Acknowledgment

Thanks to ALLAH, who blessed us in easily doing this thesis. We are also congratulating our supervisor who helped us in completing our thesis book.

We did hard work and good time to cover our research, as everybody can read and get more advantages of our researches. Sometimes we visited places we Wrote what community tells us and we make them references, to take the right one and one over other, so our effort depends on time we look for the reality and good References that our community get a lot of advantages of our research that is why we did the more researches.

Thanks to the principal of our faculty, who made us pure student’s that can have ability to do every think needed in the promotion health sector in our country..

We practiced the real labs, and we have done more works.

We are also congratulating everyone who helped us for the success of our thesis.
The Relationship Of Maternal Nutrition And Breast Feeding

June 1, 2015

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CHAPTER ONE
INTRODUCTION

1.1 Background

Maternal nutrition refers to the nutritional needs of women during the antenatal and postnatal period (i.e., when they are pregnant and breastfeeding) and also may refer to the pre-conceptual period (i.e. Adolescence). Maternal under-nutrition affects the health of both mothers and children and, as a result, has broad impacts on economic and social development. Undernourished pregnant women have higher reproductive risks, including death during or following childbirth. Many women suffer from a Combination of chronic energy deficiency, poor weight gain in pregnancy, anemia, and other micronutrient deficiencies, as well as infections like HIV and malaria. These along with inadequate Obstetric care, contribute to high rates of maternal mortality and poor birth outcomes. Under-nutrition in pregnant women is directly linked to intrauterine growth retardation (IUGR), which results in low birth weight, pre-maturity, and low nutrient stores in infants. Maternal under-nutrition also diminishes a Woman’s productivity, causing repercussions for herself, her family, her community, and the broader society. It is well known that the effects of micronutrient deficiencies during pregnancy have severe Consequences. Anemia (primarily due to poor iron status) is a major marker of maternal malnutrition, in as much as any level of anemia increases the risk for maternal mortality and morbidity and also diminishes women’s productivity.

During pregnancy, iodine deficiency disorders (which result from a lack of sufficient iodine in the diet) can result in serious and irreversible effects on child brain development and mental capacity, in the form of cretinism, and can lead to miscarriage, stillbirths, and early neonatal deaths. Maternal nutrition has a life-cycle or intergenerational element as well. Lightweight, Short-stature women give birth to small, low birth weight babies who become short, lightweight Girls and repeat the cycle of intergenerational under-nutrition. Where and how to most effectively and efficiently break the intergenerational under-nutrition cycle remains unclear. (Thomson Am. Diet in pregnancy: diet in relation to course & outcome of pregnancy BRJ Nutrition 1959; 13:509). During the Rest half of the 20th century, chronic
energy under nutrition due to low dietary intake, repeated infections, and rapid succession of pregnancy were the factors most responsible for Maternal under nutrition and consequent adverse outcomes of pregnancy. Efforts to improve dietary intake, treatment of infections, and provision of contraceptive care were the major focuses of intervention from (1950 to 1990). These interventions resulted in reduction in severe grades of under nutrition. However, there was no reduction in mild and moderate degrees of under nutrition and anemia during pregnancy and there was no sign. Can’t improvement in the course and outcome of pregnancy, or in birth weightDuring the 1990s, among the middle- and upper-income groups, there has been a progressive rise in obesity and consequent adverse effects. The advent of HIV infection in India in the 1980s will in inevitable lead to increases in severe under nutrition associated with HIV infection in pregnancy and an adverse impact of maternal HIV infection on the fetus. Practicing physicians and nutritionists in the new millennium will therefore have to assess each person individually and provide appropriate advice regarding diet, exercise, fertility, and infection prevention and control in order to achieve optimum health and nutrition status during pregnancy and to prevent adverse pregnancy outcomes also her offspring.

During the second half of the twentieth century, studies were undertaken to define the nutrition requirements during pregnancy, the adverse consequences of under nutrition on the mother-child (dyad) and the intervention strategies for minimizing, if not eliminating, these adverse consequences. Adverse nutrition and health consequences of “too early, too close, too many, and too late” pregnancies on the mother-child (dyad) were recognized early in India and contraceptive care was identified as an effective indirect intervention to improve maternal and child nutrition.


Research program reports, and other materials specifically related to maternal nutrition principles, practices, and programs are not abundant either. This lack of attention to maternal nutrition may in part reflect a focus on mortality reduction rather than on growth and
development. The intergenerational aspects of maternal nutrition on breast feeding may also have contributed to the lack of attention in maternal nutrition and breast feeding if we see the effect on maternal nutrition on breast feeding; it depends on the mother's diet.

The energy, protein, and other nutrients in breast milk come from the mother's diet or from her own body stores. When women do not get enough energy and nutrients in their diets, repeated, closely spaced cycles of pregnancy and lactation can reduce their energy and nutrient reserves, a process known as maternal depletion. However, there are also adaptations that help and also protect the mother from these effects. The most important is appetite. During pregnancy and particularly during lactation, a woman's appetite generally increases. The resulting increase in food intake helps to meet the additional demands of pregnancy and lactation. Extra food must be available to the mother.


Community and household members should be informed of the importance of making additional food available to women before they become pregnant, during pregnancy, lactation, and during the recuperative interval when the mother is neither pregnant nor lactating. Making more food available to mothers is even more important in societies with cultural restrictions on women's diets. Efforts to increase the amount of food available to adolescent, pregnant, and lactating women can be the most effective way of improving their health and that of their infants. If the mother is extremely malnourished, virtually all mothers can produce adequate amounts of breast milk. When the breastfeeding mother is undernourished, it is safer, easier, and less expensive to give her more food than to expose the infant to the risks associated with breast milk substitutes. Maternal deficiencies of some micronutrients can affect the quality of breast milk. These deficiencies should be avoided by improving the diet or providing supplements to the mother.

In Somaliland many rural women’s suffer from bad nutrition and they don’t have any knowledge if they become malnourish this will affect her immunity, reproductive and also her child growth.
1.2 Problem statement

Maternal Nutrition problems and breast feeding are often unnoticed until they reach a severe level and that causes a lot of loss lives of many maternal women. Mother nutrition plays crucial role on the health and growth of the child. Lack of sufficient food or the deficiency of a specific nutrient, such as iron, is clearly implicated in contemporary maternal malnutrition. Maternal malnutrition and breast feeding has emerged as a major factor in the child growth. Nutrition and health is one of the priorities to achieve education targets. In Somaliland.

The relationship of maternal nutrition and breast feeding are linked together so if mother is malnourish it will affect generation to generation. Nutrition problems are often unnoticed until they reach a severe level and that causes’ lot of loss lives of many maternal women. When a woman begins life as an undernourished infant, with frequent illness and poor nutrition during childhood, she arrives at maturity in a less than optimal state to undertake pregnancy and lactation. As the Conditions that produce malnutrition continue to affect her, she and her child, as well as the larger community, are further disadvantaged through a vicious intergenerational cycle of poverty and under nutrition.

1.3 Purpose of the study

The purpose of this study is to examine the effects of maternal nutrition & breast feeding in Hawadle MCH in Hargeisa city Somaliland.

1.4 Research aims and objectives

1.4.1 General objectives

The main objective of the study is to observe and analyze the maternal nutrition and breast feeding.

1.4.2 Specific objective

- To identify the maternal malnutrition among Hawadle MCH.
- To determine the causes and consequences of maternal nutrition and breast feeding.
- To investigate the effect of breast feeding on maternal nutrition status.
1.5 Research Questions

1. What are the causes of maternal malnutrition?

2. What is the nutritional requirements for pregnant and lactation women’s?

3. How do you know the effect of breast feeding on maternal nutrition status?

1.6 Significant of the study

This study will a potential contribution to the researcher’s knowledge, there is no previous research conducted to bring out the extent of this problem in Hargeisa city, and baseline data. So this study focuses on maternal nutrition and breast feeding. The relationship of maternal nutrition & breast feeding is very important because they depend on each other, if the mother is malnourish it will also affect the child growth, health & breastfeeding or appetite (feeding). On this findings of this study are beneficial to many different categories of people and in many different ways.

1.6.1 to the Ministry Of Health

It will be primary data, since there isn't any pervious of this research, it will help by knowing how huge the problem is, and it will be part of the strategies of how is manage maternal malnutrition without any medication, by management of balanced diet. This study is of great priority to the government as a whole given the fact that maternal nutrition takes crucial role for child breast feeding and child growth. Nutrition is one of the fundamental principles for society. The study findings will therefore be beneficial to health centers, MCH’s, so they can benefit this book.

1.6.2 to the local community

It will benefits the local community by know and have enough knowledge the link between maternal nutrition and breast feeding what is the causes maternal malnutrition , and how to prevent it, the understanding the important nutrition for mother and child. The effectiveness of local government policies toward maternal nutrition and breast feeding. And the dietary intakes of breast feeding mothers, caring maternal mother in pregnancy and lactation period
because it is the most vulnerable period for the mothers since there are pregnancies or lactating.

1.6.3. To humanitarian organization /NGO’s

The findings of this study will go a long way in influencing maternal nutrition and breast feeding strategies that will intrinsically incorporate modern technology to increase infant young child feeding.

1.6.4 to the future researchers

Since there isn't any previous research of this study, it will be a primary resource of the other researchers who will love to write of this topic, and used it this research study as primary sources.

1.7 Scope of the study
1.7.1 Scope work study

It also focuses the effect of maternal nutrition and breast feeding in Hawadle village in HargeisaSomaliland. This research will be on the Maternal Nutrition and breast feeding, how to treat it without any medication, and will focus on the reasons and factors behind maternal malnutrition, and why statically Maternal Malnutrition increase lately and how we can prevent it.

1.7.2 Geographical Scope

The study will be carried out the MCH Hawadle in and 26th June districts Hargeisa Somaliland. It also focuses the effect of maternal nutrition and breast feeding in Hawadle village in HargeisaSomaliland. The researcher will target a number of selected MCH’s on maternal sections were they referral any obstetric complications and it is where we can find any kind of case which is related to mothers nutrition and child nutrition. On this study of maternal nutrition and breast feeding in which the other researchers couldn’t assess it before and I would like to discover it.
1.7.3 Time scope

This study or research of the Maternal Nutrition and breast feeding will take three months that university setup for every student who writing the thesis, on this three month I will focus on my study area of my research. Which is Hawadle MCH (maternal and Child Health), I will analysis and evaluate the reasons of Maternal Nutrition get worse on pregnancy period, and What are causes of maternal malnutrition , Does it have any effect on breast milk production?.

1.8 Conceptual framework of Maternal Nutrition and breast feeding.

In here, I will discusses the relationship between Maternal Nutrition and Breast feeding, as it shows on the conceptual framework there is enormous relation links together, if maternal nutrition, poverty, health education, food accessibility, low birth weight will be the outcome if mother is malnutrition or undernutrition.

![Conceptual framework diagram](image)
1.9. Operational definition key terms:

1. **Maternal nutrition**: Maternal nutrition also refers to the nutritional needs of women during the antenatal and postnatal period.

2. **Malnutrition**: is a medical condition caused by an improper or insufficient diet, it is also defined as a broad term which refers to both **under nutrition** (sub nutrition) and **over nutrition** or Malnutrition can also be defined as the insufficient, excessive or imbalanced consumption of nutrients.

3. **Nutrition**: a process which living things utilize the food to maintain growth and development.

4. **Nutritional status**: A measurement of the extent to which individuals’ physiological needs for nutrients are met.

5. **Under nutrition**: Inadequate nutrition resulting from lack of food or failure of the body to absorb or assimilate nutrients properly.

6. **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 suckling at the breast.
CHAPTER TWO
REVIEW OF THE RELATED LITERATURE

2.1 Concepts, opinion, Ideas, from other Authors/Experts

A mother’s diet while breastfeeding is one of the most frequently asked questions from mothers who are breastfeeding or pumping milk to feed their babies is, “Do I need to be on a special diet?” In most cases, the answer is no. Women who are breastfeeding should eat a well-balanced diet and drink enough liquids. Although shedding those extra pounds gained during pregnancy may be one of your biggest concerns, strict weight-loss programs are not recommended, especially during the first few months of breastfeeding. There are no special diets a breastfeeding mother must eat, but the following suggestions may help you focus on your eating patterns while breastfeeding adequate fluid intake for every mothers, variety, sufficient caloric intake, vegetarian diets. During the last decade, the need for nutrition specialists in public health and maternal and child health programs has increased, along with the recognition that low birth weight, diabetes, and childhood overweight and obesity are important national health concerns. There is also an increasing demand for lactation consultants, as greater numbers of women choose to breastfeed their infants. In response, private and public health agencies have focused on improving the nutrition of mothers and children. The UC Davis Master of Advanced Study in Maternal and Child Nutrition is designed to provide a strong scientific background in these topics, and to train professionals to design, implement and evaluate nutrition intervention programs for mothers and children from a wide variety of cultural, ethnic and social backgrounds.

When you’re pregnant or breastfeeding, you’re on the receiving end of a lot of nutritional advice. Some say that you need to eat certain kinds of food in order to produce enough milk; others warn that some foods will make the baby refuse your milk, and others tell you that certain types of foods in your diet can be harmful for your baby or reduce your milk production. How can a mother find her way in the midst of all this information?

Over the years of experience with breastfeeding mothers all over the world, the Leaders have seen that the best diet for a breastfeeding mother is neither complicated nor expensive. It doesn’t require lengthy preparation, the sacrifice of favorite foods, or any need to eat unusual or strange foods in large quantities. It can also vary with an individual’s own preferences.
A healthy diet offers many advantages that go beyond those that directly affect the breastfeeding baby and mother. The whole families, including the baby who will soon be eating with the others, reap the benefits as healthy eating habits are established. In recent years, research has confirmed that even if some nutrients are missing in a woman’s daily diet, she will still produce milk that will help her child grow. There is very little difference in the milk of healthy mothers and mothers who are severely malnourished. For example, if a mother’s diet is lacking in calories, her body makes up the deficit, drawing on the reserves laid down during pregnancy or before. Unless there is a physical reason for low milk production, a woman who breastfeeds on cue will be able to produce enough milk for her baby, regardless of what she eats. A great deal of attention has been paid to the diet of the breastfeeding mother all over the world. It isn’t really surprising that many cultures make a direct connection between a woman’s diet and the milk she produces for her child, so it is easy to understand why there are so many recommendations and taboos regarding what a breastfeeding mother eats. Some of these ideas do indeed have a basis, while others are the result of cultural attitudes, nations, and superstitions. Some breastfeeding mothers feel so weighed down with taboos and obligations regarding her diet that breastfeeding can seem too complicated to put up with for very long. Unfortunately, most of the time there is no real reason for these rules to exist. Breastfeeding is a normal stage in the reproductive life of a woman, where just as in all the other stages in her life; her diet needs to be healthy, balanced, and adequate, taking into consideration any specific medical conditions.

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. The overwhelming 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.
2.2 Theoretical Perspective

The consequences of maternal nutrition causes anemia, premature labor, and low birth weight babies. Severe anemia caused by poor nutrition can cause post-partum hemorrhage and maternal deaths.

- Consequences for maternal health: Increased risk of maternal complications and death; it also increases infection. Anemia, lethargy, and weakness, lower productivity. It will also have a consequence for fetal and infant health.

- Increased risk of fetal, neonatal, and infant death
- Intrauterine growth retardation, low birth weight, prematurity, Birth defects
- Cretinism
- Brain damage
- Increased risk of infection

This group aimed to measure the energy needs of the mother before, during, and after pregnancy. They suggest that developing countries should address the nutritional intake of the pregnant women. Godfrey et al. in the United Kingdom assessed research on how the nutritional intake of pregnant mothers influenced two factors: the growth of the fetus and the growth of the placenta in early and late pregnancy. The birth weight and placenta weight were reduced if the maternal is malnourished; it will also affect the child growth, child, and milk production because she will not release any milk or enough milk. So the biggest offender was sugar in the diet. In the late pregnancy, it was women who had a low protein intake that were associated with a decrease in placenta weight. The amounts by measure appear very small but overall there can be no doubt that high carbohydrate, low protein diet had effect on both baby (breast feeding, growth) and placenta (Godfrey et al. 1996.). There are some factors which are associated with deterioration in maternal nutrition status. Studies carried out during the 1980s have carried some of the situations where these adaptive measures, which prevent deterioration in nutrition status during pregnancy and lactation in spite of continued low habitual dietary intake, can fail. The “straw that broke the camel’s back” and led to deterioration in maternal nutrition and reproductive performance could be a further reduction in the dietary intake below the habitual level. An increase in the physical activity above the habitual level, or a combination of these two pregnancy in an adolescent girl, in a lactating woman, or within two years after last delivery. Healthy People 2010 Objective 16-19:
Increase the proportion of mothers who breastfeed their babies. In the United States, by 2010, 75 percent of mothers will breastfeed their newborns in the early postpartum period, 50 percent will continue to breastfeed through their infants’ first six months and 25 percent will breastfeed their babies throughout their first year of life. In 2004, 83.9 percent of women in California intended to provide “any breastfeeding,” to their newborn infants upon discharge from the hospital, exceeding the Healthy People 2010 target of 75 percent of mother’s breastfeeding in the early postpartum period. However, only 40.5 percent intended to exclusively breastfeed, thus, the Healthy People 2010 Objective 16-19 d. target of 60 percent was not met in California.

Lactation, which is 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 suckling 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 by 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 recovery from childbirth; decreased postpartum bleeding; delayed return to fertility; reduced risk for breast and ovarian cancers; less bladder and other infections; possibly less post-menopausal hip and spinal fractures; and reduced risk for developing type 2 diabetes.

Many lactating women return to their pre-pregnancy weight more quickly than bottle-feeding mothers. Additional health benefits cited by Riordan are lower serum levels of cholesterol and triglycerides in breastfeeding women compared to women who gave their babies manufactured infant milk (formula). Nearly every woman is physically capable of breastfeeding. According to the CDC, women who are infected with the hepatitis C virus (HCV) can breastfeed, but should temporarily discontinue breastfeeding if the nipples or surrounding areola become cracked and bleeding. The breast milk can be expressed and discarded while the nipples heal. 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
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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.

2.3. Related Studies:

On Maternal nutrition nearly 20 years ago, it was discovered that low birth weight was associated with an increased risk of adult diabetes and cardiovascular disease (CVD). This led to the hypothesis that exposure to under nutrition.

In early life increases an individual’s vulnerability to these disorders, by ‘programming’ permanent metabolic changes. Implicit in the programming hypothesis is that improving the nutrition of girls and women could prevent common chronic diseases in future generations. Research in India has shown that low birth weight children have increased CVD risk factors, and a unique birth cohort in Delhi has shown that low infant weight, and rapid childhood weight gain, increases the risk of type 2 diabetes. Progress has been made in understanding the role of specific nutrients in the maternal diet. In the Pune Maternal Nutrition Study, low maternal vitamin B12 status predicted, increased adiposity and insulin resistance in the children, especially if the mother was folate replete. It is not only maternal under nutrition that Causes problems; gestational diabetes, a form of fetal over nutrition (glucose excess), is associated with increased adiposity and insulin resistance in the children, highlighting the adverse effects of the ‘double Burden’ of malnutrition in developing countries, where under nutrition and over nutrition co-exist. Recent intervention studies in several developing countries have shown that CVD risk factors in the offspring can be improved by supplementing undernourished mothers during pregnancy. Results differ according to the population, the intervention and the post-natal environment. Ongoing studies in India and elsewhere seek to understand the long-term effects of nutrition in early life, and how best to translate this knowledge into policies to improve health in future generations. The Benefits of Breastfeeding in The American Academy of Pediatrics (AAP) recommends that infants
breastfed without supplemental foods or liquids for their first six months of life, and that breastfeeding should be continued for the first year of life and beyond, as mutually desired by the mother and child. Additional discussion of the nutritional benefits of breastfeeding for the infant is contained in the Normal Infant Feeding (0-12 months) chapter. In addition to being the optimal method to nourish an infant, breastfeeding provides many health benefits for the mother. These benefits include more rapid.

California Food Guide: Fulfilling the Dietary Guidelines for Americans 8/23/06recovery from childbirth; decreased postpartum bleeding; delayed return to fertility; reduced risk for breast and ovarian cancers; less bladder and other infections; possibly less post-menopausal hip and spinal fractures; and reduced risk for developing type 2 diabetes. Many lactating women return to their pre-pregnancy weight more quickly than bottle-feeding mothers. Additional health benefits cited by Riordan are lower serum levels of cholesterol and triglycerides in breastfeeding women compared to women who gave their babies manufactured infant milk (formula). Nearly every woman is physically capable of breastfeeding. According to the CDC, women who are infected with the hepatitis C virus (HCV) can breastfeed, but should temporarily discontinue breastfeeding if the nipples or surrounding areola become cracked and bleeding. The breast milk can be expressed and discarded while the nipples heal. However, in some cases a woman should not breastfeed because doing so would place the mother or the infant at risk for an adverse health outcome, surpassing the benefits of breastfeeding. A mother with a new diagnosis of breast cancer or women who are unable to consume less than two alcoholic drinks per day, who currently use street drugs such as heroin or cocaine, and women who have tested positive for the human immunodeficiency virus (HIV) should not breastfeed, and should discuss their infant feeding plans with their health care provider. However, in developing countries, breastfed infants may be better protected from HIV transmission from their mothers compared to infants given manufactured baby formula. One large study found exclusively breastfed infants of HIV-positive mothers had a significantly lower risk of HIV transmission compared to partially-brestfed or formula-fed babies. It was speculated that the exclusively breastfed infants superior intestinal mucosal barrier prevented HIV transmission. In developing countries, the health risks of not breastfeeding outweigh the possible risk of HIV transmission, due to increased infant mortality from infectious diseases and nutritional deficiencies.
CHAPTER THREE
Research Methodology

3.0 Introduction of Research approach
On this chapter I will discuss it to the research design, area of study, population, and sample of the population, sampling technique, and instrument for data collection, validation of the Questionnaire, method of data analysis, ethical consideration and limitation of my study.

3.1 Research designed.
Brink and wood (1998:100) stated the purpose of a research design is to provide a plan for answering the research questions. The research was chosen across sectional survey as questionnaire because it is best served to answer the question on the purpose of the study.

3.2 Target population.
According to Amin (2005), the population is the complete collection of all the elements that are of interest in a particular investigation. The population of the study in this research will comprised 36 maternal mothers as questioner. The study will be carried out the MCH HAWADLE in 26th June in Hargeisa, Somaliland. And it targeted 36 maternal mothers; and also the study will be used to consider the information gathered from those whom are feeding their children so in target population the study constituted all adult mothers especially maternal mothers between the Ages of 20-59 yrs old in MCH Hawadle.

3.3. Sample size:
According to Amin (2005), the sample is the collection of some subset elements of a population. The number of antenatal and postnatal mothers who are coming to MCH Hawadle is 40 person daily so the sample for this study will consist of 36 respondents chosen from the MCH worker’s and maternal mothers in the Hawadle MCH. To determine the sample size the researcher will be guided by the Slovene’s sample selection formula, which is;
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N

\[ n = \frac{1}{1 + N \times (e)^2} \]

Where

\[ n = \text{number of sample} \]
\[ N = \text{total population} \]
\[ e = \text{level of significance } 0.05 \]

3.3.1 Sample Procedure:

To get the respondents size to participate in the study, purposive sampling method will be used.

In this study, a sample of 36 respondents will be used. These will be selected purposive techniques. Purposive techniques will be used more in order to attract respondents who are capable of providing the most appropriate information on the subject matter. In my sample procedure some of the question is for the MCH workers because they are educated people and some for mother so I can get deep information from them.

3.4. Research Instrument (data collection)

The study will collect using one type of data gathering instruments namely Questionnaire.

3.5. 1. Questionnaire

Questionnaire was chosen as one method of data collection because it is relatively easy for obtaining specific information from respondents the study will use closed questions to collect specific information that targets the research objectives.
3.6 Validity and Reliability

To use the validity of the data collection instruments which is questionnaire, the number of relevant questions will be divided by the total number of questions, and the outcome will have to be above optimal.

Where:

\[ V = \text{Validity} \]

\[ RQ = \text{Relevant questions} \]

\[ TQ = \text{Total number of questions} \]

Validit\[y =\] Relevant Questions/Total Question\[ = 15/24 = 0.625 \]

3.7. Data Analysis

The data obtained from the field is raw form it is difficult to interpret. Such data, will therefore be cleaned, separated and analyzed by SPSS. So the type of data Analysis I am using is SPSS program and after we collected the data from different respondents through questionnaire. The study will use charts and tables for data analysis.

3.8 Ethical consideration:

Ethical approval for this study was obtained from the Hargeisa University department of Science and Technology, research committee.

3.9 Limitations of the Study:

There are several limitations that every researcher faced in so on this study some of the constrains which faced the researcher is the time

Time. This is one major limitation because the time given to finalize this dissertation was too short. And less experience in the area of research contributes substantial limitations.

Some of the constrains and limitation which researcher face is that.
Unavailability of maternal nutrition and breast feeding books which are talking about detailed information.

Some People will not give you any full information and enough time to fill the questionnaire.

Lack of effective in sample area and short time in analysis data collection.
CHAPTER FOUR

PRESENTATION, ANALYSIS AND INTERPRETATION OF DATA

4.0 Introduction of the data analysis phase

In this chapter we will discuss the analysis of the data that I have collected from the respondents. The data analysis section of our proposal describes exactly how we propose to analyze the data we planned for collecting.

The purpose of analyzing data is to obtain usable and useful information. The analysis, regardless of whether the data is qualitative or quantitative.

Q1. Gender of the respondents

On this Fig: 4.1 the percentage of respondents is 100% females this is because the topic was maternal nutrition and breast feeding it concerns only females.

<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>100</td>
<td>36</td>
</tr>
<tr>
<td>Male</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

On this Fig: 4.1 the percentage of respondents is 100% females this is because the topic was maternal nutrition and breast feeding it concerns only females.
Q2. Age of the respondents

Figure 4.2 shows the Age of the respondents. The maximum age of the respondents were 30-34 (33.3%) while the least age of the respondents is 44-49 is (2.8%). The objective was to identify the age of the respondents.

Q4.3. This question is about academic level of the respondents.

In Fig 4.3 shows highest educational level of respondents, Non Educated mothers is (19%) while secondary, primary, intermediate level where same in (13.9%) so the lowest was University level Mothers (2%) on this figure the trend of none educated mother is Very High.
Q4.4 Are you working any place? Or if the mother is employee.

On Fig:4.4, shows that the number of working mothers and it is very little according to other mothers who only stay their homes which is (19.4% working mothers) while the 80.6% are not working.

Q4.5. The marital status of the respondents.

<table>
<thead>
<tr>
<th></th>
<th>Married</th>
<th>divorced</th>
<th>widow</th>
<th>none</th>
</tr>
</thead>
<tbody>
<tr>
<td>frequency</td>
<td>33</td>
<td>3</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>percentage</td>
<td>9.17</td>
<td>8.3</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Fig 4.5. This graph shows that most of the respondents were married (91.7%) according to the divorced maternal mother which were (8.3%).

Q4.6. The physiological status of the respondents.

![physiological status](image)

On the this fig 4.6 describes the physiological status of the mother. Most of the respondents were pregnant women’s and lactation so in the percentage of pregnant women’s is 56%, for lactation mothers is 39% while none of the above is 5% the objective of this question is to know the malnutrition status of pregnant and lactation mothers since there more vulnerable one’s than the normal mother.

Q4.7. The understanding in the term of malnutrition
In Fig 4.7 shows the number of Respondents who know or aware of the term of malnutrition and the trend shows similar result for the number of the respondent who answered yes and the number who answered No (50% to 50% both yes and no)

Q4.8 the relationship between nutrition, education and child nutritional status.

On Figure 4.8 shows that is there any relation between education mothers and child nutrition status so the number of the respondents who answered Yes (Yes there is Relationship or linkage between nutrition and education were much higher than the ones who Answered No is 22.2% while the percentage of yes were 77.8%)

AUTHOR:
Q4.9. when you are pregnant were often you go for clinical check up/fellow up for fetus.

In fig4.9 it shows that highest number of respondents which go MCH’s for clinical check up is 77.8% and hospitals in 16.7% while the other respondents who don’t go anywhere is 5.6%.

Q.4.10. the effect of breast feeding on maternal nutritional status?

This fig4.10 it shows that the number of the respondents who know the effect of breast feeding on maternal nutrition is highest number 61% which were YES while the 38.9% answered No.
Q4.11. Do you have any knowledge about nutritious diet in pregnancy period?

![Figure 4.11](image_url)

Figure 4.11 shows that most of the respondents have knowledge about nutritious diet period of pregnancy and there percentage is 55.6% which means they have knowledge while 41.7% answered No, (2.8 for not much) no knowledge at all. The analysis for this question it shows that stage of understanding in dietary intake for pregnancy period.

Q4.12. It shows the number of maternal mothers who are registering any feeding programs in MCH’s or other feeding programs.

![Figure 4.12](image_url)

Fig4.12 shows that the percentage of mothers who are registering in feeding program in MCH’s or others is very low as this trend shows which means the number Of the respondents Who answered Yes is 38.9% and for No is 61% which are not registering any feeding center.
Q4.13. It shows the dietary requirements of maternal mother.

![Graph showing dietary requirements of protein and carbohydrate](image)

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>protein</td>
<td></td>
<td></td>
<td>22.2%</td>
</tr>
<tr>
<td>carbohydrate</td>
<td>4</td>
<td>11.1%</td>
<td></td>
</tr>
<tr>
<td>All</td>
<td>24</td>
<td>66.7%</td>
<td></td>
</tr>
</tbody>
</table>

Fig. 4.13. It shows the nutritious requirement of pregnant mothers and lactation, so in protein it’s 22.2% while the women’s who only use carbohydrate to obtain energy is 11.1% according to the respondents answer of All which means both protein and carbohydrate consumption is 66.7%.

Q4.14. Does maternal nutrition have any effect on breastfeeding mother.

![Bar chart showing effect of maternal nutrition on lactation or breastfeeding](image)

Fig. 4.14. Does maternal nutrition affect lactation or breastfeeding? Yes: 61.11%, No: 36.89%.
Fig 4.14: if the maternal nutrition effect lactation or breast feeding according to this graph which is the answer of the respondents, for the respondents who said (yes) it effect was (61%) while for No answer is 38.9%.

Q.4.15 it shows whether lactation or breast feeding effects infant survival.

On fig 4.15 which shows the effect of breast feeding on maternal nutrition according to respondents answer which is yes or no (63.9%) were yeas it affects while (36.1%) is NO it doesn’t effect.

Q4.16. Who is bread winner of the family, husband, mother, or others?
In fig 4.16 shows the percentage of mothers who are bread winner which is (38.9%) while husbands who Work for their families is (55.6%) and other family members who work to give the income the family is (5.6%)

Q4.17. it shows symptoms that anemic women have during pregnant period?

On fig 4.17 shows that pregnant women who are having pregnant complications in the period of pregnancy, the ones who suffer from nausea is 25%, anemia16.7%, 2.8 % for gestational diabetes but the greatest number the answers of the respondents who suffer from Heart burn is 55.6%.
Q4.18. is there any weight loss, when a woman is pregnant?

On fig. 4.18 shows that is there any weight loss in pregnant period, so we can see according to this graph the highest trend which is the answer of the respondents who answered yes 63.9% which means yes there is weight loss in pregnant period, and for No 33.3% no weight loss at all while I am not sure is 2.8% if there is any weight loss or not.

Q4.19. the foods which need to limit or avoid for breast feeding?

On fig. 4.19 shows are there any foods which need to limit or avoid for breast feeding period in yes respondents their percentage is 19.4% and No respondents is 80.6% we can see on this
The Relationship Of Maternal Nutrition And Breast Feeding

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figure that the ones who believe there is no need foods which needs to limit or avoid for breast feeding period.

Q4.20. It shows the effect of iron deficiency on maternal mothers.

![Image of bar chart showing effect of iron deficiency or anemia on pregnant lactating women]

On figure 4.20 shows the effect of iron deficiency or anemia on pregnant and lactating women, on the most frequency answers of the respondents was Dizziness, short breathing because their percentage was 38.9% while premature birth was 33.3% and for risk of child birth is 27.8% we can see on this figure the effect of iron deficiency which causes dizziness and short of breathing is very large among pregnant women’s.

Q4.21. Does birth spacing effects on maternal and child nutrition status?

![Image of bar chart showing effect of birth spacing on maternal child nutrition status]

Fig 4.21 shows whether the child spacing have any effect on maternal child nutrition, if there frequencies of child birth will it will affect the nutritional and health of the mother so
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therespondents who answered Yes it effects maternal child nutrition status in percentage is 86.1% and for No is 13.9% which means no effect on maternal child nutrition status.

Q4.22. The apetite of pregnant women’s whether it changes or not

On Fig 4.22 shows that if the apetite of pregnant mother changes and according to answers of the respondents on this graph it shows for Yes 72.2% which means there is change on apetite and for No 27.8% no apetite change when women get pregnant.
Q4.23. The risk factors of anemia in pregnant women?

Fig 4.23 shows that the risk factors for anemia in pregnant women's who don’t eat iron rich foods is (44.4%) which leads iron deficiency, (a lot of vomiting) because of morning sickness which is also one of the risk factors of iron deficiency is (33.3%), two pregnancies too close (19.4%) other may lead anemia because of bleeding on delivery time or other
The Relationship Of Maternal Nutrition And Breast Feeding

factors, lastly for teenagers who get pregnant in very young age is one of the factors according to respondents answer it shows that 2.8% is for teenagers who get pregnant since their demands increased because of this situation.

Q4.24. The symptoms of anemia, if the respondents have any of these symptoms.

On Fig 4.24 Did you ever had any of these symptoms when you get pregnant, for pale skin, lips (22.2%) feeling tired, dizziness, week (38.9%), shortness of breath (2.8%), rapid heartbeat.
(33.3%) and trouble concentration is (2.8%) all of this are symptoms of anemia which can happen to anemic women and the percentage of respondents feel tired, dizziness and week are highest.
CHAPTER FIVE
FINDINGS, CONCLUSIONS AND RECOMMENDATION

5.0 Introduction
This chapter summarizes the finding of the research study in line with the research objectives. Discussion on the major findings of this study is also included followed the recommendations sections which are based on the findings of this research study. This chapter is analyzing the study that been carry for the last 3 months and presenting the result of the analysis section and also is going to give the suggestions and the impact of this research.

5.1. Findings
This research focuses on the relationship between the effect of Maternal Nutrition and Breast Feeding at MCH Hawadle; it evaluates the Nutritional status of Hawadle village in maternal mothers and monitoring them by studying the life style of the Maternal malnutrition and breast feeding and how does it effects.

The sex of the respondents was 100% female because the study concerns only Mothers. Most of our respondent’s were non Educated mothers with percentage of (19%), while secondary, primary, intermediate level where same in (13.9%) so the lowest level was Mothers in University level (2%). The education level of mother is very important for herself and for her children to avoid risks of ignorance.

According to, the age of the respondents the maximum age of the respondents were 30-34 (33.3%), while the least age of the respondents is 44-49 is (2.8%) the objective was to identify the age of the respondents. The number of working mothers was very little according to other mothers who only Stay their homes which is (19.4% working mothers ), while the 80.6% are not working. The most of the respondents were married (91.7%) according to the divorced maternal mother which were (8.3 %).

The most of mothers we studied, their physiological status was: 56% of them were pregnant, 39% of them were lactating mothers, while, and 5% of them were none of the above. The objective of this question is to know the malnutrition status of pregnant and lactation mothers since there more vulnerable one’s than the normal mother. Most women who are having complications of pregnancy period were complaining about heart burn. 55.5% of the respondents were having heart burn, it is very high in pregnancy
period, and since 55% of all women experienced heart burn during first trimester and it gets worse pregnancy related heart burn will be faint memory.

Anemia can leave you feeling tired, weakness it is significant and untreated it can increase your risk of series complications like preterm delivery for every one

Health workers often lack adequate information to counsel pregnant and lactating Women on how to meet increased nutrient requirements through dietary and behavioral changes and other health practices. that the risk factors for anemia in pregnant ; for the women’s who don’t eat iron rich foods is (44.4%) which leads iron deficiency ,(a lot of vomiting) because of morning sickness which is also one of the risk factors of iron deficiency is( 33.3% ),two pregnancies too close to each (19.4%)other may lead anemia because of bleeding on delivery time or other factors ,lastly for teenagers who get pregnant in very young age is one of the factors according to respondents answer it shows that 2.8% is for teenagers who get pregnant since their demands increased because of this situation.

5.2. Conclusions
The aim of this study was to examine the effects of maternal nutrition & breast feeding in Hawadle MCH in Hargeisa city Somaliland at June 2015.

After we conducted this research we found this result: The most of our respondents have knowledge about nutritious diet at the period of pregnancy and there percentage was 55.6% whom have knowledge about nutritious diet at the period of pregnancy, while 41.7% haven’t any knowledge about nutritious diet at the period of pregnancy, and 2.7% haven’t any theory about this issue.

The percentage of mothers whom are registering in feeding program in MCH’s or others was very low, in percentage their range was 38.9%, while those whom are registering in feeding program in MCH’s or others was 61%.

According to, our respondent’s nutritious diet at pregnancy, lactating period is, protein 22.2% while the women’s who only use carbohydrate to obtain energy is 11.1% according to the respondents answer of all which means both protein and carbohydrate consumption is 66.7%.

Effect of breast feeding on maternal nutrition according to respondents answer was (63.9%) as yes answer, where (36.1%) answered no it doesn’t affect.
Eventually, in order to gain healthy mother and child, we have to support mother’s knowledge about nutrition and maternity, like diet needed at the time of pregnant and lactation, the relationship between maternal nutrition and breast feeding and so on.

5.3. Recommendation
On this research paper it will help health workers to council pregnant women’s on how to meet and increase the requirements of dietary intake and behavior changes in pregnancy period so we should try to translate them in general recommendations into individual recommendation.

The government of Somaliland especially the Ministry of Health (MOH) should develop appropriate protocols and counseling on maternal nutrition. Maternal and child under nutrition, consisting of stunting, wasting, and deficiencies of essential vitamins and minerals was the subject of a Series of papers in The Lancet in 2008.

• Pregnancy and lactation are times of heightened nutritional vulnerability. However, the threat of malnutrition begins in the womb and continues throughout the life cycle. A mother who was malnourished as a fetus, young child, or adolescent is more likely to enter pregnancy stunted and malnourished. Her compromised nutritional status affects the health and nutrition of it’s her own children. Growth faltering earlier in life leaves women permanently at risk of obstetric complications and delivering low birth weight babies.

• Deficiencies of some micronutrients, such as folic acid and iodine, affect the fetus shortly after conception. By the time the pregnancy is detected, permanent damage is done. For these reasons, maternal malnutrition cannot be addressed during pregnancy alone.

• The periods before and between pregnancies provide an opportunity for women of reproductive age to prepare for pregnancy by Consuming an adequate balanced diet, including supplements and fortified foods where available, and by achieving a desirable weight.

• Overweight and obesity at all ages and even in poor communities presents difficult challenge for maternal and child health programs. Underweight and overweight often occur in the same communities in Somaliland most cases and even the same households.

• Most cases of malnutrition is Somaliland is underweight. Maternal overweight and obesity increase the Risk of prenatal mortality, premature delivery, major birth defects, and maternal obstetric complications, including hypertension and gestational diabetes.

Maternal and child health programs should alert women at all stages of the life cycle to the need to adjust diet and physical activity levels to achieve and maintain a desirable weight for
their own Health and as well as for better birth outcomes. Somaliland society don’t believe about the importance of maternal nutrition and breast feeding. Some women’s who afraid from eating certain kind of foods their child will refuse her milk while the other’s believe that eating various foods will be harm full to her child and will refuse to her breast milk. So in recent years, research has confirmed that even if some

Evidently, there are several ways we can reduce the incidence of malnutrition among mothers in our society which includes as the following.

- Use birth spacing methods as Birth spacing of three years or longer between pregnancies will give the mother’s body time to recovery and replenish her nutrients.
- Decrease work load for the mother and give her plenty of full rest during period of pregnancy because minimizing the heavy work load hours enables energy-deficit for the women to conserve energy needed for pregnancy and lactation.
- Improve mother’s diet while breast feeding since women’s nutrient needs to increase during pregnancy and lactation period. Increasing nutrient requirement protect maternal health while others effect birth outcome and infant health.
- For every mother should take the vitamins and other minerals to prevent deficiency because if the requirements didn’t met the consequences can be serious for women and their infants so for every women who is pregnant should be attached to Hospitals and MCH’s.
- Improving Micronutrients and Vitamin intake during pregnant because for every woman needs more food, variety of diets and micronutrient supplements.
- To improve nutritional status of mothers who will provide good outcome and health society.
- Reducing and eradicating the Consequence of Maternal malnutrition because it lead to anaemia, premature labor, low birth weight for severe anaemia caused by poor nutritional which lead to post partum hemorrhage and maternal death.
- Improving breast feeding can minimize the child malnutrition.
- Every pregnant woman should take folic acid to prevent Folic acid deficiency.
o Eating Sufficient caloric intake: Eat many different foods to get the calories, vitamins, and minerals you need to remain healthy. A minimal caloric intake of at least 2,000 calories per day, with an optimal intake of 500 calories.

o Eating variety of foods of health full foods: Eat a variety of foods the best guide as to how much to eat should be your own appetite. In general, mothers are hungrier during the first several months of breastfeeding, and you should not ignore feelings of hunger when producing milk for your baby.

o Adequate fluid intake: Drink enough liquids. You may find you are thirsty during the first few days after delivery as your body sheds excess fluid accumulated during the pregnancy. After that, the body will balance out to a thirst based on your body's need.

o Establishment of health nutrition department for ANC/PNC and delivery mothers at the Health centers.

o Training for the maternal mothers for improving her diet intake while breast feeding.

o Increasing duration of breastfeeding associated with lower risk of overweight in a low income population, Mother’s diet would be good while breast feeding and she can greatly affect the quality of the milk of her baby that receiving so every mother should always consider that
QUESTIONNAIRE

Date of the interview: -----/-/-/----- (Day/Month/Year)
Code Questionnaire No.: __________
Region: __________________________
Interviewer: _______________________

Total time of interview: hours: _______ minutes: _______

Circle index

Questionnaires for selected Respondent

This group we are a senior student who is under graduate from Addis ababa medical university we are doing a research about the relationship of Maternal Nutrition and breast feeding and questionnaire is designed to seek information from you on ‘maternal nutrition and breast feeding ’. It is carried as a partial fulfillment of the requirements for the of Addis ababa medical university Your contribution of answering this question will be highly appreciated.

Thank you for your participate in my research paper I really appreciate it. And it’s my honor to interview you.

A. demographic information

1) Gender

<table>
<thead>
<tr>
<th>Male</th>
<th>Female</th>
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</thead>
<tbody>
<tr>
<td></td>
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</table>

2) Age for the respondent mothers
The Relationship Of Maternal Nutrition And Breast Feeding

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3) Highest academic level of the respondent

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</table>

4) Are you working any place/or if the mother is employee/ worker?

<table>
<thead>
<tr>
<th>1. Yes</th>
<th>2. No</th>
</tr>
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<tbody>
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</tbody>
</table>

5) Marital status

<table>
<thead>
<tr>
<th>1. married</th>
<th>2. Divorced</th>
<th>3. widow</th>
<th>4. None</th>
</tr>
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</table>

B. related to maternal nutrition and breast feeding generated

6) Physiological status of the mother.

<table>
<thead>
<tr>
<th>1. pregmat</th>
<th>2. lactation</th>
<th>3. None</th>
</tr>
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<tbody>
<tr>
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</table>

7) Do you understand the term of malnutrition?
The Relationship Of Maternal Nutrition And Breast Feeding

1. Yes
2. No

8) Do you know the relationship between maternal nutrition, education and child nutritional status?

<table>
<thead>
<tr>
<th>1. Yes</th>
<th>2. No</th>
</tr>
</thead>
</table>

9) When you are pregnant where you often go for clinical check up/follow up for fetus development and your health status?

<table>
<thead>
<tr>
<th>1. Hospitals</th>
<th>MCH’s</th>
<th>No were</th>
</tr>
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</table>

10) Do you know the effect of breast feeding on maternal nutrition status?

<table>
<thead>
<tr>
<th>1. Yes</th>
<th>2. No</th>
</tr>
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</table>

11) Do you have enough knowledge about nutritious diet period of pregnancy?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
<th>Not much</th>
</tr>
</thead>
</table>

12) Do you registering any feeding program in MCH or other places?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>
13) What are the nutritional requirements for pregnant mother and lactation?

<table>
<thead>
<tr>
<th>1. Protein</th>
<th>2. Carbohydrate (energy)</th>
<th>3. Fat</th>
<th>4. All</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</table>

14) Does maternal nutrition affect lactation or breast feeding?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

15) Does lactation or breast feeding affect infant survival?

<table>
<thead>
<tr>
<th>1) Yes</th>
<th>2) No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</table>

16) Who is the breadwinner of the family?

<table>
<thead>
<tr>
<th>1. Mother</th>
<th>2. Husband</th>
<th>3. Other family member</th>
</tr>
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<tbody>
<tr>
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</table>

17) Are you having any complications/problems with pregnancy period?

<table>
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</tbody>
</table>
18) Is there any weight loss when you are pregnant?

1. Yes  
2. No  
3. Not sure

19) Is there any food which needs to limit or avoid for breast feeding?

1. Yes  
2. No

20) What is the effect of iron deficiency or anemia on pregnant women?

1. Risk on child birth  
2. Premature birth  
3. Dizziness, short breathing

21) Does birth spacing effects on maternal or child nutritional status?

1. Yes  
2. No

22) Is your appetite change when you get pregnant?

1. Yes  
2. No

23) What are risk factors for Anemia in Pregnancy?

1. Don’t eat iron rich foods  
2. A lot of vomiting because of  
3. Two pregnancies too close  
4. Teenagers who’s pregnant
24) Did you ever have any of these symptoms when you get pregnant?

| 1. pale skin, lips | 2. feeling tired, dizziness, week | 3. shortness of breath | 4. rapid heart beat | 5. trouble concentrating |

REFERENCES


11. (Allen LH. Maternal micronutrient malnutrition: Effects on breast milk and infant nutrition, and priorities for intervention. SCN News 11:21-27, 1994.) Delay of the first birth and adequate birth spacing helps to ensure that maternal protein and others are sufficient for healthy pregnancy and lactation. So Breastfeeding provides health benefits to the mother as well as to the infant.
