University of Hargeisa
Faculty Of Applied Science

Department Of Nutrition and Food Science

Title: Maternal nutrition during breast feeding.

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Declaration

I am here by confirmed that in my research paper I accepted obligation of my bachelor degree of science and technology department of nutrition and food science at university of hargeisa and it is first research project of its kind sponsored by the university.

_________________________ Date: July/ 2014

Muna Abdi Abdillahi
Approval

This dissertation entitled maternal nutrition during breastfeeding has been done under my supervision and has been submitted to the University of Hargeisa faculty of science department of nutrition and food science for examination as the candidate's supervisor.

Sign Adviser: ........................................... Date: ..................................................  

Key Terms

 ✓ DH: Department of Health
 ✓ NICE: National Institute for health and Clinical Excellence
 ✓ UNICEF: United Nation .. Child ..
 ✓ WHO: World Health Organization
 ✓ IYCF: Infant and Young Child Feeding practices
Dedication

I offer these thesis my heartedly appreciated my dear parents my lovely mom fadumo abdi, my lovely dad abdi abdillahi, my dear brothers and sisters, my dear, my Allah gave them constant health and blesses on the planet and grave.
Acknowledgement

Gratitude to allah glory whil alsd extending my perfound thank to all my tutors who offered me generous hand to publish this text book entitled Maternal nutrition during breast feeding in Hargiesa group hospital and Edna Adan maternt Hospital, I acknowledgment my dear advisor Dr.Khadar who offered me a real hep while I was wirtting our my theses book.

I would like to thank my dear dean of the faculty of scince and technology provessore Ahmed Mohamed Adad and associate dean Abdifatah Mhamed, I will approitot our my classmats and my favourite friends who support me our my theses book.

Finally I will like to thank my famiy my dear fadumo Abdi Egal and my lovely dad Abdi Abdilahi Hayd who have been supporting since I strarted my education, they have always been there for me to cheer up when I feel down and iam gratefull to them and I will hope pay them back Insha Allah for near future and far future.
# Maternal nutrition during breast feeding

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Abstract

Lactation is a remarkable process during which the maternal body produces a that secretion provides no immediate benefit to the mother but can totally sustain the offspring. All mammals produce milks with different compositions, each one specific to the needs for growth and development of their offspring. Regardless of a woman's intention to breastfeed, her body prepares for lactation from the first moments of pregnancy: the mammary gland begins its maturational process with the development of the alveolar ductal system and the lacteal cells so that the breast is ready to produce milk upon delivery of the infant. The woman's hormonal balance during pregnancy contributes to the preparation of the breast and promotes accumulation of energy stores, but it suppresses the production of milk until the birth of the infant.

This clinical report reviews the nutritional options lactation, and the first year of life that may affect the development of atopic disease (atopic dermatitis, asthma, food allergy) in early life. It replaces an earlier policy statement from the American Academy of Pediatrics that addressed the use of hypoallergenic infant formulas and included provisional recommendations for dietary management for the prevention of atopic disease. The documented benefits of nutritional intervention that may prevent or delay the onset of atopic disease are largely limited to infants at high risk of developing allergy (ie, infants with at least 1 first-degree relative [parent or sibling] with allergic disease). Current evidence does not support a major role for maternal dietary restrictions during pregnancy or lactation. There is evidence that breastfeeding for at least 4 months, compared with feeding formula made with intact cow milk protein, prevents or delays the occurrence of atopic dermatitis, cow milk allergy, and wheezing in early childhood. In studies of infants at high risk of atopy and who are not exclusively breastfed for 4 to 6 months, there is modest evidence that the onset of atopic disease may be delayed or prevented by the use of hydrolyzed formulas compared with formula made with intact cow milk protein, particularly for atopic dermatitis.
Chapter one

Introduction

1.1 Background of the study

A mother’s capacity to produce milk of sufficient quantity and quality to support infant growth is resilient and remarkably resistant to nutritional deprivation. However, milk production normally affects maternal body composition and nutritional status, and lactating women have increased nutrient demands.

The changes in maternal nutritional status during lactation, effect of maternal nutrition on milk volume and composition, and nutrient requirements of lactating women are reviewed here. Additional aspects of breastfeeding are discussed separately.

Lactation is supported partially by mobilization of tissue stores. This, in turn, affects maternal weight and nutritional status.

Postpartum weight changes in lactating women are highly variable, mild, gradual weight loss typically occurs during the first six months postpartum. Average weight loss in this period is greater in affluent than poor populations (0.8 versus 0.1 kg per month). These differences are thought to depend upon differences in weight gain in pregnancy, cultural practices, level of physical activity, and availability of food.

Gestational weight gain is the most consistent and strongest predictor of postpartum weight change in most studies. Other factors that contribute to weight loss after pregnancy include pre-pregnancy weight, age, parity, race, smoking, exercise, return to work outside the home, and lactation.

The Department of Health (DH) asked the National Institute for Health and Clinical Excellence (NICE or the Institute) to produce public health guidance to improve the nutrition of pregnant and breastfeeding mothers and children in low-income households. In particular, this guidance addresses disparities in the nutrition of low-income and other disadvantaged groups compared with the general population.

The guidance is for NHS (National Health Studies) and other professionals who have a direct or indirect role in – and responsibility for – the nutrition of pregnant and breastfeeding mothers and pre-school children. This includes midwives, health visitors, dietitians and pharmacists. It also includes those working in local authorities and the community, voluntary and private sectors. In addition, it will be of interest to members of the public.

According to United Nations Development Program, Nepal is one of the poorest Countries in the world, and is ranked 157 on the human development index (UNDP).
2013), the country has high infant and maternal mortality (UNICEF, 2003b) and
Under-nutrition among children is one of the most widespread health problems (WHO).
Under-nutrition and micronutrient deficiency is associated with increased risk of
Mortality and morbidity (Black et al., 2008). Of children under the age of 5, about 35% of the disease burden is associated with under-nutrition (WHO, 2010b). To improve child survival and healthy growth, infant and young child feeding practices are important. WHO emphasize the importance of focusing on feeding practices the child’s first two years because optimal nutrition during this period can reduce morbidity and mortality (WHO, 2010b). The feeding practices in this period are so critical that the appropriate practices can save the lives of 1.5 million children under the age of 5 years.

WHO recommends all women to exclusively breastfeed their children the first 6 months after birth and that introduction of solid foods should start at the age of 6 months with continued breastfeeding until the child reaches two years of age or beyond.

WHO also emphasize the importance of early initiation of breastfeeding within one hour after birth (WHO, 2010b, 2012a). Breastfeeding is the optimal way of providing infants with the nutrients they need for normal physical and psychological development. This is one of the most effective ways to ensure a child’s health and survival. To calculate the duration, the prevalence and the quality of the breastfeeding practices in a country, WHO have made a document; Indicators for assessing infant and young child feeding practices (IYCF).
1.2 problem statement

Lactation and maternal malnutrition independently increase the period of lactational amenorrhea and infertility after giving birth. This increases birth spacing and the period when nutritional recuperation can occur. For those women who lose more than average amounts of blood each menstruation, lactation amenorrhea has an additional protective effect. The iron secreted in breast milk is far less than these women save by missing even a few menstrual periods.

Over the years investigators have found increasing evidence that milk production itself is extremely efficient. The International Dietary Energy Consultancy Group’s 1993 Annual Report to the ACC/SCN states: “Human lactation appears to be very robust, and BMI does not provide a useful indicator of function at the levels studied so far. Lactation performance must become compromised when under nutrition is sufficiently

1.3 Objectives

1.3.1 General objectives

To identify common characteristics among mothers with breastfeeding malnutrition in Hargeisa region with an increasing incidence of breastfeeding malnutrition.

1.3.2 Specific objectives:

Improving the well-being of mothers, infants, and children is an important public health goal for my thesis.

To identify physiological change that occur during breast feeding.

Identify the role of specific nutrients in the diet of the breast feeding woman.

Evaluate adequacy and pattern of weight gain during different stages of breast feeding.

Plan adequate prenatal vegetarian diets based on nutritional requirements of the mother.
1.4 Scope of the study

The scope of this study is Somaliland self-declared republic that is internationally recognized as an autonomous region of Somalia.

1.4.1 Geographical scope

The study was conducted mainly in Hargeisa, the capital city of Somaliland. There were lots of health facilities which were available. The researcher targeted a number of selected hospitals which were Adna maternity and Hargeisa group hospital. This study focused on the health facilities in which the researcher can have a good assessment of the research.

1.4.2 Time scope

Time scope: the time scope of this research would be 4 months.

1.4.3 Contextual scope

In addition of that data will be collected through a questionnaire by the researcher and the study will be specifically Maternal during breast feeding.

1.5 Significance of the Study

The study will have an important to all lactating mothers and future researchers, government, local and international organizations so that they can help where its needed.
Conceptual framework
Maternal nutrition during breast feeding

Child malnutrition, death and disability

Outcome

Inadequate dietary intake

Disease

Immediate causes

Insufficient access to food

Poor water/sanitation and inadequate health services

Underlying causes at household/family level

inadequate maternal and child-care practices

Basic causes at societal level

Quantity and quality of actual resources - human, economic and organizational - and the way they are controlled

Inadequate and/or inappropriate knowledge and discriminatory attitudes limit household access to actual resources

Potential resources: environment, technology, people

Political, cultural, religious, economic and social systems, including women's status, limit the utilization of potential resources
Chapter two

Concept/ideas and opinion of scholars and expert

The ideal diet for a breastfeeding woman is simply the healthiest one for all human beings. In our day-to-day lives, most of us have food habits that are not "ideal," but are still good enough to ensure that we have a sufficient quantity of the right kinds of food. A woman who is not strict with her diet can still breastfeed successfully. It's important to keep in mind, however, that good nutrition helps a mother maintain her health.

Looking and smelling good in the interval that lapses while it is processed, packaged, transported, displayed, sold, taken home, and eaten. Some colorings are of vegetable
A breastfeeding mother doesn’t require special foods to produce or increase her milk supply. A baby’s sucking determines the quantity of milk that is produced. A breastfeeding mother’s body uses a combination of all the foods that she eats, completing them with nutrients stored in her body to produce the milk that she gives her child. What this means is that mother’s milk is made every time, following the same process and resulting in milk that has a fairly constant composition. If the mother’s diet is not adequate, it is her body that makes up the difference. If she is malnourished, this means that her body has to make up for the lack of nutrients in her diet when it produces the milk for her child. It has been seen that even in cases bordering on malnutrition in poor countries, the milk produced by these mothers satisfies the needs of the child, who will grow adequately if he is breastfed on cue.

Children acquire their family’s food habits and preferences gradually. A baby first tastes this food via the amniotic fluid before birth, and later, through his mother’s milk. Many of our ideas about what foods we prefer or avoid are culturally determined and foods that are considered unsuitable or even harmful for breastfeeding mothers in some cultures are considered a normal and healthy part of their diet in others.

Milk and cheese are an important part of the diet of many people. Others thrive without milk or cheese. In any case, there is no need to introduce these foods into the diet or to increase their consumption, especially if the mother does not like or does not tolerate.

Human milk contains a small amount of iron in a form that is easy for babies to absorb. As with calcium, the levels of this mineral in human milk are constant, despite variations in the maternal diet or the mother’s body stores. Iron is present in meat, beans, green vegetables, whole grains, and some dried fruits.

An important advantage of breastfeeding -- especially breastfeeding on cue -- is that a mother usually does not resume her menstrual cycle for at least a few months, conserving the iron that would otherwise be lost every month.

A vegetarian diet that contains some animal derived food, such as milk, milk derivatives, or eggs is usually complete. Women who don’t eat meat, but consume dairy or eggs usually do not have problems breastfeeding. When a diet does not contain any of these foods (such as in the case of vegan and some macrobiotic diets), a mother needs to sure to include vitamin B12 into her diet in some way. Many vegetarians use a supplement for their vitamin B12 intake.
As lower levels of environmental contaminants than that of other women. These substances are stored principally in the fatty tissues of the body, and vegetarian diets tend to contain less fat than diets with more animal products.

Many women would like to return to their pre-pregnancy weight as soon as possible after birth. It can take several months or even a year to achieve this. Part of the weight that a pregnant women gain is an "energy deposit" to meet the extra caloric demands of breastfeeding. It is consumed gradually while the mother nourishes her child.

It is wise to wait until the baby is at least two months old before making a specific effort to lose weight. A women’s body needs about this much time to recover from the birth and establish a good milk supply. Often, a woman loses weight without specific effort during this time.

A woman who is breastfeeding should lose weight slowly. Every mother needs enough energy and nutrients to be healthy, active, and able to care for her child or children. Ideally, she should not lose more than about one to two pounds per week (two kg a month).

Lactation, the process of milk secretion, is sometimes referred to as the physiological completion of the female reproductive cycle. During pregnancy, hormonal action prepares the female mammary glands to produce milk, which will continue to be produced in the postpartum period in response to the infant sucking at the breast.

Also during pregnancy a woman’s body prepares to breastfeed by storing additional nutrients and energy needed for milk production. Breast milk provides sufficient calories and nutritive factors to allow an infant to double its birth weight in six months of age. Breast milk is a bioactive, complex fluid containing more than 200 recognized substances varying in composition between women, and from the same woman, depending upon her stage of lactation.

Breast milk of women who deliver a premature infant is higher in calories, fats, protein, immune factors, and anti-inflammatory agents compared to full-term breast milk, therefore, adaptive to the additional nutritional needs of the premature infant. Maternal nutritional requirements during lactation have been studied in women from many cultures, and while much has been learned, some information is conflicting because of differences in sampling techniques and laboratory analysis methods. However, many studies have documented that lactation and infant growth are not compromised when maternal intakes fall below recommended levels for vitamins, minerals, and energy. The nutritional quality of breast milk remains fairly constant, even when the mother’s supply of nutrients is limited on a short-term basis.
Maternal nutrition during breast feeding

Theoretical prospective

Women have an amazing ability to produce a sufficient quantity and quality of breast milk to support an infant, even if the woman is undernourished. However, breastfeeding women do need an increased number of calories and nutrients to maintain their milk supply.

In most cases, the best way to get an adequate number of calories and nutrients is to eat a healthy, well-balanced diet that includes fruits, vegetables, protein, grains, and a limited amount of fat, sometimes with a multivitamin supplement.

This topic review discusses the nutritional needs of women who are breastfeeding, including recommendations for calorie intake, vitamin and mineral supplements, fluid recommendations, and guidelines for weight loss while breastfeeding. Foods, drinks, and medications that should be limited or avoided are also discussed.

Nutrition and breastfeeding

Calorie recommendations — the total number of calories a woman needs depends upon the following factors:

- Weight
- Age
- Height
- Activity level

For example, a 25-year-old woman who is not breastfeeding and is 5 feet, 5 inches tall and 140 pounds and is not active needs approximately 2190 calories per day. A woman who is older, shorter, who weighs less or who is less active would need fewer calories per day while a woman who is taller, younger, weighs more, or is more active would need more calories per day.

The energy and nutritional requirements of women who breastfeed are greater than those of women who are not breastfeeding. The energy cost of exclusive breastfeeding from birth through six months postpartum is 500 kcal/day. Because weight loss will subsidize this cost (approximately 170 kcal per day), the recommended dietary allowance (RDA) for energy is set at 330 kcal per day.

Using the woman in the above example, the recommended total calorie intake would be approximately 2520 calories per day.
Fluid intake — The average woman who breastfeeds exclusively produces 750 to 800 mL (approximately 25 ounces) of breast milk per day. Many women wonder how much extra fluid they should drink given this relatively large loss of fluid. It is generally sufficient for a woman to drink when she is thirsty and to watch for early signs that she is not getting enough fluids (e.g., dark-colored urine, infrequent urination, dry mouth). To encourage an adequate fluid intake, some clinicians recommend keeping a bottle of water or another non-caffeinated beverage nearby while nursing or working.

Weight loss during breast feeding

Following pregnancy, most women lose weight gained during pregnancy gradually. Losing a moderate amount of weight by eating less and/or exercising does not usually affect a woman's ability to produce an adequate amount of breast milk.

Vitamin requirement during lactation

Women who are healthy and eat a well-balanced diet that includes meat and fish do not usually need to take a vitamin supplement while breastfeeding. However, all women, including those who breastfeed, should ensure that they consume an adequate amount of calcium and vitamin D.

Vegans — Women who are healthy but who do not eat meat, chicken, fish, or dairy products need to take a vitamin supplement that contains vitamin B12. Most commercially available multivitamins contain an adequate dose of B12.

Calcium — Pregnancy and breastfeeding cause a temporary decrease in bone mass. However, lost bone is usually regained after a woman stops breastfeeding. This loss cannot be prevented by consuming additional calcium during pregnancy or while breastfeeding. All adult women should consume a daily minimum of 1000 mg of calcium; adolescents should consume 1300 mg of calcium per day.

The primary sources of calcium in the diet are milk and other dairy products, such as hard cheese, cottage cheese, or yogurt, as well as green vegetables.

Vitamin D — Absorption of calcium depends upon having an adequate level of vitamin D. Both breastfeeding and non-breastfeeding women require an estimated 600 int. units per day of vitamin D. Vitamin D fortified milk is a good source of dietary vitamin D, with approximately 100 int. units per cup. A vitamin D or calcium plus vitamin D supplement is also a good source of vitamin D.

Iron — Women who are not anemic after delivery and who breastfeed exclusively do not usually have a menstrual period for the first four to six months. Thus, there is little iron lost in menstrual blood. An iron supplement is not usually needed during this time.
Women who are anemic after delivery usually require an iron supplement; this may include an over-the-counter or prescription iron supplement. The recommended type and dose of iron should be discussed with a healthcare provider.

Fish — The American Academy of Pediatrics recommends that nursing mothers take in 200 to 300 mg of omega-3 fatty acids per day, women can meet this need with one to two servings of fish per week, such as herring, canned light tuna, or salmon. To reduce exposure to mercury, mothers should avoid predatory fish such as shark, swordfish, king mackerel, or tilefish, which have high levels of mercury.

In general, assessments of the nutritional status of lactating women and other groups have many applications—in research, in patient management, in public policy development, and in program planning and evaluation. The selection of the indicator of nutritional status to be used should consider its intended application (Habicht and Pelletier, 1990).

To date, there have been few efforts to develop indicators specifically for the assessment of nutritional status among lactating women (Rasmussen and Habicht, 1989). Most indicators are normative; that is, they reveal how an individual's value for that indicator compares to some standard, usually derived from a population of normal, healthy subjects. Values outside a range defined by designated cutoff points are called abnormal, but may or may not be associated with any particular functional consequence. An example of a normative indicator is the comparison of weight for height or blood nutrient values to a reference standard. As discussed further below, no standards for anthropometric or biochemical indicators have been established for nutritional status among lactating women. The usefulness of values obtained from nonpregnant, nonlactating women as a reference standard for lactating women requires evaluation.

There are few indicators of risk of undesirable outcomes for lactating women. Instead, the risk is usually related to the health of the nursing infant. An example of such an indicator is an abnormally low concentration of riboflavin in milk, which is associated with the likelihood of nutritional deficiency in the nursing infant (Bates et al., 1982). Another is the classic association of low thiamin concentrations in the milk of mothers in a rice-eating population with a high incidence of infantile beriberi among breastfed babies (Kinney and Follis, 1958). In contrast, indicators of poor nutritional status with respect to certain micronutrients (e.g., iron) are well understood in lactating women and can be used for the targeting of nutrient-specific interventions.
Maternal nutrition during breast

Do the women need to drink milk to produce milk?

Human beings are the only animals that consume the milk of other animals. In no other species do the young consume milk after infancy. No other mammalian mothers drink milk, yet they all produce milk adapted to the needs of their young. They obtain all the necessary ingredients to produce milk from their diet. It’s useful to remember that there are whole cultures where the people traditionally do not drink milk or eat dairy products. In some languages, the traditional word for milk means only human milk, and the idea of milk from another mammalian species is totally new to the culture.

Milk and cheese are an important part of the diet of many people. Others thrive without milk or cheese. In any case, there is no need to introduce these foods into the diet or to increase their consumption, especially if the mother does not like or does not tolerate them.

How much do the mother need to drink while she is breastfeeding?

In general, drinking to thirst is a good rule. You are usually drinking enough if your urine is light colored. Many mothers feel thirsty when they breastfeed, especially when the baby is a newborn. It’s a good idea to have a glass of water available while breastfeeding. Drinking beyond one’s needs is unnecessary, as it doesn’t help to increase the milk and may be unpleasant.

Herb teas and infusions are a pleasant way for many women to increase their liquid intake. Although many believe that some herbs can increase milk production, we do know that unless the baby empties the breast regularly and on cue that milk production will not reach its top potential. Excessive amounts of herb teas and infusions can be harmful to both mother and baby, so they should be used moderately and with caution.

In the case of all beverages, the quantity and type of substances present (such as carbonation, sugar, stimulants, sweeteners, and colors) should be evaluated for the effects on both mother and child.

Iron

Human milk contains a small amount of iron in a form that is easy for babies to absorb. As with calcium, the levels of this mineral in human milk are constant, despite variations in the maternal diet or the mother’s body stores. Iron is present in meat, beans, green vegetables, whole grains, and some dried fruits.

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Vegetarian diet during breast feeding

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Research has shown that milk produced by vegetarian women has lower levels of environmental contaminants (such as PCBs) than that of other women. These substances are stored principally in the fatty tissues of the body, and vegetarian diets tend to contain less fat than diets with more animal products.

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A woman who is breastfeeding should lose weight slowly. Every mother needs enough energy and nutrients to be healthy, active, and able to care for her child or children. Ideally, she should not lose more than about one to two pounds per week.
**Chapter Three: Research Methodology**

3.1: Research design

The study was carried out through descriptive correlation quantitative design. The methodology of maternal nutrition during breast feeding of this study was developed by taking into consideration by the specific social and cultural context of Somaliland community. The capacity of the research, the time frame and the available budget is taken into grant, therefore, this paper is based primarily on the survey method and two over all tools was used.

It uses explanatory survey design in which suitable for people living Hargeisa, I also used a survey method to test expected explanations or theories.

3.2: Research population

The Target population of the research study was composed Hargeisa only; these populations consist of 30 respondents. The researcher visited Hargeisa Group Hospital and Edna Adan University Hospital, that the researcher though to find reliable and adequate information about the maternal nutrition during breast feeding in Somaliland.

<table>
<thead>
<tr>
<th>Targeting</th>
<th>Population</th>
<th>Sample</th>
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<tbody>
<tr>
<td>Hargeisa District</td>
<td>30</td>
<td>10</td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
<td>30</td>
</tr>
</tbody>
</table>

3.3: Sample size

Sampling is the process of selecting members of a population to be included in a sample. (Paul, 1997) sample size told us the number of individuals that took part the study. 30 respondents were the sample size of the researcher of this study which was selected from different places in Hargeisa district.

3.4: Sampling procedure
In this study, the researcher chose to use both purposive and stratified sampling techniques so as to make sure that the researcher selected only one group of females.

3.5: Research Instruments

Research instruments are the tools in which the researcher applied to collect actual and sufficient data from different respondents for the research to be more reliable and much trustful. The researcher used questionnaires that were distributed 30 respondents from Hargeisa district.

3.6: Data Collection Procedure

The data collection method of this research paper consisted of both qualitative and quantitative technique and the researcher accumulated the data from the sample size by using questionnaire in order to get adequate and reliable information for this research paper. The reason that the researcher selected qualitative and quantitative technique was that his analysis was based on in words and numbers.

3.8: Validity and Reliability

English language used in the questionnaire in the urban areas during data collection with respondents

Research carried out under assistance of the research guide

The researcher directly involved in data collection, cross-checking, data processing and data analyzing.

3.9: limitation of the Study:

This is a small scale study done for the partial fulfillment of the requirement of BSC in Nutrition Science Program within short period of time, hence covers small area of study

Limited resources as a student

Difficult to generalize the result to district and the country, time, budget was also limited, internet was difficult and had to get it from far places
Chapter Four: Data Analysis and Interpretation.

In this chapter, I used excel spreadsheet to analyze the quantitative part of the report of the research. Charts, illustrations and graphical presentation also used to simplify the understanding and presentation of research findings.

Question 1 Analysis: Your gender?

<table>
<thead>
<tr>
<th>Gender</th>
<th>Responses</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Female</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

100% were female because we selected only female as mention our my theses research.

Question 2 Analysis: How old are you?

<table>
<thead>
<tr>
<th>Age</th>
<th>Responses</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-25</td>
<td>2</td>
<td>20%</td>
</tr>
<tr>
<td>26-35</td>
<td>3</td>
<td>30%</td>
</tr>
</tbody>
</table>
5 respondents are aged in between 36 up to 45, 3 respondents are 26 up to 35 and 2 respondents are 18 up to 25 years old.

**Question 3 analysis:** Do you get any advise about breast feeding from your husband?

<table>
<thead>
<tr>
<th>Advise about breast feeding from your husband</th>
<th>Responses</th>
<th>percentage</th>
</tr>
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<tbody>
<tr>
<td>Yes</td>
<td>9</td>
<td>90%</td>
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<td>No</td>
<td>1</td>
<td>10%</td>
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</tbody>
</table>
9 out of 10 persons were selected as sample said yes which means 90% and the other 1 person said No which means 10%.

**Question 4 Analysis:** Do you eat vegetarian foods?

<table>
<thead>
<tr>
<th>Eat vegetarian foods</th>
<th>Responses</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>8</td>
<td>80%</td>
</tr>
<tr>
<td>No</td>
<td>2</td>
<td>20%</td>
</tr>
</tbody>
</table>
Majority of the respondents they eat vegetarian foods to survive weight loose during the breast feeding.

**Question 5 Analysis:** Do you drink a lot of tea during breast feeding?

<table>
<thead>
<tr>
<th>Drink a lot of tea during breast feeding</th>
<th>Responses</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>8</td>
<td>80%</td>
</tr>
<tr>
<td>No</td>
<td>2</td>
<td>20%</td>
</tr>
</tbody>
</table>
Maternal nutrition during breast feeding

8 respondents out of 10 they drink a lot of tea during breast feeding and 2 respondents not.

**Question 6 Analysis:** Do you think malnutrition is the most common problem faced mothers during lactation?

<table>
<thead>
<tr>
<th>Malnutrition is the most common problem faced mothers during lactation?</th>
<th>Responses</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>10</td>
<td>100%</td>
</tr>
<tr>
<td>No</td>
<td>0</td>
<td>0%</td>
</tr>
</tbody>
</table>
Maternal nutrition during breast feeding

All peoples they agree.

**Question 7, analysis**: Does your diet include iron rich foods such as meat, egg or iron fortified foods?

<table>
<thead>
<tr>
<th></th>
<th>Responses</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Your diet include iron rich foods such as meat, egg or iron fortified foods?</td>
<td>Yes</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>8</td>
</tr>
</tbody>
</table>
8 out of 10 persons were selected as sample said NO which means 80% and the other 2 persons said Yes which means 20%.

**Question 8 Analysis:** How many times do you breast feed your child?

<table>
<thead>
<tr>
<th>Methods used to clean water</th>
<th>Responses</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>More than 8 times a day</td>
<td>2</td>
<td>20%</td>
</tr>
<tr>
<td>2 to 3 times a day</td>
<td>6</td>
<td>60%</td>
</tr>
<tr>
<td>3 to 4 times a day</td>
<td>1</td>
<td>10%</td>
</tr>
<tr>
<td>4 to 6 times a day</td>
<td>1</td>
<td>10%</td>
</tr>
</tbody>
</table>
Many times do you breast feed your child

- More than 8x/day
- 2 to 3x a day
- 3 to 4x a day
- 4 to 6x a day

<table>
<thead>
<tr>
<th>That the tea have damaged to your health</th>
<th>responses</th>
<th>percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>1</td>
<td>10%</td>
</tr>
<tr>
<td>No</td>
<td>9</td>
<td>90%</td>
</tr>
</tbody>
</table>

Actually they sack breast feeding.

**Question 9, analysis:** Do you think that the tea have damaged to your health?
9 out of 10 persons were selected as sample said No and which means 90% and the other 1 person said Yes which means 10%. That means the majority of people in Hargiesa City are said No.

**Question 10, analysis:** Mother’s malnutrition result from poverty, lack of education and imbalanced diet?

<table>
<thead>
<tr>
<th>Agree</th>
<th>7</th>
<th>70%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disagree</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Week agree</td>
<td>2</td>
<td>20%</td>
</tr>
<tr>
<td>Strong agree</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The most population of Hargiesa area are agree 7 out of 10 were selected as sample said Agree which means 70% and other 1 out of 10 were selected as sample said Agree which means 10%, and 2 out of 20 persons were selected as sample said Week agree and 0 out of 0% persons selected said Disagree.
Chapter five

5.1 Conclusion

This chapter look at the conclusions that can be drawn from data analysis in the study project, discusses the limitations that were experienced in the execution of the project and forward recommendation.

5.2 Conclusion

The diet for a breastfeeding woman is simply the healthiest one for all human beings. In our day-to-day lives, most of us have food habits that are not "ideal," but are still good enough to ensure that we have a sufficient quantity of the right kinds of food. A woman who is not strict with her diet can still breastfeed successfully. It’s important to keep in mind, however, that good nutrition helps a mother maintain her health.

The majority of women in the world who breastfeed follow imperfect diets at least part of the time. The concept of an "ideal" diet can vary from different families, cultures, economic situations, religions, and in different seasons. Yet, almost always, all over the world, in different epochs, even in situations of deprivation, mothers produce milk that helps their babies grow well.

In a few words, a healthy diet, both for a breastfeeding mother as well as for most other people, is defined by the terms varied, balanced, and natural. A varied diet is one that includes an assortment of different groups of foods, without excluding any particular one. But even in the case of specific allergies or food intolerance, a diet that includes different types of food and varies from meal to meal, from day to day and from season to season, will help to reduce reactions that might arise with repeated consumption of large amounts of a particular food.

The following are the main groups of foods that should be included in the daily diet.

Fresh vegetables and fruits (preferably those in season) of all types, eaten raw or cooked;

Different grains (wheat, rice, corn, barley, millet) preferably whole, in various forms, in the form of whole or broken kernels, as well as semolina and flour (and products made from them including bread and pasta);

Protein foods from animal sources (dairy products, eggs, meat and fish) and/or plantsources (lentils, beans, soybeans);

Small quantities of fats, preferably uncooked, cold-pressed vegetable oils.
A balanced diet can be achieved by eating a variety of foods from each of these food groups as well as by consuming individual foods in different forms—such as eating different varieties of fruits and vegetables or cooking foods in different ways. Some vitamins and proteins are better absorbed if other vitamins and minerals are present at the same time. For example, iron is utilized better if vitamin C is present in the diet. On the other hand, an excess of some kinds of foods can be detrimental. Large amounts of protein, for example, can cause the body to eliminate greater quantities of vitamins and minerals.

This study is evaluating the relationships between dietary factors of lactating women and their milk productions were included. Among these, five studies examining the effects of reduced caloric intakes, two studies examining the effects of increased or decreased fluid intake, two studies examining the effects of increased protein intake, one study examining the effects of three nutrition supplements, and one study analyzed the association between mothers’ calcium intake and breast milk volume. In the majority of these studies (all except for Barbarosa et al and Dusdieker et al), breast milk production was quantified by the "gold standard" of infant test-weighing, in addition to feeding frequency and records of three-day to five-day production via breast pump. Overall, there were no significant effects or relationships between any of these dietary factors and women's milk production.
5.3 Recommendation

a) Provide women with information and advice on the benefits of taking a vitamin D supplement (10 micrograms [μg] per day) during pregnancy and while breastfeeding.

b) Provide Healthy Start vitamin supplements (folic acid and vitamin C and D) for eligible pregnant women.

c) To encourage breastfeeding within their organizations.

d) Encourage breastfeeding by providing information, practical advice and ongoing support – including the help of breastfeeding peer supporters and advice on how to store expressed breast milk safely.

e) Once infants are aged 6 months, encourage and help parents and careers to progressively introduce them to a variety of nutritious foods, in addition to milk.

f) If your health become fit your baby is become health fit,

g) The beast breast feeding it parts of your baby's growth.

h) To mobilize the mother's malnutrition result from poverty, lack of education and in balanced diet.

J) The man society must be advice on their mother's and wife's for breast feeding.
Maternal nutrition during breast feeding

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Maternal nutrition during breast

Questionnaire

1: Gender
   A: female { }  B: male { }

2: What is your marital status?
   A: married { }  B: single { }  C: divorced { }  D: widowed { }

3: What is your age?
   A: 15 to 19 { }  B: 20 to 24 { }  C: 25 to 29 { }  D: 30 to 34 { }  E: < 34 { }

4: What is your educational level?
   A: never { }  B: read and write only { }  C: primary and intermediate { }  D: secondary level { }  E: degree { }

5: Are you employed?
   A: yes { }  B: no { }

6: What is your occupation?

7: Malnutrition directly affects you and your baby's health?
   A: agree { }  B: strongly agree { }  C: disagree { }  D: strongly disagree { }

8: Mothers' malnutrition results from poverty, lack of education, and imbalanced diet?
   A: agree { }  B: strongly agree { }  C: disagree { }  D: strongly disagree { }

9: Did you get any advice about breast feeding from your husband?
   A: yes { }  B: no { }

10: Do you eat vegetarian foods?
    A: yes { }  B: no { }
11: do you increase your diet while you are breast feeding? a: yes { } b: no { }

12: does your diet include iron rich foods such as meat, egg or iron fortified foods? a: yes { } b: no { }

13: do you have any other chronic diseases such as? a: Anemia { } b: hyper tension { }

14: do you drink a lot of tea during breastfeeding? a: yes { } b: no { }

15: if yes do you think that the tea have damage to your health? a: yes { } b: no { }

16: what are the common foods and drinks that the mother eat during lactation? a: somali tea { } b: meat { } c: milk { } d: fruiites and vegetable{ }

17: do you think that malnutrition is the most common problem faced mothers during lactation? A: yes { } b: no { } c: not sure { }

18: how many times do you breast feed your child? a: 2 to 3 times a day { } b: 3 to 4 times a day { } c: 6 to 8 times a day { } d: < 8 times a day { }

19: do you eat immediately food after you breast feed your child? a: some times { } b: mostly { } c: every time { }

20: do you get any breast feeding advantage from MCH workers? a: some times { } b: yes { } c: never go { }