EXCLUSIVE BREASTFEEDING DISCONTINUATION AND ASSOCIATED FACTORS AMONG EMPLOYED MOTHERS IN DUKEM TOWN, EAST ETHIOPIA, 2015

BY: TOLOSSA KEBEDE (BSc.)

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Jimma, Ethiopia

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BY: TOLOSSA KEBEDE (BSc.)

ADVISORS:

1. PROF. KIFLE WOLDEMICHAEL (MD,MPH)
2. HABTEMU JARSO (BSc, MPHE)

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Abstract

Background: Employed women tend to exclusively breast-feed less than non-employed women. Returning to work is one of the main reasons why employed women discontinue breastfeeding. Enabling women to continue breastfeeding at work has benefits for the infant, employee and organization. However, little is known about employed mothers' views, intention, experiences and barriers of breastfeeding from employment perspective and organizational support.

Objective: To assess exclusive breastfeeding discontinuation and associated factors among employed mothers in Dukem, Ethiopia.

Methods: Cross-sectional study was conducted from February 28 to March 28, 2015. A total of 313 permanently employed women was randomly selected and interviewed. Information regarding participants' work-related factors, health service and socio-demographic factors was collected by face to face interview using structured questionnaire. Data was checked for its completeness, entered into EpiData3.1 and exported to SPSS version 20 for analysis. Data analysis was done using logistic regression. Strength of association was measured using odds ratio with 95% confidence intervals.

Results: Prevalence of exclusively breastfeed discontinuation was 76%. Type of organization (AOR=2.1,95%CI(1,4.3)), period of return to work from maternity leave (AOR=9.3, 95%CI(3.8, 23)), Duration of work per day (AOR=3.5 ,95%CI**(**1.7, 11)**),** flexible work time(AOR=3,95%CI(1.2,7.5)),Pumping breast milk(AOR=4.3,95%CI**(**1.7,11)), Lactation break (AOR=6.7, 95%CI**(**3, 14.5)) and far from child (AOR=3.1, 95%CI(3.1, 6.3)) were significantly associated with outcome variable in the final regression model.

Conclusion and Recommendation: Prevalence of exclusively breastfeeding discontinuation was much higher than the international and national expectation. The Administration of organization should work on supporting exclusive breastfeeding giving special emphasis to employed mothers who have child less than six months. The government should also consider revising the legislation of the two month postpartum maternity leave to reduce employed mother's exclusive breastfeeding discontinuation within six months.

Key words: Employed women, Exclusive breastfeeding discontinuation, Dukem town

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Acronyms

ANC Antenatal care

AOR Adjusted Odds Ratio

BF Breastfeeding

COR Crude odds ratio

EBF Exclusive Breastfeeding

EDHS Ethiopian Demographic Health Survey

EHNRI Ethiopian Health and Nutrition Research Institute

ERB Ethical Review Board

HSDP Health Service Development Program

ILO International Labour Organization

IYCF Infant and Young Child Feeding

PNC Postnatal care

SPSS Statistical package for social sciences

SRS Simple random sampling

SVD Spontaneous vaginal delivery

TBA Traditional birth attendant

UNICEF United Nations Children's Funds

WHO World Health Organization

Chapter One

1. Introduction

1.1 Background

Breastfeeding is important to both maternal and child health. The World Health Organization recommends six months of exclusive breastfeeding and continued breastfeeding to two years and beyond. Supporting women to breastfeed exclusively for the first six months of a child's life, and to continue breastfeeding along with safe and nutritious foods for mother and child until at least age two, is a crucial nutrition intervention.

It protects against common and widespread childhood diseases such as diarrhea and pneumonia, and may also have longer-term benefits such as lowering mean blood pressure and cholesterol, and reducing the prevalence of obesity and type-2 diabetes. Breastfeeding also contributes to the health of mothers; it helps to space children, reduces the risk of ovarian and breast cancer, risk of fatal postpartum hemorrhage. Frequent and exclusive breastfeeding contributes to a delay in the return of fertility and helps protect women against anemia by conserving iron. Breastfeeding provides frequent interaction between mother and infant, fostering emotional bonds, a sense of security, and stimulus to the baby’s developing brain (1).

Maternal employment is one of the risk factors for discontinuing breastfeeding. A study conducted by Schwartz has shown that the mother’s return to work was responsible for 58% of early weaning in Unit State (2).

Workplaces can be an ideal setting for implementing policies and practices to promote and support the continuation and longer duration of breastfeeding. Workplaces and employers have a crucial role in providing supportive workplace environments, appropriate facilities, strong management support, and relevant policies in order for women to feel adequately supported and encouraged to continue to breastfeed when returning to work(3).

Low breastfeeding rates translate directly into higher illness and disease, with substantial health system cost effects. Poor maternal or child health may also affect employers and national productivity growth through parental absenteeism if breastfeeding is not provided for(4). Therefore, enabling women to continue breastfeeding at work has benefits for the infant, employee and organization.

Breastfeeding should be initiated within the first hour after birth and over the following weeks a routine needs to be established. For the employed mothers the longer the maternity leave, the more

settled the routine. Returning to work after giving birth is a major challenge for a woman and her family. Returning to work while still breastfeeding is even more of a challenge and it is one of the main reasons that employed women discontinue breastfeeding(5). For example, in the United States women working fulltime start breastfeeding in hospital at about the same rate as all mothers, but after six months they are less than half as likely to still be breastfeeding as mothers who do not return to work. Even women who work part-time breastfeed for nearly nine weeks longer than their full-time counterparts(6).

1.2 Statement of the problem

The challenge of employed mothers comes across in trying to balance the two roles (working and breastfeeding) in the workplace. Young women today cannot afford to stay at home long because they also contribute to the income of the family(7). Within two to three months after delivery they are expected to go back to work and to perform like any other employee in the workplace. Working from home is almost impossible to some of the women because of the nature of their work. On the other hand, the workplace is usually far from home. This implies that it is difficult for them to breastfeed from home during tea or lunch breaks. The workplace on the other hand does not provide opportunities for mothers to breastfeed. As a result breastfeeding becomes a difficult responsibility for women.

A number of factors impact the duration of breastfeeding once employed women return to their work. They include: working fulltime (as opposed to working part-time); period of returning to work after give birth/maternity leave; shift working, lack of lactation break and flexible work time ,factors such as travel time and distance to work, employment conditions and workplace arrangements; support at the workplace in the form of breastfeeding breaks, breastfeeding facilities, and the attitudes of employer's and colleagues towards breastfeeding workers; support at home and in the community (8).

During the first six months of child, reduction in the frequency of breastfeeding due to a return to work and others barriers can lower milk production. An insufficient milk supply is frequently reported by mothers as a reason for discontinuing breastfeeding, especially when going back to work(9). For a woman who is at work for more than a couple of hours per day, if she cannot take breaks to breastfeed or express, her supply will diminish and she may no longer be able to produce enough milk for her baby. This is because breast-milk production depends on adequate and regular stimulation of the breasts. The baby's suckling at the breast stimulates a hormonal response that

activates the production and release of milk. It is a true supply-and-demand relationship: the more milk removed from the breast, the more milk produced (6,9).

Since many women discontinued breastfeeding due to barriers or problems that can be addressed through lactation management , stakeholders (i.e. government, trade unions and employers) need to better understand the importance of breastfeeding, as their support is central to enabling women to follow the recommendations of the WHO/UNICEF Global Strategy on IYCF (8).

The Ethiopian government has endorsed and implemented different policies and programs to reduce infant and child mortality and morbidity in the country. One of them is the Innocent declaration which is aimed at improving, child survival through protecting, promoting and supporting breastfeeding. Consequently, under five mortality has declined dramatically from 166 deaths from 1000 live births in 2000 to 88 deaths per 1000 live births in 2011(10)(11). Still it's high mortality in the world.

Workplaces and employers have a crucial role in providing supportive workplace environment, appropriate facilities, lactation break and information on relevant policies in order for women to feel adequately supported and encouraged to continue to breastfeed when returning to work. However, little is known about employed mothers' views, experiences , barriers of breastfeeding from employment perspective and organizational support. In our country there is no breastfeeding policy at workplace and no lactation rooms at workplace to continue breastfeeding by mothers after return to work from maternity leave. There is no study on breastfeeding discontinuation and associated factors among employed mothers in our country. Therefore, this study determines the prevalence of breastfeeding discontinuation and associated factors among employed mothers in Dukem town, Ethiopia.

Chapter Two

2. Literature review

According to WHO exclusive breastfeeding means 'that the infant receives only breast milk. No other liquids or solids are given – not even water – with the exception of oral rehydration solution, or drops/syrups of vitamins, minerals or medicines'. Breast milk is the natural and original first food and vaccine for babies, it provides all the energy and nutrients that the infant needs for the first six months of life, and it continues to provide up to half or more of a child's nutritional needs during the second half of the first year, and up to one-third during the second year of life(1). It also provides antibodies that help protect infants from common childhood illnesses.

To enable mothers to establish and continue exclusive breastfeeding for 6 months, WHO and UNICEF recommend: Initiation of breastfeeding within the first hour of life, Exclusive breastfeeding – that is the infant only receives breast milk without any additional food or drink, not even water, Breastfeeding on demand – that is as often as the child wants, day and night, No use of bottles, teats or pacifiers.

Epidemiology of Breastfeeding

Despite the recommendations of WHO EBF was 80 %, worldwide, only 39 % of newborns are put to the breast within one hour of birth, and only 37 % of infants less than six months of age are exclusively breastfeed in 2008 (12.13). It is estimated that sub-optimal breastfeeding, especially non-exclusive breastfeeding in the first 6 months of life, results in 1.4 million deaths and 10% of the disease burden in children younger than 5 years of age (14).

The practice of exclusive breastfeeding in some countries in sub-Saharan Africa is undesirable in comparison to the optimum period of six months set forth by WHO and UNICEF(1). Some countries with low practice of exclusive breastfeeding rates include Chad (2%), Cote d'Ivoire (4%), Gabon (6%), and Sierra Leone (8%) (12). Other countries in the region which have achieved high levels of exclusive breastfeeding include Benin (70%), and Rwanda (85%) (15,16). Even if breastfeeding is almost universal in Ethiopia, exclusive breastfeeding during the first six months after birth is not widely practiced in the country(10). Currently, 52% of under five children receive exclusive breastfeeding with a median duration of 4.2 months. However, there is a slight improvement from the EDHS 2005 (49%); it is still below the targeted 70% in HSDP IV(11).

Socio-demographic/economic characteristics and breastfeeding

Attitude of working mothers to EBF is influenced by demographic and socio-economic factors. Such as age, tribe, religion, occupation, marital status, educational status, health status, socio-economic status, attendance at anti-natal and postnatal clinics, number of children and diverse opinions have affected the attitudes of working mothers towards EBF.

If a mother works on a short-term informal basis, or is an agency worker, she may not qualify for maternity leave, and if she is on a very low income, she may not qualify for Statutory Maternity Pay. This may act as an incentive to stop breastfeeding and return to work as soon as possible(17). Women on lower incomes are less likely to start or continue to breastfeed and less likely to continue breastfeeding after they return to work(18).

The low prevalence of EBF in most developing countries including Ethiopia is attributed to various maternal and child factors such as place of residence, sex and age of the child, mother working outside home, type of occupation, maternal age and educational level, access to mass media and economical status were studied by several researchers(19).

Governments around the world have responded to the potential conflict of maternal paid employment and breastfeeding in three main ways. Firstly, since at least 1919, they have regulated employment conditions to provide maternity protection, such as through requiring employers to provide maternity leave (20).

The WHO and UNICEF have initiated the Global Strategy for Infant and Young Child Feeding. The strategy highlights the priority actions, duties and responsibilities of various organizations and calls for governments to pass imaginative legislation to protect the rights of working women to breastfeed, and to establish the means to enforce these policies, which are consistent with international labor standards (10).

The most recent International Labour Organization (ILO) convention regarding maternity protection (C183) contains minimum standards for lactation breaks and paid maternity leave (21). It recommends a right for women to have a minimum of 14 weeks' paid maternity leave and one or more daily lactation breaks or a daily reduction of hours of work to breastfeed. It also recommends the establishment of facilities for nursing in adequate hygienic conditions at or near the workplace(22).

Employed Mothers and Exclusive Breastfeeding challenges

International research has shown lower rates of breastfeeding among employed than non-employed mothers, especially those returning before breastfeeding is established or to full-time employment (self-employment and part-time work hours affect breastfeeding less)(23). In the United States, a lack of post-partum leave leads to early cessation of breastfeeding, especially among women who are non-managerial employees, lack job flexibility or are experiencing high psychosocial distress (24). Different workplace strategies of improving breastfeeding are available including maternity leave provisions; flexible employment practices; breastfeeding breaks; and physical facilities such as private rooms and access to refrigeration.

Numerous studies have revealed that one of the barriers to breastfeeding is work related factors. With enlarged urbanization and industrialization, more and more women have joined the work force. An estimated 50% of women employed in the workplace are of reproductive age and return to work within one year of their infants' births (25).

Returning to work was one of the main reasons women discontinued breastfeeding, with 60 percent of women intending to breastfeed when they returned to work, but only 40 percent doing so. Support to combine breastfeeding and work came mainly from family and partners (74% and 83% respectively), with little perceived support from the organization (13%) and human resources (6%). Flexible work options and lactation breaks, as well as access to a private room, were identified as the main factors that facilitate breastfeeding at work (26).

Survey data from 10,530 women in Bristol, U.K., were analyzed to determine the association between breastfeeding and employment. Results showed that 79% (n=8,316) of the women initiated breastfeeding, and of the 4,837 mothers who planned to work postpartum, 83.5% initiated breastfeeding compared to 75.2% of the 5,693 mothers who did not plan to work postpartum (P=0.001). However, mothers who planned to return to work before six week postpartum were significantly ($P<0.05$) less likely to initiate breastfeeding compared to mothers who were not planning to return to work (27).

Type of work and hours of work have also been shown to influence breastfeeding (28). For example, African-American women and white women returning to professional jobs breastfed longer compared to breastfeeding mothers in clerical jobs (29,30).

Planning to be employed postpartum or being employed fulltime decreased breastfeeding initiation and duration (31), while women working part-time increased breastfeeding initiation and duration as compared to women working full-time (32).

In many developing countries, work force participation by women in the childbearing years has increased rapidly. Social and economic changes present new challenges for women attempting to combine their roles as workers and mothers. Employed mothers perceived some contradictory messages on breastfeeding and most of them preferred to leave work after birth to exclusively care of their babies and others wished to have more institutional support (33).

Working does not necessarily have to lead to lower rates of breastfeeding (34). The quantity and nutritional quality of breast milk are not undermined by maternal work or activity, including vigorous exercise, and there is no indication that working women are less interested in breastfeeding than non-working women(34,35). Rather, it is the difficulty of continuing to breastfeed under the conditions experienced when they return to work that women most often cite as the reason for supplementary feeding or for weaning infants(36) A woman's ability to breastfeed is markedly reduced when she returns to work if breastfeeding breaks are not available, if quality infant care near her workplace is inaccessible or unaffordable, and if no facilities are available for pumping or storing milk(37).

Maternal and child health outcomes

If employers support breastfeeding in the workplace, women who continue to breastfeed miss less time from work because of baby-related illnesses, and are off work for shorter periods (38). They also gain from improved staff morale, increased loyalty and reduced recruitment costs

Previous research has suggested that infant health influences employee productivity through absenteeism (27). Such effects could occur directly, for example, due to children being unwell (therefore perhaps being excluded from their child care service), or hospitalised (and requiring parental attendance), as well as because of employees experiencing stress related to their family responsibilities, which could indirectly affect their productivity in the workplace. Hospitalization of an infant, for example, is likely to be a major problem for a mother at work, and could detract substantially from productivity.

Support from governmental programmes, health professionals, and education in schools is significant for the promotion of exclusive breastfeeding and for bringing about changes in person's behavior. Valuable educational efforts require knowledgeable health professionals to compel these efforts;

consequently, students majoring in health sciences such as public health, nutrition and home economics should be comprehensively educated and trained to support and advocate breastfeeding (10).

In Ethiopia, many women who are employed when they give birth return to the work by the time their children are two months old. Little is known about how these challenges affect breastfeeding choices and what factors contribute to discontinued early exclusive breastfeeding. So, this study aims to assess breastfeeding discontinuation and associated factors among employed mothers.

Significance of the study

Managers and health policy makers do not still fully appreciate the importance of breast-feeding. Presently, maternity leave is generally considered to be a privilege accorded to a working mother as an individual, and not particularly an expression of the full responsibility of the entire community to uphold the need for mothers to breast-feed their babies. The creation of a supportive environment at workplace is necessary so that breast-feeding can be continued and reinforced in harmony with other responsibilities, in and out of household(2). This study necessary for supporting and promoting breast feeding at workplace.

The country has to work towards the implementation of the ILO convention 183 (2000) to ensure that breastfeeding working mothers both in the formal and informal sectors are provided with supportive environment for exclusive breastfeeding (5). This baseline survey was conducted and assessed the factors that independently associated with discontinuation of breastfeeding among employed mothers. So improved legal support for all working mothers wishing to breastfeed at workplace was the important factor to reduce EBF discontinuation .This study also identifies work related factors that influence discontinuation of breastfeeding and aimed to provide input for decision makers during Policy formulation, Planning and Intervention. Additionally, this survey certainly provide a basis for future research.

Conceptual framework

The philosophical concerns, theories, Logic model and methodological approaches towards scientific inquiry that characterize a particular discipline. It is important to articulates the pathways by which an intervention is expected to cause the desired outcomes and provides evaluator with specific elements to assess.

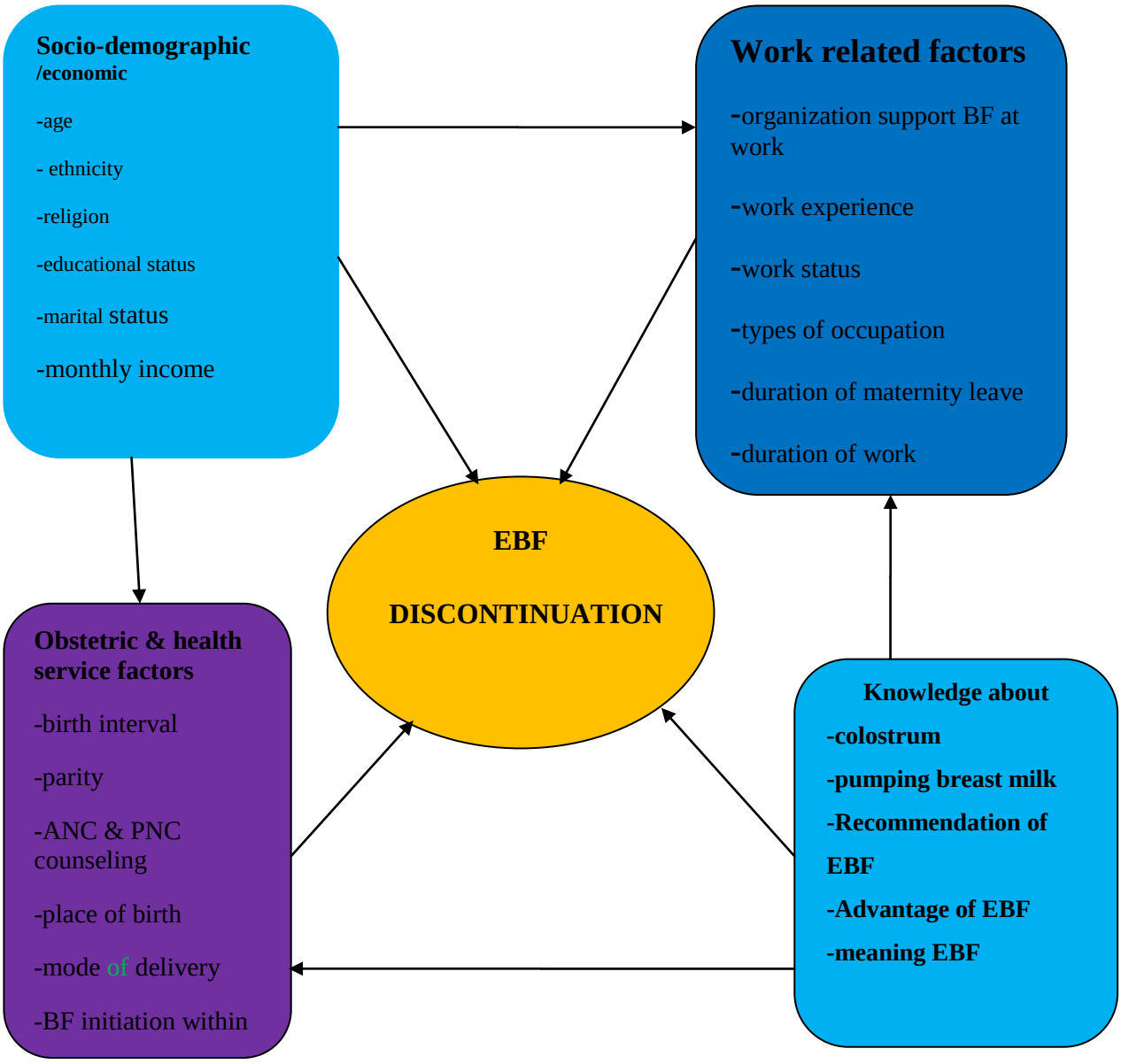

Figure 1: Schematic presentation of conceptual frame work developed by reviewing related literatures

Chapter Three

3. Objectives

3.1 General objective:

To assess exclusive breastfeeding discontinuation and associated factors among employed mothers in Dukem town East, Ethiopia,2015.

3.2 Specific objectives:

1. To determine prevalence of exclusive breastfeeding discontinuation.

2. To identify factors associated with exclusive breastfeeding discontinuation

Chapter Four

4. Methods

4.1. Study area

The study was conducted in Dukem town, Oromia Special Zone Surrounding Finfine of Oromia Regional State, which is located at a distance of 37 km from Addis Ababa in the East. Dukem is one of the reform towns in the region and has a city administration municipality and four kebeles. The estimated population of the town is 66,678. Out of this, 32,768 (49%) are males and 33,910 (51%) females. The area of Dukem town is 3,586 hector. Its altitude is 1800-2100 m above sea level. The town is mainly commercial centre. This makes it a special place for many people to migrate to. There are 43 manufacturing, 32 wholesale trades, 586 retail trades, 530 service trades, two governmental health centres and 5 private clinics; and 1 private general hospital in town. Dukem has economic linkages with the surrounding areas, towns, region and Addis Ababa. The estimated number of reproductive age women who are working in governmental and private sectors is around 8760 out of 22,500 workers(source; Dukem town Labour and Social affairs Office 2014 report) ,and the number of mothers that had child less than two years were 1122 from rapid survey conducted.

4.2. Study period

The study was conducted from Feb.28 - Mar.28, 2015

4.3. Study design

Community based cross-sectional study design was used

4.4. Population

4.4.1. Source Population

The source population was all employed mothers that are working in Governmental and Non-governmental organizations in Dukem town that had child less than two years prior to undertaking this study.

4.4.2 Study population

Selected permanently employed mothers that had child less than two years prior to undertaking this study and working in Dukem town governmental organization and private/fabric workers.

4.5.Inclusion and exclusion criteria

4.5.1 Inclusion criteria:

Mother who has completed her probation period.

Mother who gave birth not more than 2 years prior to the initiation of the study.

Mother with 6 and above months old child .

4.5.2 Exclusion criteria:

Mother with hearing or speaking difficulty (deaf or dumb)

Mother who has not completed her probation period in both government and private sectors

Mother who had infant with congenital anomalies or those who were unable to breastfeed due to illness.

4.6 Sample size and Sampling technique

4.6.1 Sample size

The required sample size for the study was determined using single-population proportion formula as follows:

$$\mathbf{n = \frac{(Z\ a/2)^2\ p\ (1\text{-}p)}{d^2} = \frac{(1.96)^2\ 0.5(1-\ 0.5)}{(0.05)^2} = 384}$$

Assumption:

P = estimate proportion of EBF discontinuation unknown, so use 50%

D = Margin of sampling error tolerated (desired precision)- 5% (0.05)

Zα/2= Critical value at 95% CI of certainty (1.96)

Since the source population (employed mothers who had child less than two years counted by rapid survey) were 1122 that is below 10,000 finite population correction is needed

$$nf = \left(\frac{n}{1+\frac{n}{N}}\right) = \left(\frac{384}{1+\frac{384}{1122}}\right) = 287$$

Where $\mathbf{n_f}$ = The sample size from a finite population(corrected sample size)

N= size of source population

n = uncorrected sample size

Finally by adding non response rate of 10% the total sample size was 313**.**

4.6.2 Sampling technique

Rapid survey was conducted before data collection to get exact number of employed mothers that had child less than two years and working in Dukem town. The survey template contain name of organization, office name of mothers who had child less than two year and age of child. As a result of rapid survey, total number of employed mothers with index child or mother that had child age between six months and two years were 1122 (452 from governmental sectors and 670 from fabric workers). This rapid survey's result was used as a sampling frame. Then, sample size required for the study was determined. Computer generating simple random sampling (SRS) technique was used to select employed mothers with their code, office name and child age. Then data was collected from 313 employed mothers who were working in both governmental sectors and private/fabric workers. It's presented diagrammatical as follows:

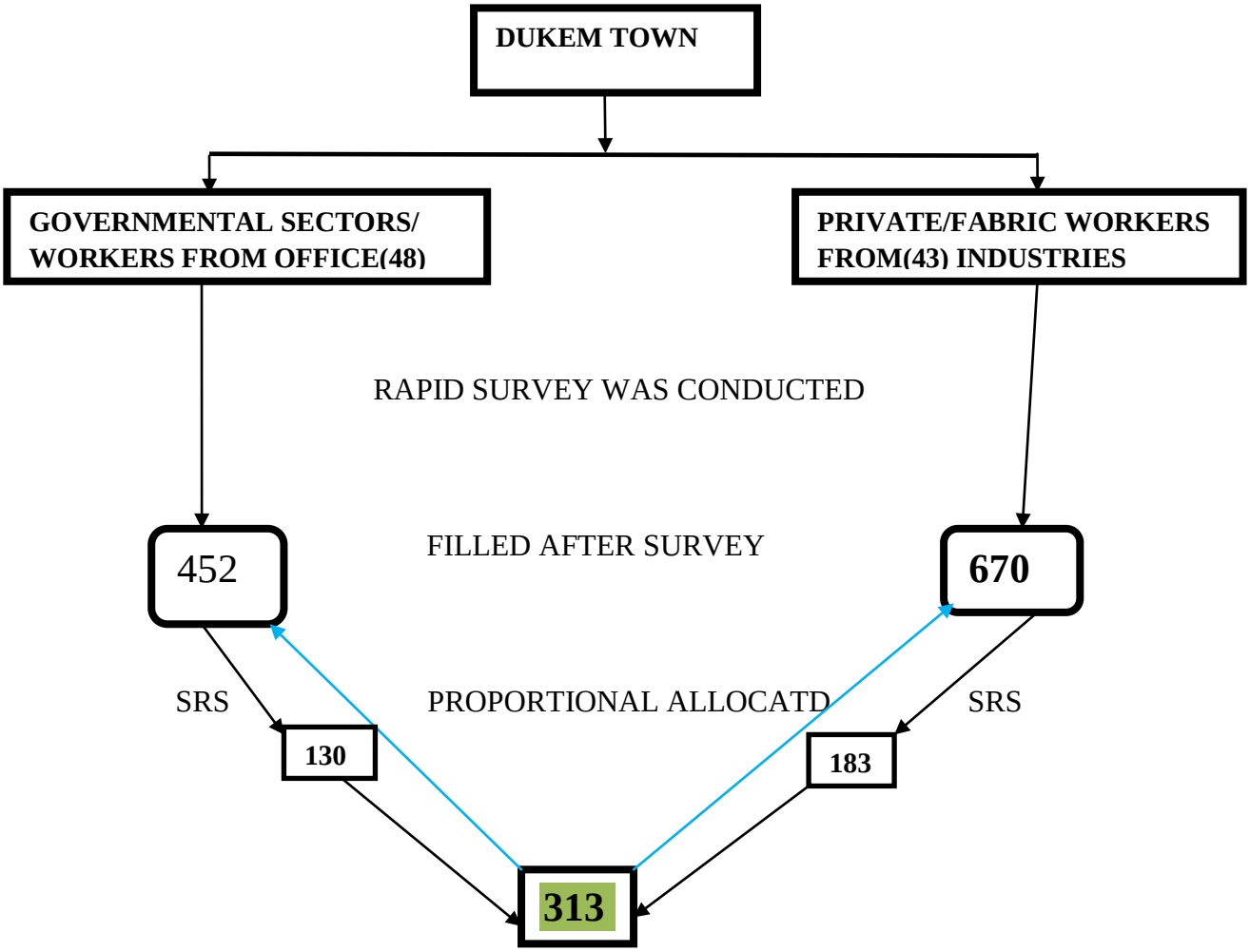

Figure 2:Schematic presentation of the sampling techniques

4.7 Study variables

4.7.1 Dependent variable

Exclusively breastfeeding discontinuation

4.7.2 Independent variables:-

Socio-demographic/economic:-Age, Ethnicity, Religion, Educational status, Marital status, Monthly income, Sex of child

Work related factors:- Organization support BF at work, work experience, work status, types of occupation, duration of maternity leave, duration of work, distance between workplace & child, presence of day-care centre near workplace, types of employment.

Knowledge: about EBF advantage, WHO recommendation of EBF, pumping breast milk

Obstetric and health services factors:- Birth interval, parity, ANC & PNC counseling, place of birth, mode of delivery, BF initiation within one hour

4.8 Data collection process/Measurements

Data was collected by using a validated questionnaire adapted from the WHO, EDHS and LINKAGE project which were designed to assess infant and young child feeding practices in developing countries including Ethiopia (11,14). In addition some questionnaire was developed by reviewing related literatures. The questionnaire contents has been included work related factors (20 items), socio-demographic/economic characteristics (10 items), breastfeeding information(15 items), obstetric and health services factors(12 items) and behavioral factors(16 items). The questionnaire was translated to local language (Afan Oromo). Data on exclusive breastfeeding discontinuation, socio-demographic/economic factors, work related factors such as reasonable lactation break, maternity leave, breastfeeding facilities in the work place, duration of work and work status, , obstetric and health service related factors including birth intervals, parity, antenatal care visits and pre/postnatal counseling was collected by face-to-face interview technique using structured questionnaire, from employed mothers of index children.

The data was collected by four diploma holder public health professionals after they were trained on general approach of data collection. Exclusive breastfeeding discontinuation was measured by asking employed mothers with child less than 2 years to provide information about the history of child exclusive breastfeeding discontinuation between age 0 and 6 months.

The prevalence of exclusive breastfeeding discontinuation was calculated as the number of infants between 0 and 6 months who had history of EBF discontinuation to the total number of children included in the study. Participants were also requested to answer “For how many months did they feed their child with breast-milk only and when discontinued EBF for the first time?’ This was used to calculate the median durations of exclusive breastfeeding discontinuation.

4.9 Data processing and analysis

Quantitative data was checked for its completeness, entered into EpiData3.1, edited, cleaned, coded and exported to SPSS version 20 for analysis. Descriptive analysis was performed and results presented by tables, graphs and charts. Chi-square test was performed to check adequacy of cells before performing logistic regression. Bivariate analysis was run using logistic regression to identify candidate variables for multivariable analysis. Variables with p-value ≤ 0.25 in bivariate logistic regression were considered as candidates for multivariable logistic regression. Multivariable logistic regression was performed using backward likelihood ratio methods of variable selection to identify factors independently associated with outcome variable (i.e. discontinuation of EBF). Multivariate analysis was used to adjust the effects of potential confounding variables and show us independent effect of each independent variable. Strength of association was measured using odds ratio, and 95% confidence intervals. P-value ≤ 0.05 was considered statistically significant.

4.10 Data quality assurance

Four diploma holder data collectors and two supervisors who are public health professionals were recruited. Two days training was given for data collectors and supervisors on the purpose of the study, questionnaire, data collection methods, process of assigning study participants, and ethical concerns during data collection. Pre-testing of the questionnaire was conducted on 5% of the sample size in similar areas (Galan town) before the actual data collection . Close supervision of the data collection was carried out by the supervisors and investigators. Data was checked for its completeness by supervisors and investigator daily.

4.11 Ethical consideration

Ethical clearance was obtained from the Ethical review board (ERB) of the College of Health Sciences, Jimma University. After obtaining ethical approval, written permission was obtained from Dukem town health office and Dukem town administration Office, and verbal informed

consent was obtained from each study participant. The participants were informed about purpose of the study and requested to provide accurate & honest response. Anonymity & confidentiality of the information was maintained throughout the data collection process.

4.12 Dissemination plan

The findings of the study will be submitted to Jimma University, college of Health sciences, Department of Epidemiology. The report will also be submitted to concerned bodies including governmental and private/fabric sectors in Dukem town. Effort will be made to publish the findings in a peer reviewed scientific journal.

4.13 Operational definitions

Breastfeeding Discontinuation:-weaning breastfeeding child less than two years.

Breastfeeding at workplace:- working mother who had experiences of BF her index/recent child at workplace within six months of child age, whether the work environment has facility/convenient for breastfeeding or not.

Employed Mothers:-permanently employed mothers in governmental and non-governmental organization, who reported working for wages and had returned to work at the time of the interview.

EBF Discontinuation:- A child age less than 6 months who did not EBF according to WHO recommendation.

EBF:- Feeding only breast milk, and no other liquids or solids with the exception of oral rehydration solution, supplements or medicines to the child age less than 6 months since birth.

Far from child: If the time to reach from workplace to child is take more than 10 minutes on foot**.**

Flexible work time: Flexible working arrangements for lactating mothers which includes employment, job sharing, career break schemes, flexible hours, home-based or telework, flexible leave arrangements, leave without pay and the flexible use of annual leave.

Part-time work:- defined as less than 35 hours per week, or a maximum of 7 hours/day.

Permanently employed mother:- mother who has completed her probation period in both government and private sectors.

Reasonable Lactation Break:- break given to employed mothers at every work shift during the first 6 months after return to work.

Support for breastfeeding in the workplace:- includes several types of employee benefits, teaching employees about breastfeeding; allowing flexible scheduling to support milk expression during work; giving mothers options for returning to work, such as, part-time work, provide paid and unpaid lactation break , extended maternity leave; providing on-site or near-site child care and offering professional lactation management services.

Chapter five

5.1 Result

Socio-demographic and socio-economic characteristics of respondents

A total of 313 employed mothers sample were taken, giving a response rate of 100%. Of the total 313 participants, 64.4% were aged between 24 and 29 years (mean age: 27.1 ± 3.44 years). The majority of ethnic group were Oromo (90.4%).With regards to education of mothers, 50% had up to diploma level of education. Regarding to marital status, majority of the mothers, 290(92.6%) were married. Two hundred and twelve (68%) had only one child and 32% had two to four children. Of the total participants, 42.5% earns an average family monthly income of less than 2000.00 ETB as shown in (table -1).

Table 1: Socio-demographic characteristics of employed mothers in Dukem Town, February - March, 2015

Variable	Frequency n=313	Percent
Age(years)		
18-23	52	16.6
24-29	189	60.4
>=30	72	23.0
Ethnicity		
Oromo	283	90
Tigre	3	1.0
Amara	21	6.7
Others*	6	1.9
Marital status		
Single	4	1.3
Married	290	92.7
Divorced	17	5.4
Widowed	2	.6
Educational status mothers		
Secondary	62	19.8
Diploma	138	44.1
>=Degree	113	36.1

Variable	Frequency	Percent
Income		
<=500	4	1.3
501-1000	48	15.3
1001-1500	28	8.9
1501-2000	53	16.9
>2001	180	57.5
Religion		
Orthodox	141	45.0
Muslim	68	21.7
Protestant	83	26.5
Others**	21	6.7
Family size		
<=3 person/HH	171	54.6
>3 person/HH	142	45.4

*=Waleyita,Gurage and Sidama, **=Waqefata,Joba

The number of working mothers attending ANC and discontinued exclusive breastfeeding were 185 (75%). Most of mothers (82.3%) delivered their infants at health facility, however, only 25% of them exclusively breastfeeding within the first six months of children's age. Women who initiated breastfeeding more than one hour after delivery (79%) were more likely to discontinue exclusive breastfeeding their counter parts (75%). Upon PNC follow-up after delivery and obtained information/concealing on their obstetric and breastfeeding experiences were 103 (33%) and presented in Table 2.

Table 2: Obstetric & health service related factors of employed mothers in Dukem Town, February - March, 2015

		EBF discontinuation	
Variable	**Category**	**Yes**	**No**
ANC follow up	**Yes**	**185(75%)**	**62(25%)**
	No	**52(79%)**	**14(21%)**
Place of	**Health facility**	**202(75%)**	**68(25%)**
Delivery	**Home**	**35(81%)**	**8(19%)**
Delivery	**Health professional**	**202(75%)**	**68(25%)**
assistant	**Non-health professional**	**35(81%)**	**8(19%)**
Mode of	**SVD**	**216(76%)**	**70(24%)**
delivery	**Cesarean section**	**21(78%)**	**6(22%)**
PNC counseling	**Yes**	**73(71%)**	**30(29%)**
	No	**164(78%)**	**46(22%)**
Birth interval	**Primaparous**	**105(75%)**	**36(25%)**
	1-3 years	**92(79%)**	**25(21%)**
	>=3 years	**40(73%)**	**15(27%)**
Time of	**< 1 hours**	**171(75%)**	**58(25%)**
initiation	**>1 hours**	**66(79%)**	**18(21%)**

Fifty nine percent of study participants were employed in the private sectors/fabric and forty one percent of study participants were employed in governmental sectors. About 89% of participants, who had no flexible working time, had discontinued EBF. Only 9 (31%) of working mothers who return to work to work after four months of delivery, discontinued EBF while 20 (69%) did not discontinued and presented in table 3.

Table 3: Work-related factors and EBF discontinuation among employed mothers in Dukem Town, February-28 to March-28, 2015

		EBF discontinuation	
Variable	**Category**	**Yes**	**No**
Type of organization	**Governmental**	**80(61%)**	**50(39%)**
	Private/fabric workers	**157(86%)**	**26(14%)**
Flexible work time	**Yes**	**146(69%)**	**65(31%)**
	No	**91(89%)**	**11(11%)**
Child daycare	**Yes**	**104(78%)**	**29(22%)**
	No	**133(74%)**	**47(26%)**
Work experience	**<=5 years**	**152(79%)**	**40(21%)**
	>5 years	**85(70%)**	**36(30%)**
Duration of work per day	**Over-time**	**36(100%)**	**0(0%)**
	Full time	**178(81%)**	**42(19%)**
	Par-time	**23(40%)**	**34(60%)**
Period of return to work	**<=2 months**	**117(93%)**	**9(7%)**
	2-4 months	**111(70%)**	**47(30%)**
	>=4 months	**9(31%)**	**20(69%)**
BF at workplace	**Yes**	**18(51%)**	**17(49%)**
	No	**219(79%)**	**59(21%)**
Time to reach from workplace to child	**< 10 minutes**	**111(72%)**	**42(28%)**
	10-20 minutes	**78(78%)**	**22(22%)**
	20-30 minutes	**37(79%)**	**10(21%)**
	>30 minutes	**11(85%)**	**2(15%)**
Work over loaded	**Yes**	**197(78%)**	**55(22%)**
	No	**40(66%)**	**21(34%)**
Shift work	**Yes**	**59(92%)**	**5(8%)**
	No	**178(71%)**	**71(29%)**
Lactation break	**Yes**	**50(44%)**	**63(56%)**
	No	**187(93%)**	**13(7%)**

Knowledge related varaibles such as: knowledge of advantage of EBF,WHO recommendation, role of husband, impact of early exclusively breast feeding discontinuation on child, pumping breastmilk, awareness of organization police, best food for child less than six months, for how long EBF is sufficient for child, meaning of EBF, initiation breastfeeding and knowledge of colostrum were categorized and analyzed. The mean of knowledge category varaible computed was used as cut point of knowledgeable and not-knowledgeable.

Working mothers had good knowledge (64%) towards breastfeeding and the EBF discontinuation was (74%) among those knowledgeable. However, there was no association with outcome variable in bavairate analysis.

Exclusively breastfeeding discontinuation status

As this study indicates, 76% of employed mothers had discontinued exclusively breastfeeding within six month of child age. Among those who discontinued EBF, 19.4% were within three months and 80.6% discontinued between three to six months. At the study time, 277(88%) study participants were currently breastfeeding and 36(12%) study participants had weaning breastfeeding completely.

Factors associated with EBF Discontinuation

Section 1: Bivariate analysis

Bivariate logistic regression was conducted for all variables listed in (table-5) and maternal educational level (COR=3.68, 95%CI(1.47,9.23)), sex of child (COR=1.2, 95%CI(1.01,2.88)), type of organization (COR=3.8,95%CI(2.2,6.5)), period of return to work from maternity leave (COR=7.3,95%CI(3.5,15.2)), reasonable lactation break (COR=8.7,95%CI(4.8,15.9)**,** Intention to return to work (COR=1.3, 95%CI(1.7,5.1), duration of work per day (COR=7.5,95%CI(4,17)), flexible work time(COR=3.7,95%CI(1.8,7.3)),shift work(COR=4.7,95%CI(1.8,12.2)),far from child (COR=2.15,95%CI(1.27,3.63)), Pumping breast milk(COR=3,95%CI(1.5,5.8)) and BF at workplace (COR=.29,95%CI(.29,.59)) variables were found to be significantly associated at P=0.25 with the outcome variable(table -4)**.**

Table 4: Factors associated with of EBF Discontinuation among employed mothers in Dukem Town, February-March, 2015 , using bivariate logistic regression analysis model

Variable	EBF discontinuation		COR(95% CI)	P-value
	Yes	No		
Educational status of mother				
Secondary	56(90%)	6(10%)	3.68(1.47,9.23)	.006
Diploma	99(72%)	39(28)	3.53 (1.38,9.01)	.008
Degree & above	82(73%)	31(27)	1	
Sex of child				
Male	106(71%)	44(29%)	1	
Female	131(80%)	32(20%)	1.2 (1.01,2.88)	.047
Place of delivery				
Health facility	202(75%)	68(25%)	**.68(.3,1.54)**	**.35**
Home	35(81%)	8(19%)	**1**	
Delivery assistant				
Health professional	202(75%)	68(25%)	**.67(.3,1.54)**	**.35**
Non-health professional	35(81%)	8(19%)	**1**	
Mode of delivery				**.79**
SVD	216(76%)	70(24%)	**.88(.34,2.3)**	
Cesarean section	21(78%)	6(22%)	**1**	
PNC counseling				
Yes	73(71%)	30(29%)	**.68(4,1.2)**	**.26**
No	164(78%)	46(22%)	**1**	
Birth interval				
Primaparous	105(75%)	36(25%)	**.91(.45,1.8)**	**.80**
1-3 years	92(79%)	25(21%)	**.73(.35,1.5)**	**.40**
>=3 years	40(73%)	15(27%)	**1**	
Time of initiation BF				
< 1 hours	171(75%)	58(25%)	**.8(.44,1.5)**	**.47**
>1 hours	66(79%)	18(21%)	**1**	
Awareness of organizational police				
Yes	177(75%)	59(25%)	.85(.46,1.6)	.61
No	60(78%)	17(22%)	1	

Child daycare				
Yes	**104(78%)**	**29(22%)**	**.8(.59,1.2)**	**.29**
No	**133(74%)**	**47(26%)**	**1**	
Work experience				
<=5 years	**152(79%)**	**40(21%)**	**1.6(.95,2.7)**	**.271**
>5 years	**85(70%)**	**36(30%)**	**1**	
Work over load				
Yes	**197(78%)**	**55(22%)**	**2(1.01,3.5)**	**.261**
No	**40(66%)**	**21(34%)**	**1**	
Organization				
government	**80(62%)**	**50(38%)**	3.8(2.2,6.5)	**.000**
private	**157(86%)**	**26(14%)**	**1**	
Period returned to work				
<=2 months	**117(93%)**	**9(7%)**	**7.3(3.5, 15.2)**	**.000**
> 2 months	**120(64%)**	**67(36)**	**1**	
Duration of work per day				
Full time	214(84%)	42(16%)	7.5 (4,14)	.000
Par-time	23(40%)	34(60%)	1	
Flexible work time				
Yes	**146(69%)**	**65(31%)**	**3.7 (1.8, 7.3)**	**.001**
No	**91(89%)**	**11(11%)**	**1**	
Lactation break				
Yes	**50(44%)**	**63(66%)**	**.06 (.03,.11)**	**.000**
No	**187(94%)**	**13(6%)**	**1**	
Shift work				
Yes	**59(92%)**	**5(8%)**	**4.71(1.8,12.2)**	**.021**
No	**178(71%)**	**71(29%)**	**1**	
Far from child				
Yes	**159(81%)**	**37(19%)**	**2.15(1.27,3.63)**	**.004**
No	**78(67%)**	**39(33%)**	**1**	
BF at workplace				
Yes	**18(51%)**	**17(49%)**	**.29 (.34,.95)**	**.020**
No	**219(79%)**	**59(21%)**	**1**	
Pumping breast milk				
Yes	**159(71%)**	**65(29%)**	**1**	
No	**78(88%)**	**11(12%)**	**3 (1.5, 5.8)**	**.000**
Intention to return to work				
Yes	**195(77%)**	**59(23%)**	**13 (1.7, 51)**	**.087**
No	**42(71%)**	**17(29%)**	**1**	

Section 2: Multivariable analysis

Multivariable logistic regression was conducted for variables with P<0.25 in the bivariate analysis to identify variables independently associated with exclusive breastfeeding discontinuation. Type of organization(AOR=2.1, 95%CI (1, 4.3)), period of return to work from maternity leave(AOR=9.3, 95%CI (3.8,23)), Duration of work per day (AOR=3.5,95%CI**(**1.7,11)**),** flexible work time(AOR=3, 95%CI(1.2,7.5)**),** Pumping breast milk (AOR=4.3, 95%CI **(**1.7,11)), Lactation break (AOR=6.7 ,95%CI **(**3, 14.5)**)** and far from child(AOR=3.1,95%CI(3.1, 6.3)) were significantly associated with outcome variable in the final model as shown in the following(table-5).

Table 5:Determinants of EBF discontinuation among employed mothers in Dukem Town, February-March, 2015 , using bivairate and multivariate logistic regression analysis model

Variable	EBF discontinuation		COR(95%CI	AOR(95%CI)
	Yes	No		
Edu/l status of mother				
Secondary	**56(90%)**	**6(10%)**	**3.7(1.5, 9.2)**	
Diploma	**99(72%)**	**39(28)**	**3.5(1.4,9.0)**	
Degree & above	**82(73%)**	**31(27)**	**1**	
Sex of child				
Male	**106(71%)**	**44(29%)**	**1**	
Female	**131(80%)**	**32(20%)**	**1.2 (1, 2.8)**	
Organization				
Government	**80(62%)**	**50(38%)**	**1**	
Private	**157(86%)**	**26(14%)**	**3.8 (2.2, 6.5)**	**2.1 (1, 4.3)**
Period of return				
<=2 months	**117(93%)**	**9(7%)**	**7.3(3.5,15.2)**	**9.3(3.8, 23)**
>2 months	**120(64%)**	**67(36%)**	**1**	

Intention to return to work				
Yes	**195(77%)**	**59(23%)**	**13 (1.7, 51)**	
No	**42(71%)**	**17(29%)**	**1**	
Duration of work				
Full time	**214(84%)**	**42(16%)**	**7.5 (4-14)**	**3.5(1.7, 11)**
Par-time	**23(40%)**	**34(60%)**	**1**	
Flexible work time				
Yes	**146(69%)**	**65(31%)**	**1**	
No	**91(89%)**	**11(11%)**	**3.7 (1.8, 7.3)**	**3(1.2, 7.5)**
Lactation break				
Yes	**50(44%)**	**63(66%)**	**1**	
No	**187(94%)**	**13(6%)**	**8.7 (4.8, 15.9)**	**6.7 (3, 14.5)**
Shift work				
Yes	**59(92%)**	**5(8%)**	**4.7(1.8, 12.2)**	
No	**178(71%)**	**71(29%)**	**1**	
Far from child				
Yes	**159(81%)**	**37(19%)**	**2. 2(1.3, 3.6)**	**3.1 (1.5, 6.3)**
No	**78(67%)**	**39(33%)**	**1**	
BF at workplace				
Yes	**18(51%)**	**17(49%)**	**.34(.29, .95)**	
No	**219(79%)**	**59(21%)**	**1**	
Pumping breast milk				
Yes	**159(71%)**	**65(29%)**	**1**	
No	**78(88%)**	**11(12%)**	**3 (1.5, 5.8)**	**4.3 (1.7, 11)**

5.2.Discussion

This study aimed to determine the prevalence of exclusive breastfeeding discontinuation and associated factors among employed mothers. The study revealed that the prevalence of exclusive breastfeeding discontinuation was 237(76%),which is relatively high when compared with the study conducted in Awi Zone Northwest Ethiopia 56%(39). The possible difference might be different study population, sample size, study area and period of the study. However,76(24%) participants exclusively breastfed their babies despite the hard work and the inconveniences they come across while breastfeeding and working.

Regarding type of organization, more mothers who worked in the private sector (86%) had discontinued EBF before six months of children age than mothers who worked with the government (62%). This finding is higher than the study conducted in Malaysia ,57% of private and 40% of governmental sector working mothers had discontinued exclusive breastfeeding (40). Mothers, who were working in private/fabric workers, were 2.1 times more likely to discontinue exclusively breastfeed their children than those mothers who were working in governmental sectors.

The most frequent period of return to work from maternity leave, 51% was between the third and fourth months after birth. This finding is relatively consistent with the study conducted in Brazil 52% (2). This result was expected because maternity leave in our country is three months only. In fact, the government is on process to extend paid maternity leave. Women who had not longer maternity leave may work in places with less breastfeeding support and thus decided to stop breast-feeding earlier knowing that they cannot continue to breastfeed once they returned to work. This is often done to better establish their children nutrition and care arrangement after they returned to work. There was a great reduction of EBF discontinuation among mothers who returned to work after the two months after birth was 93% when compared to those who return before two month age of child was 64%. Mothers who return to work within two months of children's age were about 9.3 times more likely to discontinue exclusively breastfeed their children than mothers who return to work after two months. This indicates extending maternity leave may contribute to reduction of EBF discontinuation.

As maternity leave periods typically expire before the WHO and ILO recommended period of exclusive breastfeeding, workplace arrangements to enable women to continue to breastfeed upon return to work are important to meet international and national recommendations and are in the best health interests of mother and child. Important elements in an approach to supporting breastfeeding women in the workplace are: legal provisions for paid breastfeeding breaks at work and support in the

workplace which makes it easier for women employees to combine work and breastfeeding, such as: breastfeeding facility and a workplace breastfeeding policy statement to promote the organization's provisions to employees and managers(14).

Employed mothers with children aged less than six months who have not gotten reasonable lactation break after return to work were 200(64%) and 94% of them had discontinued EBF. Mothers who had no reasonable lactation break during working time were about 6.7 times more likely to discontinue EBF their children than their counterparts. WHO and ILO recommend a right for working women to have a minimum of 14 weeks' paid maternity leave and one or more daily lactation breaks or a daily reduction of hours of work to breastfeed. It also recommends the establishment of facilities for nursing in adequate hygienic conditions at or near the workplace (21). For a employed mother who is at work for more than six hours per day, if she cannot take lactation breaks to breastfeed or express breast milk, her supply will diminish and she may no longer be able to produce enough milk for her baby (9). As a result, employed mothers may be forced to choose to discontinue EBF their infants earlier than recommended, even if they know benefit of EBF during the first six months age of children. However, there is no legally written lactation break in our country (10).

Regarding pumping breast milk experiences 29% of participants did not practice how to express milk for infants. Employed mothers, who were not ever breast pumping for their child, were 4.3 times more likely to discontinue exclusively breastfeed their children than their counterparts. Barriers identified in the workplace include a lack of flexibility for milk expression in the work schedule, lack of accommodations to pump or store breast-milk, lack of support from employers and colleagues, and real or perceived low milk supply. Providing employed mothers with pumping awareness and equipment increases breastfeeding duration after they return to work. This may show, proper management of breastfeeding by working mothers. Expression of breast milk may reduce EBFD discontinuation among employed mothers. Failing to express milk in workplace and home were a barrier to continued exclusive breastfeeding after return to work and can lead to premature weaning (40).

Inflexible working time is also another associated factor that contributes to EBF discontinuation. About 89% of participants, who had no flexible working time, had discontinued EBF. This finding is relatively similar with 84% reported in the study conducted in Taiwanese semiconductor manufacturer (41). Having more flexible working conditions such as part-time or flexi-time work, job

sharing, career break schemes, flexible hours, home-based or tele-work, flexible leave arrangements, leave without pay and the flexible use of annual leave may decreases EBF discontinuation (42).

With regard to their predictive effect, employed mothers who were at work full time within six months after giving birth were 3.5 times more likely to discontinue exclusively breastfeeding their children than those employed mothers who work par-time. This implies that working per-time during the first six months of child age, may contributes to decrease EBF discontinuation for employed mothers.

Mothers whose work place is far from children were about 3.1 times more likely to discontinue EBF their children than their counterparts.

To enable employed women to continue to exclusively breastfeed for up to six months of children's age, they need a supportive environment, at home and workplace, that protects and promotes breastfeeding. Working mothers currently face various barriers in the workplace, and the type of support and information needed to enable continued breastfeeding has yet not been fully identified and addressed. Policies are needed at both the governmental and non-governmental sectors level. Workplaces can be an ideal setting for implementing policies and practices to promote and support continuation of exclusive breastfeeding(8).

Support at the workplace, in the form of breastfeeding breaks, breastfeeding facilities, the flexible work time and duration of work were the factors that affect EBF discontinuation among employed mothers. Mothers who continue exclusive breastfeeding after returning to work need the support of their coworkers, supervisors, and others in the workplace. Individual employers can do a great deal to create a good feeling that supports employees who breastfeed. Such feeling will become easier to achieve as workplace support programs are promoted to different employers. For employed women, lack of workplace support for breastfeeding makes working incompatible with breastfeeding(42).

Strength of the study

- ✓ Rapid survey was conducted
- ✓ The simple random sampling techniques was used

Limitation

- ❖ Recall bias regarding EBF discontinuation and period of return to work may occur.

- ❖ Positive HIV status of mothers may confound. Mothers who have HIV virus may discontinue EBF to prevent transmission HIV through breast milk to child rather than work related factors.

Chapter Six

6. Conclusion and Recommendation

6.1 Conclusion

Prevalence of EBF discontinuation was much higher (76%) than the Ethiopian national HSDP IV target(30%) and WHO expectation (0%). The short duration of maternity leave, type of organization, period of return to work (mothers' early return to work), Mothers' working full time, failure to pumping breast milk, lack of lactation break, inflexible work time and far from child were significantly associated with EBF discontinuation.

6.2 Recommendation

For working mothers

- ✓ Mothers should practice pumping their breast milk in workplace and home after return to work to prevent premature exclusive breastfeeding discontinuation .
- ✓ Breastfeeding at work place is the best strategy to increase EBF for employed mothers.

For Administration of Dukem town and Employer of fabric

- ✓ The Administration of Dukem town should work on promoting and supporting exclusive breastfeeding giving special attention to employed mothers who have children less than six months.
- ✓ Both governmental and private (industries) sectors found in Dukem town employers should also address the problem of reasonable lactation break, inconvenient breastfeeding while working, duration of work per day and shift working after maternity leave up to six months age of children.

For non-governmental organization_(NGO)

- ✓ Promotion and supporting of exclusively breastfeeding through creating an enabling, breastfeeding-friendly working environment for working mothers is needed.

- ✓ All stakeholders need to better understand the importance of BF at workplace, as their support is central to enabling women to follow the recommendations of the WHO and Ethiopian ministry of health.
- ✓ It is important that workplaces provide adequate breast-feeding facilities such as a room in which to express breast milk and a refrigerator.

For Oromia Regional Bureau and National/MoH

- ✓ The government should consider revising the legislation of the two month postpartum maternity leave to reduce employed mother's EBF discontinuation within six months.
- ✓ The government should also promote exclusive breastfeeding by creating breastfeeding friendly working environment.
- ✓ In addition, advocacy efforts targeting the extension of maternity leave up to the first six months after delivery should be exerted to prevent exclusive breastfeeding discontinuation and associated health problems among children.

For researchers

- ✓ Future efforts need to address the causal factor for gap between the national target and the current status of EBF discontinuation.

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Annexes-1

Questionnaire English Version

Jimma University ,College of health Sciences ,School of post graduate studies, Department of Epidemiology Research on Assessment of Exlusive breastfeeding(EBF) discontinuation and associated factors among employed mothers in dukem town, East Ethiopia ,2015.

Informed consent

This employed mothers information collection sheet is intended to assess EBF discontinuation and associated factors among employed mothers in Dukem town. The study is aimed to fill the information gap and provide empirical evidence for program planners, decision makers and BF program implementer at the different level by enabling them to access a baseline data on breastfeeding discontinuation and associated factors. Moreover it will be a important to curb the morbidity and mortality due lack of breastfeeding. And it assists in the development of a system for improving the child survival program. Additionally, this survey will certainly provide a basis for future research. I assure you that the information will be kept confidentially. There is no any harm to you by giving this information except the time you will expend for the interview. The interview will take 20--30 minutes and you have full right to participate or refuse or to withdraw in the meantime.

Are you willing to continue with the interview? Yes_____ No_____

Respondent Sign. _____

Thank you for your cooperation!!!

Date [___/___/_____]

Name of the data collector _____Signature ____Time (Started/ Ended) [_____/_____]

Supervisor Name _____Signature _____Date [___/____/_____]

TABLE 1: QUESTIONS ON SOCIO-DEMOGRAPHIC/ECONOMIC CHARACTERSTICS

No.	Variables	Response categories	Skip
101	Respondent's age	----------(in years)	
102	Sex of child	1. Male 2. Female	
103	Ethnicity of mother	1. Oromo 2.Tigre 3.Amhara 4.Other specify_____	
104	Respondent's Marital status	1. Single 2. Married 3 Divorced 4. Widowed	
105	Educational status of mother	1.Primary 2. secondary 3. Diploma 4. Degree 5.Master &>	
106	Educational status of husband	1.Primary 2. secondary 3. Diploma 4. Degree 5.Master and above	
107	Religion of mother	1. Orthodox 2.Muslim 3.Protestant 4.Others----------	
108	Family size	_____(in number)	
109	Average monthly income of family	_____(in birr)	
110	Housing ownership status	1. Owner 2. Rented 3. Others-----	

TABLE 2: QUESTIONS ON BREASTFEEDING INFORMATION

No.	Variables	Response	Skip
201	Have you ever breastfed your recent baby?	1. Yes 2. No	
202	When did you start breastfeeding/ Initiation of BF	----------hours	
203	How long did your child breast-feed only /**EBF**	---------Months	
204	Did you EBF during maternity leave?	1. Yes 2. No	
205	For the first time what type of complementary foods was given for your child	1. water 2. cow's milk	

		3. formula milk 4.others ---------	
206	Do you breastfeeding your child now?	1. Yes 2 . No	
207	If Q206 is **YES,** at how many years old your child; you will want to **wean** breastfeeding completely?	**1**. 6mon-1yr **2**. 1-1.5yr **3**. 1.5-2yrs 4. >=2yrs 5. I do not know	
208	If Q206 is **NO**, how many years old your child, when did you **wean** breastfeeding completely?	1. 0-6mon 2. 6mon-1yr 3. 1-1.5yr 4. 1.5-2yrs	
209	In the first 3 months after your baby was born, how frequently did you breastfeed or express milk for the purpose of feeding your infant in average?	1. Every 1-2 hours 2.Every 2-3 hours 3.Every 3-4 hours 4.Every 4-5 hours 5. >5 hours	
210	In months 3 - 6, how frequently did you breastfeed or express milk for the purpose of feeding your infant most of the time?	1.Every 1-2 hrs 2.Every 2-3 hrs 3.Every 3-4 hrs 4.Every 4-5 hrs 5.Every 5+ hrs	
211	Main source of breastfeeding education/information	1.Friends/relatives 2.health facility 3. Media (TV, radio, etc.) 4.others------	
212	Intention to returning to work after give birth during pregnancy	1.Yes 2.No	
213	Intention to continue breastfeeding after returning to work during pregnancy	1.Yes 2.No	
214	Period of return to work after give birth	1. <=2 months 2. 2-3 months 3.3-4 months 4.> 4 months	

215	Awareness of organizational policies or facilities to support breastfeeding at work	1.Yes 2.No	

TABLE 3: QUESTIONS ON WORK-RELATED FACTORS

No.	Variables	Response categories	Skip
301	Type of employer/Organization	1.Government 2.Private	
	Type of occupation	1.Education 2.Health 3.Banking, Finance and Insurance 4.Tele and Media 5. Labour and social affairs 6.fab worker 7. police and Security Agencies 8.Others----------	
303	Duration of work per day in hours during the first 6 months of child birth after maternity leave	1. full-time 2. part-time 3. overtime	
304	Position of mother in organization	1.managerial 2.technical 3.support staff	
305	Work experience in years?	1. <5 2. 5-10 3 .10-15 4. >15	
306	Work arrangement?	1. fixed 2.mobile	
307	Presence of organizational support for breastfeeding during the first 6 months of child age after maternity leave	1. YES 2. NO	
308	Types of support during first 6 months after maternity leave	1.Prepared facility 2.Flexible work time 3. Reasonable lactation break 4.Offer lighter work 5. Paid leave 6.Unpaid leave Others----------	Y N Y N Y N Y N Y N Y N
309	If there **is NO reasonable** lactation break during first 6 months after maternity leave, why?	1. Lack of awareness 2.Organization/employer problem 3. Others Specify----------	

310	Time to reach from work place to child in minutes	1. up to 10 2. 10-20 3. 20-30 4. more than 30 minutes	
311	Is there child daycare center near the work place?	1.Yes 2.No	
312	Did you do shift work after you returned to work?	1.Yes 2.No	
313	Have you discontinued EBF during recent maternity leave after return to work? (EBFD)	1.Yes 2. No	
314	What is the main challenge for lactating employed to continue EBF after maternity leave? (**multiple answer)**	1.Inconvenient work environment 2.Work overload 3.Ashamed of BF at workplace 4. Far from child 5.Employer doesn't allow to bring child at work 6. unsupported by co-workers 7.Others specify----------	Y N Y N Y N Y N Y N Y N
315	If there is the lactation facility in your company, would you breastfeed your baby in the facility?	1.Yes 2.No 3.unsure	
316	Is there anything the organization /government should offer to make EBF more comfortable for employed mothers	1.Yes 2.No →	318
317	If Q316 **YES**, which one is, the most important for employed mother to continue EBF up 6 months	1. Offer lighter job/load work 2. Prepare facility at workplace 3.Give lactation break 4. Extended maternity leave	
318	Did you breastfeed your recent baby in the work place?	1.Yes 2.No →	401
319	If **Q318 Yes**, Have you encountered any troubles with breastfeeding at	1.Yes 2. No	

	workplace?		
320	If **Q319 Yes** mention	1. Make busy with work 2.Conflict with employer 3.Unsupported by coworker 4.Others----------	

TABLE 4: QUESTIONS ON OBSTETRIC AND HEALTH SERVICES

No.	Variables	Response categories	Skip
401	Have ever attended ANC during the most recent pregnancy?	1. Yes 2. No ⟶	404
402	If **yes**, how many times visit did you ANC?	1. 1-2 2. 3-4 3. >5	
403	Have you consulted a health professional about BF during ANC?	1.Yes 2. No 3.unsure	
404	Place of delivery	1.Health facility 2. home 3.others-	
405	Birth attendant	1.Health professional 2.HEW 3.TBA 4.relative/neighbors	
406	Mode of delivery?	1.Normal/SVD 2.caesarean section	
407	Number of PNC?	1. no attend 2.1-2 3. 3-4 4. >=4	
408	PNC about BF counseling?	1.Yes 2. No	
419	Parity/ number of children alive?	1.one 2 .two 3 .three 4. >=four	
410	birth intervals in years?	1/ Primal 2. 1-2 3/ 2-3 4/ >4	
411	Birth order of index infant	1 st 2 nd 3 rd 4 th & above	
412	Number of children under 5 year	1. 1 2. 2 3. 3 4. 4	

5: QUESTIONS ON PRACTICE , ATTITUDE AND AWARENESS FACTORS

No.	Variables	Response categories	Skip
501	Best food for infants <6 months	1.Breast milk 2.Formula milk 3.Porridge 4.Do not know 5.others------	
502	Women should breast feed at the workplaces	1.Yes 2.No	
503	Start breast feed straight after delivery?	1.Yes 2.No	
504	Breast milk sufficiency for the first 6 months	1.Yes 2.No 3.Donot know	
505	Breast milk prevents disease from Child	1.Yes 2.No 3.donot know	
506	Breast milk is better than infant formula	1.Yes 2.No 3.donot know	
507	In your opinion for how long should a child should feed breast milk only	1.>= 6 months 2.<6 months	
508	Recommended duration of EBF	1.Birth-6 months 2.Birth-4 months 3.Do not know	
509	The best advantage of EBF according to your assumption	1. good nutritional value for child 2.prevents pregnancy 3.saves money 4.bonds mother and child 5.do not know	
510	The meaning of EBF	1.Feed only breast milk 2.Feed only cow's milk 3.Feed only formula milk 4.Feed breast milk	
511	Role of husband in EBF	1.Advice on EBF 2.Give economic support 3.Has no role 4.Do not know	
512	Do you think your breastfeeding knowledge and information is sufficient	1.Sufficient 2. Insufficient 3.Need more information	
513	Do you know how breast pumping	1.Yes 2.No	

514	Have ever pumped for your recent baby?	1.Yes → 2.No	516
515	If Q514 No, why	1.No enough break 2. I no need 3.Painful 4. others------	
516	Awareness/information on colostrum	1.Yes 2.No	

Unka gaaffii Afaan Oromo

Univarstii Jimmatti Kollejjii Saayinisii fayyaa damee "Epidemiology" Qo'anno Annan Harma haadha qofa hoosissu addan kutu fi rakkinoota isaan waliin wal qabatan Haadhoolii hojjetoota magaala Dukam irratti gageefamuu.

Formi walgalitee/Informed consent

Kayyoon gaaffille kana oddeffanno haadholli hojjetoota magaala Dukaam kan ijjole waggaa 2 gadi qaban walitti qabuun hanqinoota hamma ji'a jaha annan harmaa haadha qofa hoosissu addan kutu fi sababoota isaan wal qabatan adda basu dha. Kana males qorannon kun hanqinoota oddefaanno mul'atan guutuun namoota sagantaa karoora, qoranno fuldura fi "policy" Harmaa hoosissu baasu irratti hojjetanif akka galtetti ykn ragaa bu'uuraatti ni fayyada. Du'aati da'imman wagga shan gad hirisu irrattis bakka gudda qaba. Ragaan kun icittin wanta qabamuf rakkoon tokkoo illee akka isin irra hin geenye beektani raga sirrii akka keenitan isin gaafadha. Raga kana guutuuf daqiqaa 20-30 qofa kan fudhatu yoo tahu gaaffii isin hin gallee dhissu fi yoo isinitti hin tolle guutumatti addan kuutu mirga qabdu.

Fedha qabda gaaffi itti fufu? Eeyyen_____ Miti_____

Mallatto gaafatama _____

Galatoomi!!!

guyyaa [___/___/_____]

Maqaa nama ragaa funnannu _____mallatto ____

Sa'aatti (Started/ Ended) [_____/_____] yeroo itti fudhate----------

Maqaa supervazari _____mallatto _____guyya

[___/____/_____]

Gabaate 1: Gaffilee Hawaas-dinagdee

No.	Jijjiramota/Variables	Gosa deebii	Tari
101	Umrii haadha	_____ (waggaa)	
102	Saala daa'imaa	1. Dhiira 2. Dhaala	
103	Qomoo	1.Oromo 2.Tigre 3.Amhara 4.kan bira_____	
104	Haala fudha fi herruma	1. hin herumnee 2.Abba mana qabdi 3 Kan hiktee 4. kan irra du'e	
105	Sadarkaa barumsaa haadha	1.sadarka 1ffa 2. sadarkaa2ffa 3.Diploma 4.Digirii 5.Master fi isa ol	
106	Sadarkaa barumsaa abba mana	1.sadarka 1ffa 2. sadarkaa2ffa 3.Diploma 4.Digirii 5.Master fi isa ol	
107	Amaantaa	1. Orthodox 2.Muslim 3.Protestant 4.kan bira--------	
108	Baayinaa maati	_____(lakkan)	
109	Galii maati ji'aan	_____(birri)	
110	Haala mana itti galanii	1. kan dhunfa 2. kireefatani 3. kan fira	

Gabbate 2: gaaffilee oddefanno harma hosissu

No.	Jijjirama/ gaaffilee	Deebii	Tari
201	Muca amma kana harma hoosistee beekta?	1.eeyyeen 2. hin beeku	
202	Yoo eeyyen tahe yoom eegaltee?	----------sa'a/guyyaa	
203	Yoo eeyyen tahe yeroo hagamif **harma** haadha qofa	---------ji'a	

	hodhe ?		
204	Yeroo heyyama dahumsaa annan harmaa qofa hoosissa turte?	1. eeyyen 2. miti	
205	Nyanni dabalataa mucaa keetif si'a duratiif kennitte maal /isa kami?	1. bishaan 2. annan sa'aa 3. annan formula 4.kan bira ibsi ----------	
206	Amma mucaa kee harma hoosisa jirta?	1. Eeyyen 2 . Miti	207
207	Yoo G206 **Eeyyen** tahe,hanga mucaan kee wagga meeqa ta'uutti harma hoosisuuf karoorfatte ykn yoom guusu feetaa?	**1**. 6mon-1yr **2**. 1-1.5yr **3**. 1.5-2yrs **4**. >=2yrs 5. itti hin yaanne	
208	Yoo G206 **Miti** tahe, harma hoosisuu guutumatti gaafa mucan wagga yoom addan-kutte?	**1**. 0--ji'a 6 **2**.Ji'a 6-wg1 **3**. 1--wg1.5 **4**.1.5- wg2	
209	Ji'ota **sadaan** dura guyyan garagarumma sa'aatti meeqatin daa'imaa kana irradedebiste harma hoosista?	1. sa'aa 1-2 2.sa'aa 2-3 3.sa'aa 3-4 4.sa'aa 4-5 5.sa'aa >5	
210	Ji'aa **3-6** kessatti guyyan garagarumma sa'aatti meeqatin daa'imaa kana irradedebiste harma hoosista?	1. sa'aa 1-2 2.sa'aa 2-3 3.sa'aa 3-4 4.sa'aa 4-5 5.sa'aa >5	
211	Maddi oddefanno harmaa hoosissu eessa argatuu	1.hiriyya 2.dhabbata fayya 3. Mediya (TV, radio, etc.) 4.kan bira----------	
212	Yeroo ulfa, dahumsa boode karoora hojitti deebi'uu ni qabda turte?	1.eeyyen 2.miti	
213	Yeroo ulfa erga desse booda karoora erga hojitti deebite harma hoosissu ni qabda turte?	1.eeyyen 2.miti	
		1. ji'a < 2	

214	Erga desse booda gaafa mucaan kee ji'a meeqa guute hojiiti deebite ?	2. ji'a 2-3 3 ji'a.3-4 4. ji'a > 4	
215	Hubbanoo fi oddefanno dhabatchi/wajjiri kee harmaa hoosissu deeggaru qabda?	1.eeyyen 2.miti	

Gabaate 3: Gaaffilee hojiin walqabatan/ work-related factors

No.	Gaaffii	Deebiii	Skip
301	Gosa mana hojicha	1.kan mootuma 2.kan dhunfa	
302	Gosa hojii	1.barnoota 2.Fayya 3.Banki fi, Finansi 4.Tele fi Media 5.hawasumma 6.fabrikaa 7.dhimma negenya 8.Others----------	
303	Sa'aa hojii yeroo mucan kee ji'a 6 gad guyyadhaan	1. Yeroo guutu / sa'a 8 2. Part-time/ yeroo sa'a 8 gad 3. Over time/ sa'a 8 ol	
304	Gahe hojii haadha	1.itti gaafatamtuu 2.oggetti 3.gargarttu	
305	Muxxanno hojiii waggan?	1. <5 2. 5-10 3 .10-15 4. >15	
306	Haala mana hojicha?	1. dhabbata/fixed 2.Sosocha'a/mobile	
307	Gargarsii dhabatichi haadholli ijolle ji'a jaha gad hoosisan godhu jira.	1. Eeyyen 2. hin jira	
308	Gargarsii dhaabbatichi haadholli ijolle ji'a 6 gad hoosissanifi heyyama dehumsa booda kennan **kam**	1.haala mijataa/facility qophessu 2.yeroo hojii jijjiru 3.boqonna **harma** hoosissu 4.hojii salpha kennuf 5.Heyyama kafaliti walin 6.Heyama kafaliti malee	Y N Y N Y N Y N Y N Y N
309	yoo boqonna **harma** hoosissu **hin jiru** tahe, sababni isa maali?	1. hubbannon hin jiru 2.rakko dhabaticha irrayi 3. kan bira----------	
310	Mana hojitti hanga daa'ima bira gahanitti itti daqiqaa meeqa fudhatu	1. hanga daqiqaa 10 2. 10-20 3. 20-30 4.Daqiqaa 30 ol	
311	Olmaan daa'imman naanno mana	1.Eeyyen	

	hojicha ni jira ?	2.Miti	
312	Hayyema dahumsa boode haadholli hoosissan dabreen/shift ni hojjetu	1.Eeyyen 2.Miti	
313	Mucaa amma kana harma kee qofa hanga ji'a 6 hoosisuu addan kutte turte? (EBFD)	1.Eeyyen 2.Miti	
314	Raakkoo gurguddon ati akka harma kee qofa siritti hanga ji'a mucaa kee hin hoosisnee kan raakkisu kam	1. Bakki mijaatan iddo hojitti dhabamu 2. hojii itti baayisuu 3. Bakkahojiiti hoosisuu qannefachuu 4.Mucaa irra fagachuu 5.Itti gaafataman akka mucaa bakka hojiitti hin hoosisne dhorkuu 6. Hirriyoota waliin hojjetanin gargaramuu dhabu 7.kan bira----------	Y N Y N Y N Y N Y N Y N
315	Osoo bakki mijaatan harma itti hoosissan dhabata keessan keessa jiratte, mucaa kee harmaa achi keessatti ni hoosistaa	1.Eeyyen 2.Miti 3.natti hin fakkatuu	
316	Wanti dhabatichi ykn mootimman akka harma kee qofaa hanga ji'a jaha hoosistuf qopheessu qabu jira.	1.Eeyyen 2.Miti →	318
317	Yoo G315, Eeyyen tahe isa kamtu **caalati** haadhlii hojjetota hoosisanif akka harma haadha qof hanga ji'a 6 hoosisanif gargara .	1. hojille sasalpha itti kennamuf 2. Iddo itti hoossisan qophessu 3.boqonna **harma** hoosissu kennu 4.boqonna **dahumsa** dabaluu	
318	Mucaa kana iddo hojitii harma hoosistee beekta?	1.Eeyyen 2.Miti →	401
319	G318 yoo eeyyen tahe,rakkinni harma bakka hojiiti hoosissu irratti si mudatte jira.	1.Eeyyen 2.Miti	
320	G318 yoo eeyyeen tahe, maaltuu si	1. hojii fi daa'imma walin dhiphachu	

	mudate?	2. itti gaafatamaan wal dhabu 3. warra wal hojjetanin wal galu dhissu 4.kan bira----------	

Gabaate 4: Gaaffilee dahumsa fi taaajila fayya

No.	Gaaffilee	Deebii	tari
401	Yeroo ulfa muca kana tajajilaa fayya (ANC) hordoffa turte?	1.Eeyyen 2.Miti →	404
402	Yoo G401 Eeyyen tahe,yeroo meeqaf tajajilla ANC argate?	1. 1-2 2. 3-4 3. >5	
403	Tajajilla gorsa oggessa fayya yeroo hordoffi ANC argateraa?	1.Eeyyen 2.Miti 3.hin yaadadhu	
404	Iddo dahumsaa	1.Dhabbata fayya 2. mana 3.kan bira	
405	Eenyutuu siidesisse Muca ammaa kana?	1.Oggessa fayya 2.HEW 3.TBA 4.firan/ollaan	
406	Akkaku dahumsa?	1.Normal/vaginal 2. caesarean section	
407	Yeroo meeqa PNC deemte argate?	1. hin deemne 2.1-2 3. 3-4 4. >=4	
408	Yeroo PNC gorsa harma hoosisuu argatee beekta?	1.Eeyyen 2.Miti	
409	Ijjolle meeqa desse/ Parity?	1.one 2 .two 3 .three 4. >=four	
410	Gargarumma dahumsa waggan ?	1/ muca tokko 2. 1-2 3/ 2-3 4/ >4	
411	Mucan kun meeqafa irratti dhalate?	1.^{1ffaa} 2.^{2ffaa} 3.^{3ffaa} 4.^{4ffaa} 5.$^{5ffaa\ fi\ isa\ ol}$	
412	Ijolle waggaa 5 gad meeqa qabda	1. 1 2. 2 3. 3 4. 4	

Gabaate 5: Gaaffilee ilaalcha , barmaatilee fi beekumsa

No.	Gaaffille	Deebii	Tari
501	Nyaanni gariin daa'imma ji'a 6	1.Annan harma haadha 2.Formula milk	

	gadittif kamii?	3.marqaa 4 hin beeku. 5.kan bira-------	
502	Haadhollin bakka hojitti harma hoosisu hin qabdu?	1.Eeyyen 2.Miti	
503	Harma hoosissun akkuma mucan dhalaten sa'a tokko keessatti eegalu qaba?	1.Eeyyen 2.Miti	
504	Annan harma haadha qofti hanga ji'a 6 ti gaha dha.	1.Eeyyen 2.Miti 3. hin beeku	
505	Annan harma haadha daa,imma irra dhukkuba ni ittisaa?	1.Eeyyen 2.Miti 3. hin beeku	
506	Annan harma haadha annan formula irra bu'aa qaba.	1.Eeyyen 2.Miti 3. hin beeku	
507	Akka yaada keeti annan harma haadha qofa hanga ji'a meeqa hoosissun sirri dha.	1. ji'a 6 gad 2. ji'a 6 3.ji'a 6 ol	
508	Annani harmaa haadha qofa hoosissun dhabataa fayya addunyatin hanga ji'a meeqa abbomama .	1.hanga ji'a 6 2.hanga ji'a 4 3.hin beeku	
509	Bu'aan annan harma haadha qofa hoosissu maali caalati maalif gargara?	1.Dhukkuba ittissuf 2.Dahumsaa ittissuf 3.Qarshii qusachuuf 4.walitti dhihenyaa haadha fi daa'ima cimsuuf 5.hin beeku 6. nyaata da'immaf gaari dha	
510	Hiikkan annan harmaa haadha qofa hoosissu jedhu maali?	1.Annan **harmaa haadha qofa** hoosissu 2.Annan sa'aa qofa kennuf 3. Annan formulaa qofa kenuf 4.Annan **harmaa haadha** hoosissu 5.marqaa nyaachisuu	

511	Gaheen abba mana harma haadha qofa hoosissurratti maali?	1.ni gorsaa 2.qarshiin ni gargaraa 3.gahee hin qabu 4.hin beeku	
512	Hubbanoo fi oddefanno harmaa hoosissu gaha nan qaba jette yaada	1.eeyyen gaha dha 2.gaha miti 3.oddefanno dabalata nan barbaada	
513	Daa'immaf harmaa eelmuu bekta?	1.Eeyyen 2.Miti	
514	Yeroo hojitii deebiite sana, Mucaa kanaf harma eelmitee kennafi turte?	1.Eeyyen → 2.Miti	516
515	G514 yoo **miti** tahe,maalif?	1. boqonna gaha hin arganne 2. hin barbaadne 3.nama dhukkubsa 4. kan bira_____	
516	Oddefanno silgaa hoosissu ni qabda turte	1.eeyyen 2.miti	