اول: ادارے کی طرف سے بھر جائے

سوال 1: کیا آپ دودھ پلاتی ماں کو بچے کو دودھ پلانے کا نئے وقت دیتے ہیں؟

الف) ہاں (ب) نہیں

سوال 2: کیا آپ دودھ پلاتی ماں کو علیحدہ کمرہ یا جگہ دیتے ہیں؟

الف) ہاں (ب) نہیں

سوال 3: کیا آپ کے ادارے میں دودھ پلاتی ماں کے لئے علیحدہ فرج (ریفریجریٹر) ہے؟

الف) ہاں (ب) نہیں

سوال 4: کیا آپ کا ادارہ دودھ پلاتی ماں کو دودھ نکلنے کے لئے چھاتی کے پمپ مہیا کرتا ہے؟

الف) ہاں (ب) نہیں

سوال 5: کیا آپ کے ادارے میں چھوٹے بچوں کے لئے نرسری موجود ہے؟

الف) ہاں (ب) نہیں

سوال 6: کیا آپ کا ادارہ مقررہ وقت پر زچگی کی چھٹیاں دیتا ہے؟

الف) ہاں (ب) نہیں

سوال 7: کیا آپ دودھ پلاتی ماں کو کام کا کم درجہ یا ایڈجسٹمنٹ کرنے کی پیشکش کرتے ہیں؟

الف) ہاں (ب) نہیں

سوال 8: کیا آپ کا ادارہ دودھ پلاتی ماں کو دودھ پلانے کی معلومات فراہم کرتا ہے جب وہ زچگی کی چھٹیاں پوری کر کے واپس لوٹتی ہے؟

الف) ہاں (ب) نہیں

کوڈ نمبر.....

کام کی نوبت الف) نیشنل

ب) ملٹی نیشنل

کام کی جگہ: الف) بینک ب) اسکول س) ہسپتال د) فیکٹری

ادارہ: ایک) حکومت ب) نجی س) نفس ملازم

حصہ ب: ملازم کی طرف سے بھر جائے

سوال 1: کیا آپ کو بچے کو دودھ پلانے کا لئے وقت دیتے ہیں؟

الف) ہاں ب) نہیں

سوال 2: کیا آپ کو علیحدہ کمرہ یا جگہ دیتے ہیں؟

الف) ہاں ب) نہیں

سوال 3: کیا آپ کے ادارے میں دودھ پلاتی ماں کے لئے علیحدہ فرج (ریفریجریٹر) ہے؟

الف) ہاں ب) نہیں

سوال 4: کیا آپ کا ادارہ دودھ پلاتی ماں کو دودھ نکالنے کے لئے چھاتی کے پمپ مہیا کرتا ہے؟

الف) ہاں ب) نہیں

سوال 5: کیا آپ کے ادارے میں چھوٹے بچوں کے لئے نرسری موجود ہے؟

الف) ہاں ب) نہیں

سوال 6: کیا آپ کا ادارہ مقررہ وقت پر زچگی کی چھٹیاں دیتا ہے؟

الف) ہاں ب) نہیں

سوال 7: کیا آپ کو دودھ پلانے کے دوران کام کا کم درجہ یا ایڈجسٹمنٹ کرنے کی پیشکش کرتے ہیں؟

الف) ہاں ب) نہیں

سوال 8: کیا آپ کا ادارہ دودھ پلاتی ماں کو دودھ پلانے کی معلومات فراہم کرتا ہے جب وہ زچگی کی چھٹیاں پوری کر کے واپس لوٹتی ہے؟

الف) ہاں ب) نہیں

سوال 9: جب آپ کام کرنے کے لئے آتی ہیں تو، دودھ پلانے کے طرز عمل کو متاثر کرنے والے تین اہم عوامل کا ذکر کریں؟
