INTENTION TO EXCLUSIVE BREAST FEEDING AMONG PREGNANT WOMEN IN NORTH MINAHASA, INDONESIA

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ABSTRACT

A cross-sectional descriptive study was conducted among 350 2nd trimester pregnant women in North Minahasa, Indonesia. The objective was to understand the intention to exclusively breast feed among pregnant women and its related factors. Data were collected from January 21 to February 18, 2005 by using a simple random sampling method.

The research instrument was a self administered structured questionnaire, which consisted of 66 questions covering the content of objectives. Content validity and reliability measurement were calculated before being used. Descriptive statistics were used to describe the basic information, Chi-square test was performed with significant level set at p-value = 0.5.

Intention to exclusively breast feed among women in this study area was 35.4 %. This study found that the relationship between previous maternal experiences regarding exclusive breast feeding were significantly associated with intention to exclusively breast feed (p-value 0.042). There was no significantly association between maternal age, education, financial status, race, parity, living area, confidence on breast feeding, perceived susceptibility and severity, perceived benefits and barriers, cues to action and intention to exclusively breast feed among pregnant women in this study area.

The fact that women who have previously breast fed are more likely to intend to breast feed emphasizes the need to support and encourage breast feeding in first time mothers and indicates the importance of previous experience on future behavioral intention.

KEY WORDS : INTENTION / EXCLUSIVE BREAST FEEDING / PREGNANT / WOMAN

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LIST OF ABBREVIATIONS

HBM	:	Health Belief Model
IDHS	:	Indonesia Demographic and Health Survey
IQ	:	Intelligence Quotient
LMP	:	Last Menstrual Period
ORS	:	Oral Rehydration Salt Solution
Rp	:	Rupiah (Indonesia Currency)
SD	:	Standard Deviation
TV	:	Television
US	:	United States
WHO	:	World Health Organization
$	:	Dollar

CHAPTER 1
INTRODUCTION

1.1 Rationale and justification of the study

The importance of breast feeding has been known around the world and identified as playing an important role in the growth of newly born and mother health. Trends in breast feeding, especially exclusive breast feeding are therefore an important focus of maternal and child health policy. Although the American Academy of Pediatric recommends Exclusive Breast feeding for the first 6 months of life, Initiation and maintenance of Exclusive Breast feeding for six months are low (1).

Breast feeding has been recognized as the optimal food for the newborn. It confers on the newborn a number of health advantages while providing for optimal growth and development (2). In recent years, there have been numerous attempts to promote breastfeeding in many countries. However, only around 50% of mothers express the intention to breastfeed (3) and The WHO data bank on breast feeding presently covers 94 countries has reported that only 35 % of infant are exclusive breast feed (4). Breast feeding contains all the nutrients that a baby needs, almost always in exactly the right amounts. The nutrients are digestible and more efficiently used by the baby's body. The nutrients of breast feeding consist of such as lactose, fats, proteins, vitamins, minerals, water, anti-infective factors and growth factors (2). A mother who breast feeds finds it easier to develop a close loving relationship with her child than mothers who bottle feed. This close relationship helps the child to develop normally.

Why Breast feeding?

Many studies have been conducted in different countries around the world regarding the benefit of breast feeding and its importance (5). Breast feeding has been found to be extremely vital for child survival and is also beneficial for mothers. Breas

feeding contributes positively to the nation's economy, to employers, health system, to families, to communities; in fact well for every one.

Breast feeding is ideal food for babies because it is the most suitable food from the moment the baby is born. It also easy to digest and can be safely given even when the baby is ill (5). Breast milk contains all the important nutrients necessary for the growth and proper development of the baby. It contains proteins and fat in the right quantities, more lactose (milk sugar) necessary for human babies than other milks, sufficient vitamin and iron, correct amount of salt, calcium and phosphate, a special enzyme (lipase) which digest fat and enough water for the baby, even in hot, and dry climate.

Why Exclusive Breast feeding?

Exclusive breast feeding means that the infant receives only breast milk and no other food or drinks for at least four months (if possible six months) of life, with exception of infants drops and syrup (vitamin, minerals and medicines) (4). Experts now agree that exclusive breast feeding can provide all that a baby normally needs for the first six months and no extra drinks or feeds are needs during this period. (6)

If every baby were exclusive breastfed from birth for six months, an estimated 1.5 million lives would be saved each year. (1) Not only saved but also enhanced, because exclusive breast feeding is the perfect food for babies for the first six months of life, no manufactured product can equal it.

Situation of Exclusive Breast feeding

The WHO Global Data Bank on Breast feeding presently covers 94 countries and 65% of the world's infant population (<12 months). Based on the latest data, it is estimated that 35% of these infants are exclusively breastfed between 0-4 months of age.(4) Rates for exclusive breast feeding under 4 months of age are very low in a number of countries in the African Region, e.g. Central African Republic (4% in 1995), Niger (4% in 1992), Nigeria (2% in 1992), and Senegal (7% in 1993). In other countries, rates for exclusive breast feeding, though low, have shown a gradual

increase in recent years, e.g. Benin (13% in 1996 and 16% in 1997), Mali (8% in 1987 and 12% in 1996), Zambia (13% in 1992 and 23% in 1996), and Zimbabwe (12% in 1988 and 17% in 1994) (4)

Generally, breast feeding prevalence and duration in Asia, African, and some Caribbean and Latin America countries is high, but breast feeding exclusively is low. (1) In the South-East Asia Region, the ever-breastfed rate has increased somewhat in recent years, for example in Thailand (90% in 1987 and 99% in 1993). The exclusive breast feeding rate, though low, has increased from 0.2% (1993) to 4% (1996) (4). A slight decline of duration trends was seen particularly in urban area, and among educated women, working women and women with high family income. Also the role of advertising and hospital failure to implement rooming-in are other contributing factors (7).

Some cities in China reported that the pattern of breast feeding varies, but recently tend to be declining in prevalence as well as duration average. In the recent International study by Leung TF (2003) found that ever breast feeding rate in Hong Kong was 26%, which was much lower than in two other Chinese cities (46% in Beijing and 75% in Guangzhou) (8).

The same problem of breast feeding practice is found in Indonesia. Recently, Indonesia Demographic and Health survey (IDHS) 2002-03 found that the prevalence rate and average duration of breast feeding was high (96% and 22.3 months respectively) but exclusive breast-fed for 4 months (14.7%) and initiation of breast feeding at first 24 hours was low (27%). A study has been reported by Indonesia Epidemiology Network, 1989, found that exclusive breast feeding is relatively infrequent and colostrums are often discarded. So, the probability of infant being exposed very early to morbidity risk is high and immunology protection from colostrums is reduced. At the same time the percentage of poverty is high since the economic crisis period came in 1997. It does mean that the ability of afford appropriate alternative baby food is reduced. These circumstances lead the infant to

malnutrition, and vulnerable to infection. For this reason, promotion of breast feeding and exclusive breast feeding is highly recommended. (9).

North Minahasa is one of the district in North Sulawesi province, which created on 2003, consist of eight sub districts, 111 villages, and 10 health centers. Based on the health profile's data, in 2003 it has 162.207 of population, and 3571 pregnant women Geographically this district's wide is 955.32 kilometers square which considering low- upland, mountain range and small islands as rural remote areas. The breast feeding rate in 2003 is 90.2%, however intention rate to exclusive breast feeding has not available (10).

This paper will identify those factors associated with the intention to breast feeding. This is important if pregnant woman who are more or less likely to breastfeed can be identified, then more precise and more appropriate health promotion intervention can be created.

By understanding factors related to breast feeding intention, health professionals in North Minahasa would have the potential to improve breast feeding promotion strategies. The successful implementation of such strategies could support achievement of the Healthy District of The North Minahasa and more significantly, have a positive impact on Maternal and Child Health.

Research question

The main aim of this study is to answer the question:
What is the situation of intention to exclusive breast feeding and its related factors, among pregnant women?

1.2 Research objectives

1.2.1 General objective

To study the characteristics of intention to exclusive breast feeding and it's related factors among pregnant women, in North Minahasa, Indonesia.

1.2.2 Specific objectives

1. To identify the characteristic or situation of intention to exclusive breast feeding in North Minahasa, Indonesia.

2. To identify the association between the socio-demographic and psychological factors, in terms of maternal age, education, financial status, race, confidence on exclusive breast feeding, previous experience, parity, living area and the intention to exclusive breast feeding.

3. To identify the association between the perceived susceptibility and severity and the intention to exclusive breast feeding.

4. To identify the association between the perceived benefit and barriers, and the intention to exclusive breast feeding.

5. To identify the association between the cues to action factors, in terms of social support on exclusive breast feeding, formula milk marketing, work/study commitment and the intention to exclusive breast feeding.

1.3 Conceptual Framework

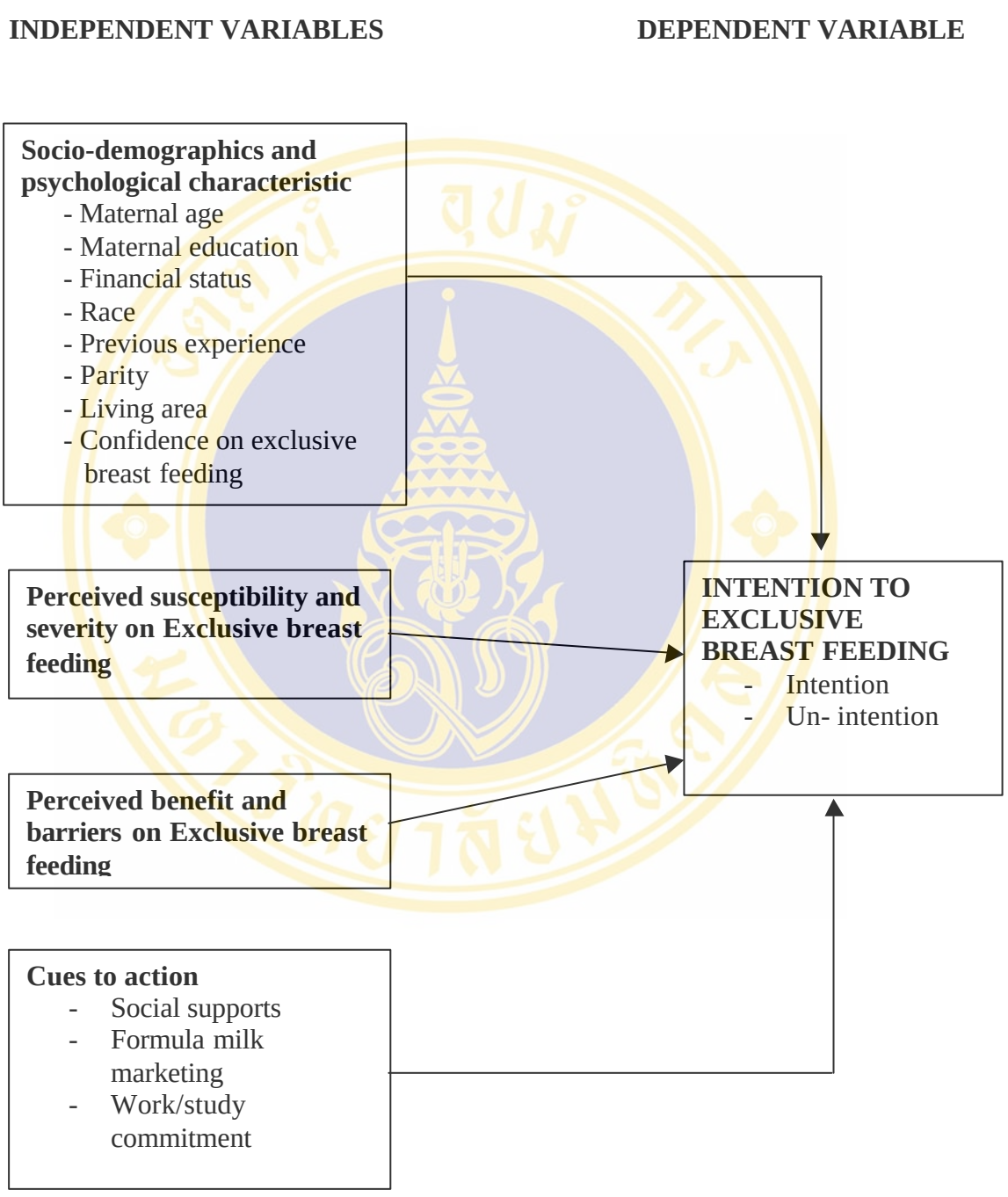

Figure 1 Conceptual Framework

1.3.1 Research hypothesis

1. There is an association between the socio-demographic and psychological factors and intention to exclusive breast feeding.

2. There is an association between perceived susceptibility and severity if not exclusive breast feeding and intention to exclusive breast feeding.

3. There is an association between perceived benefit and barriers on exclusive breast feeding and intention to exclusive breast feeding.

4. There is an association between social cues to action factors and intention to exclusive breast feeding.

1.4 Operational definition

1. Intention to exclusive breast feeding is defined as the woman who has planned or more likely to exclusive breast feeding, after delivery or gives birth. In this study, the study population will be divided in two groups :

- Intention to exclusive breast feeding
- Un-intention to exclusive breast feeding

2. Exclusive breast feeding is defined as nothing other than breast milk, even water for at least 4 and if possible 6 months of life, with exception of infant drops and syrups(vitamins, minerals and medicines (4).

3. Pregnant woman is a woman who is already pregnant, as diagnosed by a health professional or who exhibits the signs of being pregnant.

4. The period of the pregnancy is referred to the period of pregnancy which calculate from LMP (Last Menstrual Period) and divided in to three trimester;(11)

- First trimester: onset of pregnancy until 14 weeks of pregnancy period.
- Second trimester: up from 14 weeks to 28 weeks of pregnancy period.
- Third trimester: up from 28 weeks until 40 or give birth.

5. Socio-demographic and psychological characteristic are refer to factors of maternal age, education, financial status, race, confidence on exclusive breast feeding, previous experience, parity and living area. Such factors can independently influence the intention to exclusive breast feeding.

6. Maternal age refers to the age of woman in years, when this study is conducted.

7. Maternal education level refers to the last education level of the woman. In this study, maternal education level is divided into three main categories, as follows:

- Low educated: less or equal to primary school
- Well educated: Secondary school
- Highly educated: University or above.

8. Financial status refers to the total amount of money that the woman's families earn per month. Based on the regional minimum salary for Indonesian's worker, that has already set by the government is Rp 711.843,- (US $ 84) per month.(12). These financial status will be categories into :(standard 1 US = Rp 8500,-)

- Low financial status : Below Rp 711.843,- (US $ 84)
- Middle financial status : Rp 711.843,- - Rp 2.000.000,- (US $ 84-235)
- High financial status : > Rp 2.000.000,- (US $ 235)

9. Maternal race refer to the area or ethnicity that the woman came from, it can be :

- Minahasa
- Others

10. Previous experience of breast feeding refers to the action that mother feed her baby with breast milk in the past. In this part, the maternal will be asked whether she ever had breastfeed experience before, if yes she should clarify more about the duration of her past experiences, whether :

- < 4 months
- 4 months

11. Parity is defined as a pregnant woman who will give birth or birth order of child.

- Primiparity is defined as a pregnant woman who will give birth for the first time.
- Multiparity is defined as pregnant women who are going to give birth for the second time or more.

12. Living area refers to the study area which divided into 2 zones by the characteristic of its geographical condition.

- Zone 1 is the urban area.
- Zone 2 is the semi urban area

13. Confidence of breast feeding is defined as a maternal who has confidence and belief that she will be able breastfeed her child. There are 6 questions regarding to the confidence of breast feeding, with categories :

- Low confidence (< $\overline{X}$)
- High confidence ($\geq$ $\overline{X}$)

14. Perceived susceptibility and severity to exclusive breast feeding were consisted of 12 questions about severity if maternal do not give exclusive breast feeding. The answer of each question had three rating scales: agree, disagree and not sure. The positive perception questions were given the score as follow: agree = 3 scores, not sure = 2 scores and disagree = 1 score. The negative perception questions will be vice versa. The total scores are 12 – 36 scores, than the perceived susceptibility and severity is divided in to 2 groups :

- Low level (< $\overline{X}$)
- High level ($\overline{X}$)

15. Perceived benefit and barriers to exclusive breast feeding: were consisted of 11 questions about benefit and barrier of exclusive breast feeding among pregnant women. The answer of each question had three rating scales: agree, disagree and not sure. The positive perception questions are got the score as follow: agree = 3 scores, not sure = 2 scores and disagree = 1 score. The negative perceptions will be vice versa. The total scores are 11 – 33 scores, than the perceived benefit and barriers are divided in to 2 groups :

- Low level (< $\overline{X}$)
- High level ($\overline{X}$)

16. Social supports refer to the varieties of supports regarding breast feeding which the woman got, such as family supports(husband or any family members), and

health professional supports. There are 8 questions (questions no 43 – 50), which has rating of scales are “Yes” and “No”. For the yes answer is given 2 (two) point and the no answer is given 1 (one point). The categories are:

- High social support : > $\overline{X}$ + SD
- Moderate social support: $\overline{X}$ $\pm$ SD
- Low social support: < $\overline{X}$ - SD

17. Formula milk marketing is defined to the advertisement or marketing activities that expose to the maternal, such as advertisement through TV, magazine, health personal and personal approach of formula milk sales representatives, There are 7 questions regarding to this topic, for the yes answer will get 2 scores and no answer will get 1 score. The total scores will be categories :

- Low exposure to formula milk marketing: < $\overline{X}$
- High exposure to formula milk marketing: $\geq$ $\overline{X}$

18. Work or study commitment is defined as a woman that already to work or study after delivery, without concern the time for breast feeding. There are six questions about to work or study commitment regarding to the intention to exclusive breast feeding, for the statement that support to work/study commitment will get 2 score and not support will get 1 score. The total score will be categories :

- Low commitment to work or study: < $\overline{X}$
- High commitment to work or study: $\geq$ $\overline{X}$

1.5 The limitation of the study

It is considered that due to the geographic characteristic of this study area, researcher may not able to cover all three zone of the district. Therefore, the expectation may not generalized to other areas because of this study will not include maternal who live in zone 3 of the district, where accessibility is difficult.

The target populations are limited to the pregnant women in North Minahasa district services area; therefore this population couldn’t present the whole population of pregnant women, in North Sulawesi Province of Indonesia.

CHAPTER 2
LITERATURE REVIEW

Regarding to the objective of this study, the literature review will be list liked below:

2.1 Exclusive breast feeding; Concept, definition, benefit and situation

2.2 Intention to exclusive breast feeding

2.3 Theoretical Model

2.4 Factors related to intention to exclusive breast feeding

2.1 Exclusive breast feeding

Breast feeding is ideal for babies because it is the most suitable food from the moment the baby is born. It also easy to digest and can be safely given even when the baby is ill (5). Breast milk contains all the important nutrients necessary for the growth and proper development of the baby. It contains proteins and fat in the right quantities, more lactose (milk sugar) necessary for human babies than other milks, sufficient vitamin and iron, correct amount of salt, calcium and phosphate, a special enzyme (lipase) which digest fat and enough water for the baby, even in hot, and dry climate.

Experts now agree that exclusive breast feeding can provide all that a baby normally needs for the first six months and no extra drinks or feeds are needs during this period. (6)

If every baby were exclusive breastfed from birth for six months, an estimated 1,5 million lives would be saved each year. (1) Not only saved but also enhanced, because exclusive breast feeding is the perfect food for babies for the first six months of life, no manufactured product can equal it.

2.1.1 Concept of exclusive breast feeding

Breast feeding is an unequalled way of providing ideal food for the healthy, growth and development of the infant. It is also an integral part of the reproductive process with important implications for the health of the mother. As a global public health recommendation, infants should be exclusively breastfeed for the first six months of life to achieve optimal growth, development, and health.

The importance of breast feeding has been known around the world and identified as playing an important role in the development of newborn growth and mother health. Trends in breast feeding, especially exclusive breast feeding are therefore an important focus of maternal and child health policy.

2.1.2 Definition of exclusive breast feeding

Actually, there many different types of breast feeding, but from the previous study shows that of all the types of infant feeding, exclusive breast feeding is the best to protect babies from diarrhea and acute respiratory infection whether in developed or developing countries. Many studies as cited in Wray article have revealed that there is a different effect on infant morbidity and mortality from exclusive breastfeeding, partial breast feeding or non-breast feeding (13). Some articles mention full, partial, and artificial breastfeeding, some articles prefers to focus on exclusive breastfeeding, predominantly, and artificial or bottle feeding. Type of infants feeding according to the definition of WHO, and international agreement are describe as below: (14)

Exclusive breast feeding: as no other food or drink, not even water except breast milk for at least 4 and if possible 6 months of life, but allows the infant drops and syrups(vitamins, minerals and medicines) (4).

Predominant breast feeding: The infant's predominant source of nourishment has been breast milk. However, the infant may also have received water and water-based drinks (sweetened and flavored water, teas, infusions, etc.), fruit juice; oral rehydration salts solution (ORS), drop and syrup forms of vitamins, minerals and

medicines, and ritual fluids (in limited quantities). With the exception of fruit juice and sugar water, no food-based fluid is allowed under this definition.

Partial breast feeding (complementary feeding): defined as the way of feeding to infant with mixed feeding. It is breast feeding and other liquid or semi-solid food.

Non breast feeding: as the way of feeding to child where the child has received liquid or semi-solid food from a bottle with a nipple/teat.

The different effects of breast feeding or non-breast feeding are reported in both developing countries and also in developed countries for example, a study was conducted in Scotland. There is an association between exclusive breast feeding and a decrease of occurrence of infection symptoms. It revealed that during the 1st 13 weeks, the adjusted rate (corrected for social class, maternal age, and parental smoking) for gastrointestinal illness was 2.9% among fully breastfed and 5.1% among partially breastfed infants compared with 15.7% among bottle-fed infants and 16.7% among weaned infants (15).

2.1.3 Benefit of exclusive breast feeding

In the world, at least there are 101 of the benefit of exclusive breast feeding has been identified as playing an important role in the development of infant and mother's health. (2), therefore, this paper will describe them into two main groups:

The benefit for the child development

1. Breast feeding satisfies baby emotional needs. All babies need to be held. Studies have shown that premature babies are more likely to die if they are not held or stroked. There is no more comforting feeling for an infant of any age than being held close and cuddled while breast feeding.
2. Breast milk provides perfect infant nutrition. Breast milk is the most ideal natural food for infants, because it is easy to digest and absorb, but it also contains abundant antibodies and immune cells.

3. Breast milk is always ready and comes in a nicer package than formula does.
4. Breast milk helps pass meconium. Babies are born with a sticky tar-like substance called meconium in their intestines. Colostrum or early uniquely designed to help move this substance through the infant's body.
5. Breast milk contains immunities to diseases and aids in the development of baby's immune system. Breastfed babies are protected in varying degrees from a number of illnesses including, pneumonia, botulism, bronchitis, staphylococcal infections, influenza, ear infections, diarrhea infection, bacterial meningitis and German measles (16).
6. Human breast milk enhances brain development and improves cognitive development. A study has found that the average IQ of 7 and 8 years children who has been breast feed as babies was 10 points higher than their bottle feed peers (2).
7. breastfeed babies have fewer allergies and lower risk for developing asthma than artificially fed babies,
8. Breastfeeding enhances vaccine effectiveness. Breastfeed infant showed better serum and secretory responses to oral and parenteral vaccines than those formula fed (2).

The benefit for the mother's health

1. Breast feeding promotes bonding between mother and baby. Breast feeding stimulates the release of the hormone oxytocin in the mother's body. It is now well established that oxytocin, as well as stimulating uterine contractions and milk ejection, promotes the development of maternal behavior and also bonding between mother and offspring.
2. Baby's sucking helps prevent post-partum hemorrhage in mother. Breast feeding stimulates the release of the hormone oxytocin in the mother's body, which will stimulate contraction and help uterus back to pre-pregnancy size while expelling the placenta. These contractions also shut off the maternal blood vessel that formerly fed the baby and discourage excessive bleeding.

3. Nursing helps mother lose weight after baby is born. Breast feeding requires an average of 500 extra calories per day (2).
4. Breast feeding may help stabilize of maternal endometriosis.
5. Breast feeding decrease the maternal risk of developing ovarian cancer, endometrial cancer and decrease chance of osteoporosis.
6. Breast feeding is a natural contraceptive.

There are other, more personal advantage to breast feeding is Infant feeding choices have a significant financial impact. A supply of formula adequate for one baby costs about $1,000 in the U.S., and a study performed at the Kaiser Permanente health maintenance organization in Durham, North Carolina estimated that the average additional health care costs of a formula-fed infant over those of an breastfed infant were $1,400 for the first year alone. Thus, the annual savings in expenditures on formula and additional health care bills would be on the order of $2.4 billion if 1 million additional babies were breastfed in the U.S. each year. Much of these savings would be to public funds, since governments (through the W.I.C. and Medicaid programs) are the largest purchasers of formula and providers of health services to infants (17).

2.1.4 Situation of exclusive breast feeding

The WHO Global Data Bank on Breastfeeding presently covers 94 countries and 65% of the world's infant population (<12 months). Based on the latest data, it is estimated that 35% of these infants are exclusively breastfed between 0-4 months of age (4).

Rates for exclusive breast feeding under 4 months of age are very low in a number of countries in the African Region, e.g. Central African Republic (4% in 1995), Niger (4% in 1992), Nigeria (2% in 1992), and Senegal (7% in 1993). In other countries, rates for exclusive breast feeding, though low, have shown a gradual increase in recent years, e.g. Benin (13% in 1996 and 16% in 1997), Mali (8% in 1987 and 12% in 1996), Zambia (13% in 1992 and 23% in 1996), and Zimbabwe (12% in 1988 and 17% in 1994) (4).

In the South-East Asia Region, the ever-breastfed rate has increased somewhat in recent years, for example in Thailand (90% in 1987 and 99% in 1993). The exclusive breast feeding rate, though low, has increased from 0.2% (1993) to 4% (1996).The increase in exclusive breastfeeding rates is due mainly to breast feeding campaigns, and additional Baby-friendly Hospitals and trained breast feeding counselors (4).

The same problem of breast feeding practice is found in Indonesia. According to WHO global data bank (2000), Exclusive breast feeding rate in Indonesia was 42.3% (4) but recently data from Indonesia Demographic and Health survey (IDHS) 2002-03 found that the prevalence rate and average duration of breast feeding was high (96% and 22.3 months respectively) and exclusive breast-fed for 4 months (14.7%) with initiation of breast feeding at first 24 hours was low (27%) (9). According to the survey by Tampemawa DJ in Kolongan health centre, North Minahasa Indonesia (2003) found that in this area exclusive breast feeding rate was 55.0% (30).

Table 1 Exclusive breast feeding rates

Region	Countries	Exclusive BF rates	Year
1.African	Central African	4%	1995
	Niger	4%	1992
	Nigeria	2%	1992
	Senegal	7%	1993
	Benin	16%	1997
	Mali	12%	1996
	Zambia	23%	1996
	Zimbabwe	17%	1994
2.Southeast Asia	Thailand	4%	1996
	Bangladesh	53%	1996
	Philippine	33%	1996
	Laos	23.6%	2000
2.Southeast Asia	Indonesia	42.3%	2000
3. European	Armenia	20.8%	1997
	Polandia	17%	1995
	Swedia	61%	1993
4. East Mediterania	Egypt	68%	1995
	Saudi arabia	55%	1991
	Pakistan	25%	1991
5. America	Bolivia	53%	1994
	Columbia	16%	1995
	Dominican republic	10%	1991

Source : WHO data bank,2003

2.2 Intention to exclusive breast feeding

The first step to successful exclusive breast feeding is for mother to establish an intention to breast feed at birth. To achieve this, it is important to identify factors that may influence a woman decisions whether to breast feed. A survey in Mississippi identified a number of characteristic that predicted breast feeding intention among low income women (7). In contrast, there has limited survey in Asian countries to determine the demographic and socio-economic factors that are associated to intention on exclusive breast feeding (8).

Most people view a woman's decision about how she will feed her baby as a conscious choice made during the pregnancy. However, it is now widely recognized that most women have already made some form of subconscious decision, even well before they conceive. Leung et al (2003) reported that the reason of low breast feeding prevalence in Hong Kong remain unclear, but less than half of those who intended to exclusive breast feed were still practice breast feeding until 3 months (8).

Across sectional survey was carried out with 789 pregnant women attending antenatal clinic at Leicester Royal Infirmary NHS Trust, United Kingdom reported that only 40 % of these women stated that they intended to breastfeed exclusively (18). This result was lower than intention rate among Swedish military women, which found 70% of them were intended to breast feed (20).

Pregnancy is a normal condition and, in most situations, should not be approached as a problem or disease. According to the periods, pregnancies have divided into 3 periods of pregnancies, which each period has its own characteristic.

First trimester period

First trimester period pregnancy is the early stage of pregnancy from conception to 12 weeks gestation; it begins with conception, when a sperm from a fertile male joins with an ovum (egg) of a fertile female. Any fertile female engaged in a sexual relationship with a fertile male is at risk of becoming to be pregnant. The

symptoms in this period are amenorrhea, fatigue, breast enlargement or discomfort (tenderness), abdominal distention, nausea vomiting, weight changes are also noted (usually increased; decreased if nausea and vomiting are significant), moreover appetite may be altered by nausea and vomiting, a common occurrence during pregnancy, in this period woman more than usually emotional and sensitive due to hyper emesis gravid arum (19).

Second trimester period

During the second trimester, usually pregnant woman start to feel like normal again, and also get to enjoy the pregnant. Most women begin to show around 14-16 weeks for first pregnancies, and as early as 13 weeks for second. Most women begin to experience a slightly bulging belly by about week 14. Some women prefer to begin wearing maternity pants at this time, as their old ones are too tight at this point.

Third trimester

Toward the end of the pregnancy, pregnant woman may be concerned with a decrease in fetal activity. While this is usually normal, due to less room in the uterus. Suddenly, she has a lot of decisions to make. If she decided on a home birth or hospitalized. If she will give breast feeding or concern more on bottle feed. During this period, the support and encourage from husband or family member will play an important role.

It is internationally recognized that "breast is best" for both baby and mother. Governments and health professionals promote and publicist this fact in an effort to motivate women to feed their babies breast milk. Numerous physicians' organizations recommend exclusive breast feeding as the preferred method of infant feeding because of its benefits with respect to infant nutrition, gastrointestinal function, host defense, and psychological well-being as well as its protective effect on maternal health.

Except for breast feeding practices study, there are limited data available on the prevalence of intention to exclusive breast feeding among pregnant women. There

are some literature review mentioned about this figure, that vary by each study from 40% to 70%, despite prevalence of women actually exclusive breast feeding was smaller than this figure (3, 20).

2.3 Theoretical model

The Health Belief Model (HBM) is a psychological model that attempts to explain and predict health behaviors by focusing on the attitudes and beliefs of individuals. The HBM was developed in the 1950s as part of an effort by social psychologists in the United States Public Health Service to explain the lack of public participation in health screening and prevention programmed (e.g., a free and conveniently located tuberculosis screening project) (21).

Table 2 Health Belief Model Concept

CONCEPT	DEFINITION	APPLICATION
Perceived susceptibility	One's opinion of chances of getting a condition	Define population(s) at risk, risk levels. Personalize risk based on a person features or behavior.
Perceived severity	One's opinion of how serious a condition an its sequel are	Specify consequences of the risk and the condition
Perceived benefit	One's opinion of the advised action to reduce risk or seriousness of impact	Define action to take: how, where, when; clarify the positive effects to be expected
Perceived barriers	One's opinion of the tangible and psychological costs of the advised action	Identify and reduce barrier through reassurance, incentives, assistance
Cues to action	Strategies to activate 'readiness'	Provide how-to information, promote awareness, reminders

Table 2 Health Belief Model Concept (Cont.)

CONCEPT	DEFINITION	APPLICATION
Self efficacy	Confidence in one's ability to take action	Provide training, guidance in performing action

"The Health Belief Model (HBM) was one of the first models that adapted theory from the behavioral sciences to health problems, and it remains one of the most widely recognized conceptual frameworks of health behavior. It was originally introduced in the 1950s by psychologists working in the U.S. Public Health Service (Hochbaum, Rosenstock, Leventhal, and Kegeles). Their focus was on increasing the use of then-available preventive services, such as chest x-rays for tuberculosis screening and immunizations such as flu vaccines. They assumed that people feared diseases, and that health actions were motivated in relation to the degree of fear (perceived threat) and expected fear-reduction potential of actions, as long as that potential outweighed practical and psychological obstacles to taking action (net benefits) (21).

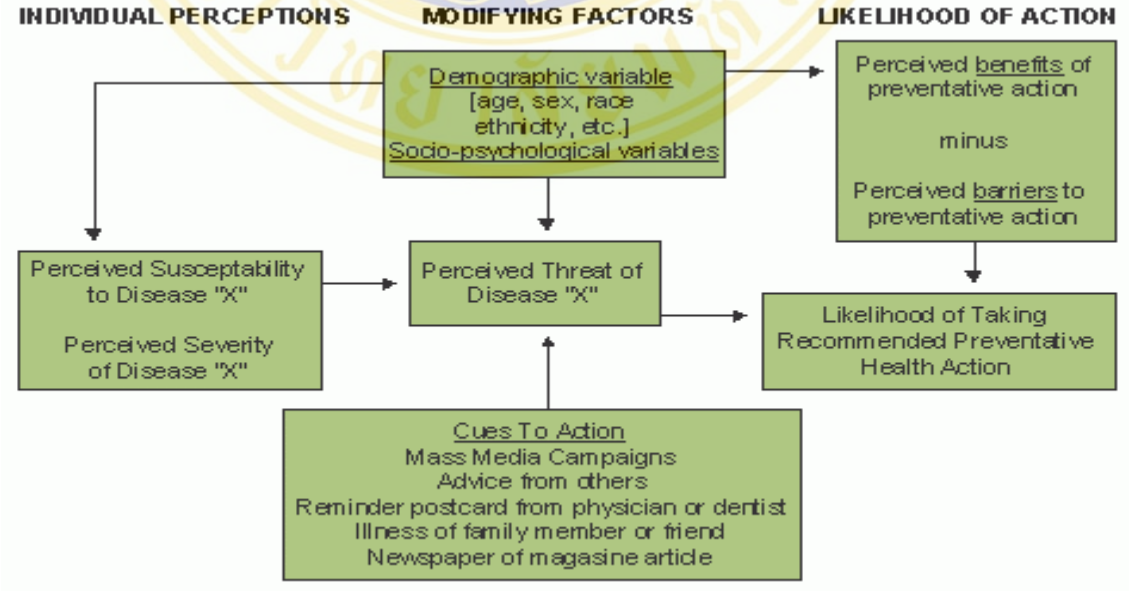

Figure 2 Health Belief model
Source: Marshall HB, 1974.

Conclusion: This study apply Health belief model to explore various factors related to intention to exclusive breast feeding among pregnant women. The major outline of health belief model emphasis on the individual perceptions (perceived susceptibility and severity, if not give exclusive breast feeding), perceived benefit minus barrier by giving exclusive breast feeding also socio-demographic (include psychological characteristic) and cues to action factors as another important factors to be consider according to this theory. That's why, researcher set the conceptual frame work into four main boxes according to this theory.

2.4 Factors related to intention to exclusive breast feeding

Women are encouraged to breastfeed their babies, but each individual woman's decision is based on many complex factors. These factors also influence how long she will continue to breastfeed for.

Knowing the benefits of breast milk for a young baby (and the health benefits of breastfeeding for the mother) are usually the main reasons why women choose to breastfeed. They may also be motivated by wanting to have a more intimate relationship with their baby. These aspects are thought to play a large role in the high initiation rates of breast feeding in many countries (7). However, the woman's confidence in her ability to breastfeed, her perceptions of what the breast feeding experience will be like and how her concerns will be supported and addressed while breastfeeding, tend to be some of the crucial elements that determine whether she continues to breastfeed her baby for the desired 6 to 12 months after birth.

There are some factors, that are thought to influence the intention of breastfeeding, but only several factors are selected because they had been identified in previous studies as having influence on intention to exclusive breast feeding; maternal age, education financial status, race, previous experience of breast feeding, parity, social support factors from significant others, formula milk marketing and work/study commitment (3).

The following are some factors that are thought to influence the intention and continuation rates of breastfeeding for many women, but only several factors are selected to study in this paper because they had been identified in previous studies. (3, 8)

- Age, education and financial status
- Race
- Previous experience on breast feeding
- Parity
- Living area
- Confidence on exclusive breast feeding
- Perception on exclusive breast feeding
- Social support
- Formula milk marketing
- Work/study commitment

Age, education and financial status

In recent years, researchers, health professionals and governments have tried to identify specific groups of women who may most benefit from having support, guidance and education in relation to choosing and continuing breastfeeding. Many studies conducted in Western countries have repeatedly shown similar socio-demographic characteristics of women in relation to their feeding choice, as well as the likelihood of them continuing to breastfeed for 6 months or more (7).

It is now fairly well recognized that older women (over 25 years), who have a higher education and are generally more financially well off have more intention to breast feed their babies than younger women (under 25 years) who may be less well-educated and less well off financially. The concerns also expressed are the high cost of buying artificial formula, bottles, teats and sterilizing equipment for 12 months contributing to the woman's financial disadvantage. (21) Other researcher found that by increasing maternal age, it also have greater risk of choosing not to breast feed (3).

Race

The rates of breast feeding vary widely between cultures and countries and also vary significantly between geographical areas within cities and states of countries. A woman's local community and her cultural background play important roles in whether she chooses to breastfeed and for how long she continues to do so. Studies looking at geographical and ethnic differences in the United States indicate that only 14% of black women are breast feeding at 6 months, compared with 27% of white women, even if these groups of women have similar financial circumstances. (22), other study show that only 21,9% of the black woman chose to breast feed, in contrast with 58,0% of the white woman (23).

In Australia, aboriginal women traditionally see breastfeeding as very normal and natural. However, western influences have led to more aboriginal women (especially younger Koori women) choosing to bottle feed their babies. The Australian government has programs in place (with more planned) to provide Aboriginal and Torres Strait Islander women with easy access to indigenous health workers for breast feeding education, advice and support, in an effort to increase their breastfeeding rates. (24) Maori women in New Zealand show similar trends (22).

Immigration can also affect women's feeding decisions. For example, women who have immigrated to Australia from Asian countries where breast feeding rates are high (and accepted as the norm for at least 1 to 2 years), may choose not to breastfeed at all (or only breastfeed for very short periods) when living in Australia.(24) The reasons given for these decisions include having less practical and emotional support from extended family members, having increased pressure to return to work soon after the birth and in some cases, a false perception that Australian women 'do not breastfeed' because they rarely see women breastfeeding in public (22).

Previous experience on breast feeding

Previous breast feeding experiences can influence a woman's decision to breast feed. Women who have previously breastfed have more intention to breast feed a subsequent baby.(7) Interestingly though, one study has indicated that women who

breast feed their first child for any time period up to 7 months are more likely to increase their duration of breast feeding with their second baby. Whereas women who breast feed their first baby for longer than 8 months, are more likely to reduce their breast feeding duration with their second baby (7).

Past breast feeding experiences can be likened to past birth experiences. It can be hard to imagine how it could be any different second (or third) time around. However, each breast feeding experience is unique, and on balance, women tend to have fewer breast feeding difficulties with subsequent children.

Unfortunately, women who have experienced breast feeding difficulties with a previous baby are less likely to want to breastfeed subsequent babies. However, for women who do choose to breastfeed subsequent children, they are more likely to produce more milk and spend less time feeding their baby, because their milk transfer is more efficient. (24)

Many women express concerns that breast feeding may be 'too hard' or problematic. Breast feeding is a natural act but it is also recognized as a learned behavior. Research shows that many mothers require ongoing support and appropriate advice to assist them in establishing and continuing their breast feeding. (24) Experiencing sore or cracked nipples, problems attaching the baby or having issues about the milk supply can usually be overcome with sufficient support and the appropriate advice, especially during the first few weeks after the birth.

Parity

Some previous studies have demonstrated an association between parity and breast feeding intention. They found that being primi parity as a useful factor in identifying women at greater risk of choosing not to breast feeding (3).

Living area

A prospective controlled study in Scotland found that increasing of breast feeding rate from 35.6 in 1990 to 42.0 in 1998 (in Scotland) associated with the

promote breast feeding programs, however only around 50% of mothers express an intention to breast feeding. (3) They also noted that the lowest incidence of breast feeding occur in some of the most disadvantage urban areas. (3).Other researcher found a slight decline of duration of exclusive breast feeding trends was seen in urban area (8).

For this study, researcher try to explore whether there is an significant different in intention to exclusive breast feeding in zone 1 (urban area) and zone 2 (semi urban area) study area. This would be important for setting breast feeding promotion programs in these different areas in the future.

Confidence in ability to breastfeed

A woman's decision to breastfeed is often influenced by how confident she feels in her ability to feed her baby. It has been shown that women who attend breast feeding education classes during their pregnancy are more likely to have increased confidence levels associated with breast feeding and to choose breastfeeding (and feed for longer) (25).

Some women question their ability to breastfeed when their mother or sister was unable to breastfeed (for whatever reasons). This can create a sense of doubt and the loss of trust in her body to make milk and breastfeed her own baby. For a few women, knowing relatives and friends who have experienced difficulties can 'set them up' for failure to breastfeed in advance, in the process destroying her self-confidence to do so when the time comes (25).

It has been argued that health professionals themselves have been largely responsible for undermining women's confidence in their ability to breastfeed, particularly during the second half of the last century. From the 1950's, doctors and midwives started 'advising' women on how to 'correctly' breastfeed their babies and rules were made in hospitals (26).

Perception on breast feeding

Most modern western cultures see breasts as sexual objects, but in recent times our society's pre-occupation with the sexuality of breasts has placed less importance on the fact that they also have the unique function of feeding babies. These perceptions can bring up many conflicting feelings for both women and their partners. In some cases, feeling strong enough to discourage a woman from wanting to breastfeed her baby. Issues that have been expressed by women and their partners can include (22).

The woman or her partner feeling uncomfortable about her breast feeding in front of family, friends and others, or others making her feels uncomfortable about breast feeding in social situations. Being made to feel uncomfortable when trying to breast feed in public areas, worried that breast feeding will change the appearance and attractiveness of her breasts. (Although it has been identified that breast feeding has minimal affect on a woman's breast shape, and is more determined by a woman's genetic make-up, her age and the physical changes of pregnancy, in that order.) (22).

Woman with good attitude that breast milk is the perfect nourish source of their babies, and with a strong belief that she has ability to produce enough milk for long has lead to the success of breast feeding.(7). Those who had regularly seen their relative or friends successfully breast feeding and describe about this experience proudly felt more confidence to breastfeed. And when breast feeding was witnessed as a part of normal every day life by the woman, she will be more confident in her own ability to make her decision for breast feeding (7).

Modern perceptions and social attitudes are gradually changing. Efforts are being made to try and support breastfeeding women with governments, health professionals, breastfeeding advocates and support groups trying to implement 'breastfeeding friendly practices' as well as persuading the media to present positive breastfeeding images and depict it as 'the norm' (26).

Support from significant others

If a woman does not feel supported in her choice to breastfeed she is more likely to bottle feed. How a woman feels about her breast feeding and the level of positive support she receives (both emotionally and practically) affects whether she continues to breastfeed for several months, or weans her baby early.

Many studies show a very strong relationship between the initiation and continuation of breast feeding and the support a woman receives from her partner. (27) Partners are now recognized as playing an extremely important role in a woman's choice to breastfeed, with their continued support being closely linked to how long she will feed her baby. An Australian study indicated that women whose partners expressed a definite preference for breast feeding were 10 times more likely to initiate breast feeding than women whose partners preferred bottle feeding or were unsure about breast feeding (26, 27).

Social support may provide a mechanism for obtaining the knowledge and confidence associated with successful breast feeding. Health professional’s attitude are identified as having less influence on women’s feeding decision, particularly for low-income women, than the attitude and beliefs of women’s social support networks (28).

Western culture in general does not unconditionally support the practice of breast feeding. During the last 60 years, women have gradually lost the support of their extended family and are unlikely to have regular contact with female relatives and friends who openly breastfeed their babies. This has created a whole generation of women (and their daughters) are less likely to choose breast feeding for various reasons. The aggressive marketing of formula milk during the 1950's to 1970's has also contributed to the false perception that formula is 'just as good as breast milk' and it has been argued that girls are given subliminal messages from a young age, often having dolls with bottles (26).

Formula milk marketing

Formula milk for newborn babies was first introduced in the late 1800's and was aggressively marketed by the large companies during the 1950's to 1970's in both western and developing countries. Studies looking at the effect of giving mothers free or subsidized formula supplies have been shown to lead to a decline in women choosing to breastfeed or continuing to breastfeed (26).

Advertisements for baby formula often suggest to women that they may not have enough milk, and this make them lose confidence. Advertisement make people believe that formula is really very good and that if they have problem, they have to use formula, then their baby will be perfectly healthy. These make it easy for young women to decide that it is safe to use formula. Pretty picture of babies on tins of formula also encourage women to buy it (29).

Work or study commitments

Work and study commitments after the birth can impact on a woman's decision to breastfeed her baby or to wean them early. There has been recent pressure on the Australian government to legislate for employers to provide compulsory paid maternity leave to help relieve the financial pressures on women to return to work. There is also a push for employers to facilitate 'lactation breaks' and provide clean, private facilities for women to express their milk and refrigeration so they can store their breast milk.(24) However, flexible work options and positive support (in attitudes and behaviors) from employers and colleagues are also important factors (7).

Conclusion

Many of the studies before concerned on the practice of exclusive breast feeding, but in this study researcher emphasize on **intention** to exclusive breast feeding and defined the exclusive breast feeding by following the criteria of WHO.
Some factors that have identified in previous studies which have influence on intention to exclusive breast feeding have selected in this study for further explored by apply the theoretical model, Health Belief Model.

CHAPTER 3
RESEARCH METHODOLOGY

3.1 Study design

The study design is analytical cross sectional study, to identify the factors that have relationship to the intention on exclusive breast feeding among pregnant women. This study is conducted in 6 sub district under North Minahasa services area, on January 21 to February 18, 2005.

3.2 Study area and target population

North Minahasa District is a new district in the Northern of Sulawesi Island, which had separated from its main Minahasa district since 2003. This District consists of 8 sub districts, 10 health centers and 111 villages. For this study, the study areas are divided into three zones by the characteristic of its geographical condition. However, the situation and condition of living as well as culture aspect of local people in each zone are quite similar. Mostly, people are agriculture based and fisherman. The total populations in 2003 are 162.207 (29).

Zone 1 is the urban areas. This area is easily to access by transportation, 24 hours electricity and hot mix road is available. Most of the people here are work as farmer and agriculture based.

Zone 2 is the semi-urban areas where small villages locate quite far from the centre of the sub district. Public transportation to this area is limited and rare. It will be safer if visit this area before noon, because during the leisure time (evening to night), it should be aware due to the some local drunker people who likely disturb the stranger, who pass their villages during this time. Mostly, people here work as agriculture based.

Zone 3 is the rural remote area, which located in the small island and difficult to access. Transportation is limited and restricted by fisherman boat only. It also suspended on the weather, climate and ocean conditions. Due to the limitation this access barrier, researcher could not carryout data collection in this zone. Mostly, people here work as fisherman and agriculture.

Inclusion criteria:

The pregnant women in 2nd trimester and 3rd trimester, in North Minahasa districts services area during the months of data collection are included in this study.

Exclusion criteria:

The 1st trimester pregnant women (in this period woman more than usually emotional and sensitive due to hyper emesis gravid arum) and those who absent or move out from their villages on the day of data collection, and those who live in zone 3, due to its geographical barrier are excluded.

3.3 Sample size

As it mentioned above that this study could not include the maternal who lives in the zone 3 area where due to its particular geographic barriers. Therefore, 32 villages of total 111 villages of the districts are excluded from this study. Thus, the sample populations of this study are stratified from only zone 1 that consist of 52 villages and from zone 2 that consist of 27 villages.

The sample size is calculated based on the following formula:

$$n = \frac{Z^2_{a/2} pq}{d^2}$$

n = The desired sample size

$Z^2_{a/2}$ = Level of statistical significance for two sided test (1,96)

p = Anticipated proportion possessing a characteristic of interest is the percentage of intention to exclusive breast feeding coverage from the reference is = 70% (20), so p = 0.7

q = 1 – p, so q = 0.3

d = allowance for relative error = 0.05

$$n = \frac{(1.96)^2 (0.7)(0.3)}{(0.05)^2}$$

n = **350**

- For this study, researcher conducted a pilot study to get the number of p (percentage of intention to exclusive breast feeding in North Minahasa), than it is possible to recalculate for the sample size, to make it more appropriate and precisely.

- The number of sample size was divided into 2 groups; 50% for zone 1 and 50% for zone 2.

- The simple random technique is used in order to select the target villages from those two zones (10 out of 52 villages at zone 1 and 10 out of 27 villages at zone 2).

- Due to the limit of time and small number of sample size available from each villages, all maternal in each village who met the inclusion criteria of the study are selected and interviewed.

3.4 Sampling technique

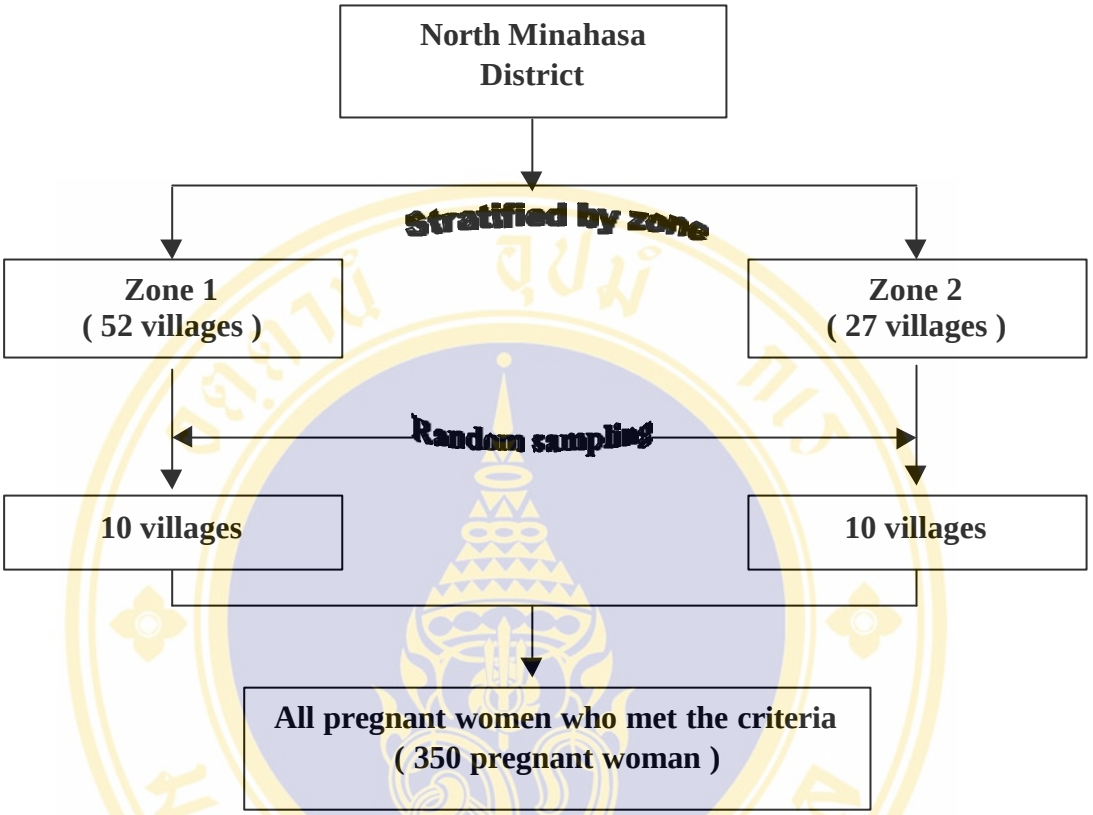

Figure 3 Sampling frame

3.5 Research instrument

The structure self-administered questionnaire will be used for this survey. These English versions questionnaire will be translate to the Indonesian local languages, and contain of several questions for asking information which regarding to the independent and dependent variables of intention on exclusive breast feeding. The questionnaires are consist of 7 parts (total 66 questions), which are list below:

Part 1. Information about socio-demographic and psychological characteristic; 15 questions

Part 2. Intention to exclusive breast feeding, 4 questions

Part 3. Perceived susceptibility and severity: 12 questions

Part 4. Perceived benefit and barriers: 11 questions

Part 5. Cues to action factors: 24 questions

3.6 Test for validity and reliability

Test for content validity

Questionnaires sent to three experts to examine the correctness, validity, language clearness than translated to Indonesia local language before run for pretest.

Test for reliability

The questionnaires will be pretest for the reliability of the perceived susceptibility-severity and perceived benefit-barrier parts for 30 cases. The respondents were pregnant women in North MINAHASA district. The internal consistency method will be used and Cronbach's alpha coefficient was calculated. The reliability measurement for the perceived susceptibility-severity part was 0.609 and 0.717 for perceived benefit-barrier part. After the questionnaire has been improved, it was used in the present study.

3.7 Data collection procedure

1. As a first step, researcher will meet the chief of the North Minahasa health office, to get her permission for this study and briefly describe the aim of this study.

2. A letter will be sent to the head of all of the health centers under North Minahasa service areas and all of the formal/informal 20 villages' leaders, to inform them about the aim of this study. In this letter, researcher also will ask for their permission or any objections if their services area population would participate in this study.

3. After obtaining the permission from the leaders above, 11 assistants researcher from 6 health centers were selected and the researcher will

provide 1-day training. In the first session, the researcher briefly explains the interviewers to overall ideas of conducting this study, including its objective, conceptual framework, methodology. The second session, will concentrated on research questionnaires. Every question will go in detail and discuss for a clear understanding and same consensus/opinion of the interviewer, and finally an arrangement for date of data collection would be made.

4. The interviewer will be divided into 2 groups, to conduct face to face interviewing with the sample population in 2 zones. After collecting data, the questionnaire sheets will be immediately checked for its completeness and accuracy.

5. The questionnaires will be covered by a letter, informing them of the study objective and asking them to participate confidentially and anonymously.

6. After finishing data collection, the interviewer has to allow for the mother to ask question for clarification about the information that they may be confuse in the any part of the questionnaire.

7. Finally, before leaving, interviewer should be sure that the questionnaires were completed and no any missing value.

3.8 Data analysis procedure and statistical used

Questionnaires will be coded and analyzed by using the Epi-Info and Minitab for window program. Descriptive statistic will be used to describe the basic information of relationship between independent and dependent variables, Chi-square test will used. For all of statistical test used in this study, the significant level will set at p-value = 0.05.

CHAPTER 4
RESULTS

This research was conducted by interviewing 350 pregnant women who lived in North Minahasa district, to investigate their intention to exclusive breast feeding and their relationship between socio-demographic and psychological characteristic, perceived susceptibility and severity, perceived benefit and barrier, cues to action factor and intention to exclusive breast feeding. The research results would be presented in the following 2 parts and each part would consist of 5 main tables:

Part 1 : Descriptive analysis, which would describe the percentage and frequency of each independent and dependent variables. In this part, the results would be presented in 5 main tables as follow:

1. Socio-demographic and psychological characteristic.
2. Perceived Susceptibility and severity on intention to exclusive breast feeding.
3. Perceived Benefit and barrier on intention to exclusive breast feeding.
4. Cues to action.
5. Intention to exclusive breast feeding.

Part 2 : Association analysis, which would presented by q-square test, to study the association between each independent variables and dependent variable. In this part, the result would be presented in 4 tables as follow:

1. Association between Socio-demographic and psychological characteristic and intention to exclusive breast feeding.
2. Association between Perceived susceptibility and severity and intention to exclusive breast feeding.

3. Association between Perceived Benefit and barrier and intention to exclusive breast feeding.
4. Association between Cues to action factor and intention to exclusive breast feeding.

4.1 Descriptive analysis

4.1.1 Socio-demographic and psychological characteristic

Table 3 presented the distribution of respondents according to their socio-demographic and psychological characteristic, such as age, education, financial status, race, previous experience, parity, municipality and confidence to exclusive breast feeding.

The age of total 350 respondents were range from 15 to 42 years old with mean of age is 26.28 years old. 61.1% of respondents were in the middle reproductive age, ranging from 20 – 30 years old. The age groups less than 20 years old and more than 30 years old were 18.9% and 20 %, respectively.

In terms of education, respondents who got secondary school were taking the largest proportion (74.6%) among educational distribution of the respondents, followed by 18.6% for primary school and 6.9% for university.

Concerning the financial status, the average of the family income of the total respondents has a wide gap, ranging from Rp 100.000,- (US $ 11.76) to Rp 6.000.000,- (US $ 705.88) per month, while the average (mean) of their family income was Rp 685.324,- (US $ 80.6) per month. More than half of the respondents (68%) had identified as the families with low financial status, followed by 30.3% as a middle groups and only 1.7% of the respondents was identified as the families with high financial status, with family income more than Rp 2.000.000,- (US $ 235) per month.

The majority of respondents were Minahasa ethnic (75.7%), while the rest (24.3%) were consist of others ethnic groups, which mainly was Sangihe ethnic.

Regarding about the previous experiences in exclusive breast feeding, more than half of the respondents (61.4 %) have experiences in breast feeding; on the other hand 38.6 % have no experience in breast feeding before. Among those who had experiences before, 88.8 % of them gave more than 4 months and the rest 11.2 % gave breast feeding less than 4 months.

Researcher also noted that 64.4% of respondents were multiparity and the rest (35.4%) were primiparity. More than half of respondents (52.9%) in this research were lived in semi urban area, while 47.1% others were in urban area.

Based on the criteria that mentioned before in operational definition, chapter I above, confidence to exclusive breast feeding among respondents, could be identified that 54% of respondents had high confidence in exclusive breast feeding, while 46% rest had low confidence.

Table 3 Number and percentage of pregnant women classified by their socio-demographic and psychological characteristics

Characteristic	Number	Percentage
Maternal age (years)	**(n = 350)**	
< 20	66	18.9 %
20 -30	214	61.1 %
≥ 30	70	20.0 %
Mean = 26.28 SD = 5.76	Min = 15.0	Max = 42.0
Education	**(n = 350)**	
Primary school	65	18.6 %
Secondary school	261	74.6 %
University	24	6.9 %

Table 3 Number and percentage of pregnant women classified by their socio-demographic and psychological characteristics (cont.)

Characteristic	Number	Percentage
Financial status	**(n = 350)**	
Low financial	238	68.0 %
Middle financial	106	30.3 %
High financial	6	1.7 %
Mean = Rp 685.324,- (US $ 80.6) SD = 580.837 Min = Rp 100.000,- (US $ 11.76) Max = Rp 6.000.000,- (US $ 705.88)		
Race	**(n = 350)**	
Minahasa	265	75.7 %
Others	85	24.3 %
Previous experience	**(n = 215)**	
< 4 months	24	11.2 %
≥ 4 months	191	88.8 %
Mean = 16.39 SD = 7.25 Min = 1.0 Max = 28.0		
Parity	**(n = 350)**	
Primiparity	124	35.4 %
Multiparity	226	64.4 %
Living area	**(n = 350)**	
Urban area	165	47.1 %
Semi urban area	185	52.9 %
Confidence on breast feeding	**(n = 350)**	
Low confidence	161	46.0 %
High confidence	189	54.0 %
Mean = 10.57 SD = 0.96 Min = 8.0 Max = 12.0		

4.1.2 Perceived susceptibility and severity on intention to exclusive breast feeding

Based on the criteria that mentioned in chapter I, from 12 questions related to respondents susceptibility and severity if not give exclusive breast feeding. During the interview it was found that 50.3 % respondents had high level perceived susceptibility and severity on intention to exclusive breast feeding, while 49.7 % others had low level.

Table 4 Frequency and percentage of intention to exclusive breast feeding by perceived susceptibility - severity and perceived benefit-barrier on exclusive breast feeding

Perceived susceptibility and severity	Respondents Number	Percentage
Low level	**174**	**49.7%**
High level	**176**	**50.3%**
Total	**350**	**100 %**
Mean = 30.30 SD = 3.29 Min = 18 Max = 36		

Perceived benefit and barrier	Respondents Number	Percentage
Low level	**171**	**48.9%**
High level	**179**	**51.1 %**
Total	**350**	**100 %**
Mean = 28.39 SD = 2.58 Min = 21 Max = 33		

According to the questionnaire of perceived susceptibility and severity in this research, (Table 2 in appendix A) found that there are 2 questions that respondents gave good correct answered more than 90 percent; 1) question number 20 about it is necessary to provide exclusive breast feeding to the baby during the first 4 months of life (91.7%) and 2) question number 25 about breast feeding is a normal practice and it is according to the normal norm (95.7%).

For the questionnaire which quite few respondents gave correct answered were 1) question number 28 about it is not enough for the baby if only give breast feeding for the first 4 months of life (30.6%) and 2) question number 31 about bottle feeding makes the child healthy as well as breast milk (34.3%). The completed result showed in table 2 in appendix A.

4.1.3 Perceived benefit and barrier on intention to exclusive breast feeding

The questionnaire forms with 11 questions were developed to measure the perceived benefit and barrier. The positive perception gets three score, not sure perception got two scores and one score for negative perception.

Table 4 showed that 51.1% of respondents had high level of perceived benefit and barrier on intention to exclusive breast feeding, while 48.9% of them had low level.

According to the questionnaire of perceived benefit and barrier in this research, (Table 3 in appendix A) found that there are 3 questions that respondents gave good correct answered more than 90 percent; 1) question number 32 about exclusive breast feeding make the baby healthier and enhance their brain development (98.6%), 2) question number 35 about breast milk contain immunities to disease and help develop baby's immune system (95.7%) and 3) question number 42 about breast feeding should be set as baby and mother's right (93.4%).

For the questionnaire which quite few respondents gave correct answered was question number 41 about it is not every mother has breast milk (20.3%). The completed result showed in table 3 in appendix A.

4.1.4 Cues to action

Table 5 presented the distribution of respondents according to cues to action, such as social support to exclusive breast feeding, formula milk marketing exposed to respondents and work or study commitment regarding to the intention to exclusive breast feeding.

Table 5 Number and percentage of pregnant women classified by their cues to action factor

Cues to action	Number	Percentage
Social support	**(n = 350)**	
Low support	107	30.6 %
Moderate support	133	38.0 %
High support	110	31.4 %
Mean = 13.94	SD = 1.89	
Formula marketing exposed	**(n = 350)**	
Low exposed	175	50 %
High exposed	175	50 %
Mean = 10.46	SD = 1.81	
Work/study commitment	**(n = 350)**	
Low commitment	237	67.7 %
High commitment	113	32.3 %
Mean = 8.20	SD = 0.86	

From the result of this study, 38.0 % respondents got moderate social support to exclusive breast feeding, followed by 31.4 % high social support and 30.6 % had low social support. If emphasize on husband support for exclusive breast feeding, this study found that 98.9% respondents confessed that they got support from their husband for exclusive breast feeding; only 1.1% respondents said that they did not get support from their husband (table 6).

Table 6 Frequency and percentage of the husband support on exclusive breast feeding

	Respondents	
Husband support	**Number**	**Percentage**
Have support	346	98.9 %
No support	4	1.1 %
Total	350	100 %
Mean = 0.98 SD = 0.10		

According to the questionnaire of social support to exclusive breast feeding (table 4 in appendix A), there are three questions which respondents had positive support more than 90 percent; 1) question number 44 about husband encourage to exclusive breast feeding (94.9%), 2) question number 50 about health worker give information about advantage of exclusive breast feeding (93.7%) and 3) question number 46 about relative encourage to exclusive breast feeding (93.1%). The completed result showed in table 4 appendix A).

According to result of formula marketing that exposed to respondents, as showed in table 5 above, half (50 %) of respondents were high exposed to formula marketing advertisement and 50 % others had low exposed.

In the table 5, appendix A showed that the highest of exposed came from television (88.0%), follow by information from friend (68.6 %) and magazine/news paper (67.1%), respectively. What's interested was found that information about bottle feeding in term of formula marketing was higher from health worker (59.1 %), compared to the information from milk company (28.6 %). This table also showed that, 15.1 % of respondents ever got milk sample from Milk Company and 20.6 % they got from health worker.

Concerning about work or study commitment, from table 5 above, we found that more than half (67.7 %) of respondents identified as low commitment group to work/study regarding to intention on exclusive breast feeding and only 32.3 % of them had high commitment to their work.

In the table 6, appendix A showed that 88.0% of respondents feel happy if could got maternal leave for exclusive breast feeding, on the other hand 12.0 % of them showed the reverse feeling. 9.1 % of respondents said that they had great responsible in work rather than breast feed their baby but the rest (90.9 %) choose to breast feed rather than to work.

Table 7 Frequency and percentage of the person who give advice for exclusive breast feeding

Person who give advice *	Respondents answer Yes	Percentage
Nurse	295	84.3%
Husband	257	73.4%
Mother/mother in law/relative	253	72.3 %
Other health worker	246	70.3%
Doctor	235	67.1 %
Friends/neighbors	181	51.7%
Others (magazine)	3	0.9%

***** multiple answers

Table 7 above showed that advice for exclusive breast feeding respectively came from nurse (84.3 %), husband (73.4 %) and respondent family (72.3 %), while doctor and the other health worker give contribute only 67.1 % and 70.3 %.

4.1.5 Intention to exclusive breast feeding

As mentioned in operational definition, chapter I that dependent variable in this research was intention to exclusive breast feeding, which would be categorized into intention and un-intention.

Table 8 Frequency and percentage of intention to exclusive breast feeding

Dependent variable	Respondents Number	Percentage
Intention	124	35.4 %
Un-intention	226	64.6 %
Total	350	100 %

Table 8 above showed that only 35.4 % of the respondents had intention to exclusive breast feeding.

Table 9 Frequency and percentage of the multiple reasons that maternal will not give exclusive breast feeding

	Respondents answer	
Reason of non exclusive breast feeding *	**Yes**	**Percentage**
Have to work or study	12	30.8%
Bottle feed is more convenient	12	30.8%
Not interested	12	30.8%
Others (Bf is not enough)	8	20.5%
Breast/nipple problem	7	17.9%
To maintain beauty	1	2.6%
Husband disapproved	0	0 %

*** multiple answers**

Table 9 above showed the multiple reasons, why respondents would not give exclusive breast feeding (un-intention reason). This study found that mainly there are 4 reasons; 1) bottle feed is more convenient (30.8%), 2) they have to work/study (30.8 %), 3) they were not interested on exclusive breast feeding (30.8 %), 4) other reasons, especially they believed that breast feeding only is not enough for the first 4 months of baby life (20.5 %).

4.2 The relationship between factors related and intention to exclusive breast feeding

In order to determine the relationship between socio-demographic characteristic, perceived susceptibility and severity on intention to exclusive breast feeding, perceived benefit and barrier to exclusive breast feeding, cues to action factor and intention to exclusive breast feeding, and chi-square test was performed for this analysis.

4.2.1 Relationship between socio-demographic and psychological characteristic and intention to exclusive breast feeding

As showed in table 10 that respondents who had aged less than 20years old were more likely had intention to exclusive breast feeding (39.4 %), followed by those over 30 years old (38.6 %) and 20-30 years old (33.2 %), respectively. It was found hat relationship between maternal age and intention to exclusive breast feeding was not significant (p-value 0.541).

When concern about the relationship between maternal education and intention to exclusive breast feeding by using chi-square test, it found that education was not significant associated with the intention to exclusive breast feeding (p-value 0.414). Any way, this result showed that among those who had intention to exclusive breast feeding, those who had well educated background (secondary school) was the highest group to intention on exclusive breast feeding (37.2 %), follow by primary school (32.3 %) and university (25.0 %), respectively (table 10).

The relationship between financial status and intention to exclusive breast feeding was examined by using chi-square test; it was found that family financial status was not significantly associated to the intention to exclusive breast feeding (p-value 0.397). It also showed that among those who had intention to exclusive breast feeding, group with low financial status ranked the highest one (37.4 %), follow by middle group (32.1 %) and high financial group (16.1 %) was the lowest group (table 10).

Concerning the relationship between maternal race and intention to exclusive breast feeding by using chi-square test, it was found that maternal race was not significantly associated with the intention to exclusive breast feeding (p-value 0.772). It also found that among those who had intention to exclusive breast feeding, Minahasa ethnic group got 35.8 %, follow by others (mainly, Sangihe ethnic group) was 34.1 % (table 10).

The relationship between maternal previous experience in exclusive breast feeding and intention to exclusive breast feeding was significantly associated.(p-

value 0.042). It showed that among those who had intention to exclusive breast feeding, maternal who had previous experience more than 4 months in exclusive breast feeding were the highest group (37.7 %) and the rest (16.7 %) of them, had previous experiences less than 4 months (table 10).

Table 10 Relationship between socio-demographic and psychological characteristic and intention to exclusive breast feeding

Socio-demographic Characteristic	Dependent variable: Intention N	%	Un-intention N	%	X^2 (df)	p-value
Maternal age						
< 20 years old	26	39.4%	40	60.6%	1.230	0.541
20-30 years old	71	33.2%	143	66.8%	(2)	
> 30 years old	27	38.6%	43	61.4%		
Education						
Primary	21	32.3%	44	67.7%	1.762	0.414
Secondary	97	37.2%	164	62.8%	(2)	
University	6	25.0%	18	75.0%		
Financial status						
Low	89	37.4%	149	62.6%	1.846	0.397
Middle	34	32.1%	72	67.9%	(2)	
High	1	16.7%	5	83.3%		
Maternal race						
Minahasa	95	35.8%	170	64.2%	0.084	0.772
Others	29	34.1%	56	65.9%	(1)	
Previous experience						
< 4 months	4	16.7%	20	83.3%	4.126	**0.042 ***
≥ 4 months	72	37.7%	119	62.3%	(1)	
Parity						
Primiparity	44	35.5%	80	64.5%	0.000	0.987
Multiparity	80	35.4%	146	64.6%	(1)	
Living area						
Urban area	52	31.5%	113	68.5%	2.090	0.148
Semi urban	72	38.9%	113	61.1%	(1)	
Confidence on exclusive breast feeding						
Low level	65	40.4%	96	59.6%	3.186	0.074
High level	59	31.2%	130	68.8%	(1)	

In this study, the relationship between parity and intention to exclusive breast feeding was examined by performing chi-square test; it was found that parity was not significantly associated to intention to exclusive breast feeding (p-value 0.0987). It also showed that among those who had intention to exclusive breast feeding, respondents with primiparity and multiparity almost similar, 35.5 % and 35.4 % respectively (table 10).

The relationship between municipality grouping and intention to exclusive breast feeding was examined by chi-square test; it was found that municipality grouping was not significantly associated to intention to exclusive breast feeding (p-value 0.148). It showed that among those who had intention to exclusive breast feeding, 38.9 % were lived in semi-urban area and 31.5 % rest, lived in urban area (table 10).

The relationship between maternal confidence on exclusive breast feeding and intention to exclusive breast feeding was also examined by using chi-square test; it was found that there was not significantly association between these two variables (p-value 0.074). It showed that among those who had intention to exclusive breast feeding, 40.4 % had low level of confidence in exclusive breast feeding, and 31.2 % of them had high level of confidence on exclusive breast feeding (table 10).

4.2.2 Relationship between perceived susceptibility-severity and intention to exclusive breast feeding

It was found that perceived susceptibility and severity was not significantly associated to intention to exclusive breast feeding among pregnant women (p-value 0.554). It showed that among those who had intention to exclusive breast feeding, 36.9 % had high level on perceived susceptibility and severity if not giving exclusive breast feeding, and 33.9 % rest, had low level on this (table 11).

Table 11 Relationship between perceived susceptibility-severity and perceived benefit-barrier and intention to exclusive breast feeding

Perception	Dependent variable					
	Intention		Un-intention		X^2	p-value
	N	%	N	%		(df)
Perceived susceptribility And severity						
Low level	59	33.9%	115	66.1%	0.350	0.554
High level	65	36.9%	111	63.1%	(1)	
Perceived benefit and barrier						
Low level	61	35.7%	110	64.3%	0.009	0.926
High level	63	35.2%	116	64.8%	(1)	

4.2.3 Relationship between perceived benefit-barrier and intention to exclusive breast feeding

It was found that perceived benefit and barrier was not significantly associated to intention on exclusive breast feeding (p-value 0.926). It showed that among those who had intention to exclusive breast feeding, 35.7 % had low level on perceived benefit and barrier on exclusive breast feeding and 35.2 %, had high level. (table 11).

4.2.4 Relationship between cues to action and intention to exclusive breast feeding

It was found that social support was not significantly associated to intention on exclusive breast feeding among pregnant women (p-value 0.278). It showed that among those who had intention to exclusive breast feeding39.8 % had moderate level of social support, follow by high support (35.5 %) and low support (29.9 %), respectively (table 12).

Table 12 Relationship between cues to action and intention to exclusive breast feeding

Cues to action	Dependent variable					
	Intention		Un-intention		X^2 (df)	p-value
	N	%	N	%		
Social support						
Low support	32	29.9%	75	70.1%	2.563	0.278
Moderate	53	39.8%	80	60.2%	(2)	
High support	39	35.5%	71	64.5%		
Formula milk marketing						
Low exposed	54	30.9%	121	69.1%	3.197	0.074
High exposed	70	40.0%	105	60.0%	(1)	
Work/study commitment						
Low commitment	88	37.1%	149	62.9%	0.930	0.335
High commitment	36	31.9%	77	68.1%	(1)	

It was found that formula milk marketing was not significantly associated to intention to exclusive breast feeding (p-value 0.074). It showed that among those who had intention to exclusive breast feeding, 40.0 % of them had high exposed to formula milk marketing and 30.9 % had low exposed to formula milk marketing (table 12).

The relationship between work/study commitment and intention to exclusive breast feeding was not significantly associated. (p-value 0.335). It found that among those who had intention to exclusive breast feeding, 37.1 % were identified as low commitment to their work/study and 31.9 % had high commitment to their work/study (table 12).

In conclusion:

1. Intention to exclusive breast feeding rate in this study area was 35.4 %.

2. This study found that the relationship between maternal previous experiences on exclusive breast feeding was significantly associated to intention on exclusive breast feeding (p-value 0.042).

3. There were not significant association between maternal age, education, financial status, race, parity, municipality, confidence on breast feeding, perceived susceptibility and severity, perceived benefit and barrier, cues to action and intention to exclusive breast feeding among pregnant women in this study area (p-value > 0.05). However, these variables are important research consideration.

CHAPTER 5
DISCUSSION

This study concern on intention to exclusive breast feeding among pregnant women in North Minahasa district, Indonesia had been performed in order to use the outcome as a source of data for local health professional to develop health promotion strategies more precise and appropriately , especially in mother and child health. The populations in this study were 350 2nd trimester pregnant women in North Minahasa district and willing to participate in this study. 11 nurses from 6 local health centers had been trained and helped to collect the data. The data was gathered by using questionnaire form. As for the result discussion in this chapter, researcher had revealed the following important issues into 6 parts as follow:

Part 1. Study design and research methodology.

Part 2. Intention to exclusive breast feeding among pregnant women.

Part 3. The relationship between socio-demographic characteristic and intention to exclusive breast feeding.

Part 4. The relationship between perceived susceptibility and severity on exclusive breast feeding and intention to exclusive breast feeding.

Part 5. The relationship between perceived benefit and barrier on exclusive breast feeding and intention to exclusive breast feeding.

Part 6. The relationship between cues to action and intention to exclusive breast feeding.

5.1 Study design and research methodology

The study was a cross-sectional survey research which collected data from primary source. Due to the limitation of time and aim of the study, this study design was more appropriate compare to longitudinal study design, which needs long time to get the result. Target population were 2nd trimester pregnant women in North

Minahasa District, Indonesia who willing to participated in this study. The data was collected by using self administered questionnaire which consist of 66 questions to cover the content of objectives of the present study; intention to exclusive breast feeding among pregnant women.

Content validity was examined by three experts from MAHIDOL University and field trial has run with 30 pregnant women who attended the ante natal care in Kolongan health centre at 1st week of January 2005, to calculate the reliability of perceived susceptibility-severity part and perceived benefit-barrier part by using Cronbach Alpha Coefficient. The reliability measurement for the perceived susceptibility-severity part was 0.609 and 0.717 for perceived benefit-barrier part. After the questionnaire has been improved, it was used in the present study. The reliability measurements result of this study was reliable because Cronbach Alpha was more than 0.70 for perceived benefit-barrier part, despite 0.609 for perceived susceptibility part, it was almost nearly passed the measurement limit.

Data collection done from January 21 to February 18, 2005 by 11 nurses, who had got one day trained before. These 11 nurses have similar education back ground and came from 6 health centers in North Minahasa. These 11 nurses understood the questionnaire and objective of this study by the trained than they collected the data according to their health post services schedule in village and all pregnant women, who met the criteria, were caught.

The overall response rate of this study was 98% (323 sample size + 10% = 355, but response back only 350) but it took longer than expected, because the data collection day have to adjusted to the local health post services schedule on each health centre, which vary from 1st week to 3rd week every month regularly. During the data collection, researcher should closely supervise and support the interviewer, regarding the limitation of the time and wider of this study area. Rainy season at that time also play a significant barrier in collecting process, but great coordination and support from local health district officer paid an important role on the success of the whole data collection process.

5.2 Intention to exclusive breast feeding among pregnant women

Concerning intention to breast feeding, it was found that 99.7% of the respondents had intended to breast feeding (table 11, Appendix A) but only 35.4% of them had intended to breast feed exclusively. This figure was lower than the survey in United Kingdom, which reported that 40% of the pregnant women intended to breast feed exclusively (18). It was understandable because this study conducted in area which had difference culture, using difference questionnaire and difference target population compare to the previous study. Majority of the people were agriculture/former based and they had to go back to work within 2 weeks after give birth, were another important thing to consider.

Despite the result of intention rate from this study was still low but the exclusive breast feeding practice in this area was 55% (2003) (30). This finding reverse from a study among military women by Ohlin and Rossner in Sweden (1998), found that intention rate (70 %) was higher than the actual breast feeding rate (47 %) (20) The reason here, possibly because the study of Tampemawa DJ (30), had not emphasize on the exclusive breast feeding by WHO consistently, it mean that they only concern on duration of exclusive (> 4 months of breast feeding). Other reason was she conducted the research in difference population and place (mother in 1 health centre level) compare to this study, targeting on pregnant women and district level. This study also found that the causes of low intended to breast feeding exclusively were 1) bottle feed is more convenient (30.8%), 2) work/study barrier and not interested to exclusive breast feeding (30.8%) 3) they believed that only breast feeding is not enough for the first 4 months of baby life (20.5) (table 9).

5.3 The relationship between socio-demographic and psychological characteristic and intention to exclusive breast feeding

Maternal age

It was found that there was no significantly association between age of pregnant women and intention to exclusive breast feeding. (p-value 0.541). It was

because most of the respondents in middle reproductive age (61.1%) ranging from 20 – 30 years old with low financial status (68.0) possibly have to work (30.8%) and accepted that bottle feed was more convenient for them (30.8) (table 10). One of the trend in former live was no matter their age groups, they have to go back to work early within 2 weeks after give birth, that's why we found there were no difference in the intention of exclusive breast feeding.

Result of this study were also found that middle reproductive age pregnant women (20-30 years old) have more un-intention (66.8%) than those older (> 30 years old was 61.4%) or younger (< 20 years old was 60.6%) (table 11). It probably because of during the middle reproductive age, women likely pretend to maintain their beauty by keep their body image. This result, also relative relevance to the study of Rhona JM, et al in Scotland (2001), that by increasing maternal age, it is also having greater risk of choosing not to breast feed (3).

Maternal education

Same as age, the relationship between maternal education and intention to exclusive breast feeding was not significantly associated. (p-value 0.414). It was because even 74.5% of the respondents were secondary school background, while most of them still had to live in the village and worked as a former (cultured impact). That's why no matter they were educated or not, they still have no difference in terms of intention to exclusive breast feeding. In the other hand, this well educated group created by the 9th year's compulsory education policy in Indonesia.

It also found that those who well educated (secondary school), were more likely to exclusive breast feed (37.2 %) than those low educated (32.3 %) and high educated (25.0 %) (table 10). Those high educated (75 %) have most un-intention to breast feed, possibly these group have high income and pretend that formula milk is more convenient (30.8 %) and not interested to breast milk (30.8 %). (table 9). This finding reverse to the study of Leung TF, et al in China (2003) that indicated that higher educational background significantly associated to intention to breast feed (8).

Financial status

This study found that family income was not significantly associated with intention to exclusive breast feeding (p-value 0.397). Basically, family income have correlated to occupation or working status of the family, that's why regarding to intention on exclusive breast feeding, no matter their financial status, culturally the people here have to go back to work in farm within 2 weeks after give birth. Most of the pregnant women with low income (71.8%) possibly have to work (30.8%) and usually like to pretend the upper class or higher income by argument that bottle feed is more convenient (30.8%) (table 9).

It showed that even those have to go to work, low in come women were more likely (37.4 %) to exclusive breast feed than those in middle in come (32.1 %) and high income (16.7 %) (table 10). For the low income group, they do not likely to spent their money on formula milk, that's why most of them may prefer to give breast feeding even not exclusive but for those high income group, they may have enough money to buy formula milk.

Maternal race

This study found that maternal race was not significantly associated to intention to exclusive breast feeding (p-value 0.772). This could be happened because even this study are have some difference ethnic group, but mostly they have same culture (lived in the same province with more than 85 % same religion) (10). Therefore, this study result did not relevance to the study of Grossman and Larsen (1989) in United States and Australia that indicated the intention rated difference based on difference culture and skin color (22).

Previous experience

It was found that pregnant women who had previous experience in exclusive breast feeding was significantly associated to intention on exclusive breast feeding (p-value 0.042). It was understandable because previous breast feeding experience can influence a woman's decision to breast feed (7). It also found that, those who had previous experience on breast feeding more than 4 months (37.7 %) were more likely

to breast feed than those had experience less than 4 months (16.7 %) (table 10). This finding was relevance to previous study that found previous breast feeding experience was independently associated with breast feeding choice (3). The fact that women who have previously breast feed are more likely to intend to breast feed emphasizes the need to support and encourage breast feeding in first time mother and indicating the importance of previous experience on future behavioral intention.

Normally, because of area culture based that no matter their age group, education back ground, financial status, they had to work out side, but for those who had previous experience in breast feeding, they feel confidence to breast feed even they have to work out side. It showed that those who have more longer (> 4 months) were more confidence in exclusive breast feeding (table 10).

Parity

This study found that parity was not significantly associated to intention on exclusive breast feeding (p-value 0.987). It was because most of the respondents were in middle reproductive age, so working status and culture impact for early back to work were important explanation for this point. This result was difference from the study of Rhona JM, et al in Scotland (2001) that found that being primiparity as a useful factor in identifying women at greater risk of choosing not to breast feed (3). This was understandable, because this study was conducted in difference area, culture and target population from the previous study above.

It showed that being primirarity (35.5 %) almost have same intention to exclusive breast feeding, compared to multiparity (35.4 %). It mean to say that, even they are multiparity but if they do not have chance (because have to work), they will not do it.

Living area

This study found that municipality was not significantly associated to intention on exclusive breast feeding (p-value 0.148). It was understandable because in the fact, both urban and semi-urban almost had the same condition, culture and financial

status. Other reason was the trend of information right now spread widely thought out the TV channel, that's why both of these 2 zones may occur to same breast feeding information.

Confidence on exclusive breast feeding

This study found that confidence on exclusive breast feeding was not significantly associated to intention on exclusive breast feeding (p-value 0.074). It was possibly because even 54.0% respondents were high confidence on breast feeding (table 3) but regarding to the age reason that most of the respondents in middle reproductive age (61.1%) ranging from 20 – 30 years old with low financial status (68.0) possibly have to work (30.8%) and accepted that bottle feed was more convenient for them (30.8) (table 9).

It also found that those who had low level of confidence on exclusive breast feeding (40.4 %) had more intention to exclusive breast feed than those had high level of confidence (31.2 %) (table 10).

5.4 The relationship between perceived susceptibility-severity and intention to exclusive breast feeding

Relationship between perceived susceptibility and severity if not give exclusive breast feeding and intention to exclusive breast feeding was not significantly associated. (p-value 0.554). The reason was because even they have difference perceived susceptibility-severity on exclusive breast feeding but local norm or culture and early working condition in this area might be influence this result.

We could assumed that people feared diseased and that health action were motivated in relation to exclusive breast feeding, that's why It showed that those who had high level of perceived threat (36.9 %) were more likely to have intention on exclusive breast feeding than those had low level (33.9 %) (table 11).

5.5 The relationship between perceived benefit-barrier and intention to exclusive breast feeding

This study found that perceived benefit and barrier was not significantly associated to intention on exclusive breast feeding (p-value 0.926). The reason similar above that low income, working status was influence this result, and possibly there were difference understanding in collecting data or answering the questionnaire, between researcher, interviewer and respondents.

It showed that those who had high level of perceived benefit-barrier (35.2 %) almost have same intended to exclusive breast feeding than those had low level (35.7 %). Possibly there are other points that had more influence to intention on exclusive breast feeding such as working status and previous experience which had discussed before.

5.6 The relationship between cues to action and intention to exclusive breast feeding

Social support

Pregnant women who had moderate social support (39.8 %) were more likely have intention to exclusive breast feeding than those had high social support (35.5 %) and low social support (29.9 %) (table 12). It was because social support may provide a mechanism for obtaining the confidence associated to exclusive breast feeding. This finding was relevance to the previous survey in Australian that indicated that women whose partners expressed a definite preference for breast feeding were more likely to breast feed than those whose partners preferred bottle feeding (26). Statistical analysis had shown the relationship between social support and intention to exclusive breast feeding was not significantly associated. (p-value 0.278). It was not significant due to the low financial status (68.0%) that probably that has to work (30.8%) and pretend bottle feed is more convenient (30.8%) (table 9).

Table 7 above showed that 98.9% respondents confessed they got support on breast feeding from their husband, this result also support by their answer from questionnaire form that mainly, pregnant women got social support in term of exclusive breast feeding from 3 way; 1) husband (94.9%), 2) health worker (93.7%), and 3) relative (93.1%). This indicated their husband, family and health workers were recognized as playing important role in woman's choice to exclusive breast feed.

Formula milk marketing

Relationship between pregnant women who were exposed to formula milk marketing and those who were not exposed to formula milk marketing and intention to exclusive breast feeding was not significant (p-value 0.074). It was showed the percentage of respondents who had high exposed to formula milk marketing (40.0 %) were more likely to breast feed than those had low exposed (30.9 %) (table 12). This finding possibly was related to their financial and working status. Even though got high exposed to milk advertisement but most of them had low to moderate financial status (98.3 %). Only those who pretend as high financial status will buy formula milk (1.3 %) (table 9).

Activity of health worker for providing both information regarding to exclusive breast feeding and formula milk marketing (59.1%), giving milk sample (20.6%) to the pregnant women were another reason of being not significant of this variable and become barrier for the success of the implementation of exclusive breast feeding program. Because most of the pregnant women instead the health worker to promoted milk product usually they will follow. They are not only adopted themselves but also carried out the messages to their friends and relatives.

The advertisement from mass media such as television (88.0%) and magazine (67.1%) need to paid attention. These advertisements often suggest pregnant women that they may not have enough milk, and this makes them loose confidence. Advertisements also make people believe that formula milk is really very good and their baby will be perfect healthy. Pretty picture of babies on tins of formula milk also encourage women to buy it (29).

Work/study commitment

Relationship between work/study commitment and intention to exclusive breast feeding was not significantly associated (p-value 0.335). This finding relative reverse to the study of Amy SH, et al in Australia (1998), found that work and study commitment after birth can impact on a woman's decision to breast feed her baby (24). Result in this study probably cause by the difference understanding in collecting data or answering the questionnaire, between researcher, interviewer and respondents.

It was also found that those with low commitment to work/study were more likely to have intention on exclusive breast feeding (37.1 %) compare to those with high commitment group (31.9 %) (table 12).

CHAPTER 6
CONCLUSION AND RECOMMENDATION

6.1 Conclusion

This study emphasized on intention to exclusive breast feeding among pregnant women in North Minahasa, was performed to study the characteristics of intention to exclusive breast feeding and it's related factors among pregnant women, in North Minahasa, Indonesia. A structured questionnaire was used for data collection of 350 of 2nd trimester pregnant women in study area, during 21st of January to 18th of February 2005.

Method of sampling was stratified random sampling with 350 pregnant women who met the criteria. For statistical analysis, descriptive was used to show frequencies, percentages, mean, median, and standard deviation. Chi-square analysis applied to measure the relationship between intention to exclusive breast feeding (as dependent variable) and socio-demographic and psychological characteristic, perceived susceptibility and severity, perceived benefit and barrier, cues to action. Based on the results of the study and interpretation, the conclusion could be made as follows:

The overall response rate of this study was 98% and the intention to exclusive breast feeding rate in this study area was 35.4 %.

The age of total 350 respondents were range from 15 to 42 years old with mean of age is 26.28 years old. 61.1% of respondents were in the middle reproductive age, ranging from 20 – 30 years old. The age groups less than 20 years old and more than 30 years old were 18.9% and 20 %, respectively.

In terms of education, respondents who got secondary school were taking the largest proportion (74.6%) among educational distribution of the respondents, followed by 18.6% for primary school and 6.9% for university.

Concerning the financial status, the average of the family income of the total respondents has a wide gap, ranging from Rp 100.000,- (US $ 11.76) to Rp 6.000.000,- (US $ 705.88) per month, while the average (mean) of their family income was Rp 685.324,- (US $ 80.6) per month. More than half of the respondents (68%) had identified as the families with low financial status, followed by 30.3% as a middle groups and only 1.7% of the respondents was identified as the families with high financial status, with family income more than Rp 2.000.000,- (US $ 235) per month.

The majority of respondents were Minahasa ethnic (75.7%), while the rest (24.3%) were consist of others ethnic groups, which mainly was Sangihe ethnic.

Regarding about the previous experiences in exclusive breast feeding, more than half of the respondents (61.4 %) have experiences in breast feeding; on the other hand 38.6 % have no experience in breast feeding before. Among those who had experiences before, 88.8 % of them gave more than 4 months and the rest 11.2 % gave breast feeding less than 4 months.

Researcher also noted that 64.4% of respondents were multiparity and the rest (35.4%) were primiparity. More than half of respondents (52.9%) in this research were lived in semi urban area, while 47.1% others were in urban area.

Regarding to confidence on exclusive breast feeding among respondents, could be identified that 54% of respondents had high confidence in exclusive breast feeding, while 46% rest had low confidence.

Related to respondents susceptibility and severity if not give exclusive breast feeding, during the interview it was found that 50.3 % respondents had high level

perceived susceptibility and severity on intention to exclusive breast feeding, while 49.7 % others had low level.

This study also found that 51.1% of respondents had high level of perceived benefit and barrier on intention to exclusive breast feeding, while 48.9% of them had low level.

From the result of this study, 38.0 % respondents got moderate social support to exclusive breast feeding, followed by 31.4 % high social support and 30.6 % had low social support. If we emphasize on husband support for exclusive breast feeding, this study found that 98.9% respondents confessed that they got support from their husband for exclusive breast feeding; only 1.1% respondents said that they did not get support from their husband.

According to result of formula marketing that exposed to respondents, as showed in table 6 above, half (50 %) of respondents were high exposed to formula marketing advertisement and 50 % others had low exposed.

Concerning about work or study commitment, we found that more than half (67.7 %) of respondents identified as low commitment group to work/study regarding to intention on exclusive breast feeding and only 32.3 % of them had high commitment to their work.

It was also found that the characteristic of pregnant women who more likely to breast feed exclusively in this study area were those who had aged less than 20 years old, well educated, low financial status, from Minahasa ethnic, and have previous experience in exclusive breast feeding (> 4 months).

This study found that the relationship between maternal previous experiences on exclusive breast feeding was significantly associated to intention on exclusive breast feeding (p-value 0.042).

There were not significantly associated between maternal age, education, financial status, race, parity, municipality, confidence on breast feeding, perceived susceptibility and severity, perceived benefit and barrier, cues to action and intention to exclusive breast feeding among pregnant women in this study area (p-value > 0.05).

6.2 Recommendation

6.2.1 Recommendation for the implementation

From the finding in this study, the following points of recommendation could be advantageous for the further implementation, regarding exclusive breast feeding that will give impact to mother and child health in general. Regarding to the significant relationship between previous experience in exclusive breast feeding and intention to exclusive breast feeding, it recommend:

1. It is kindly recommend that health personal in North Minahasa to set the programs for un-intention pregnant women to change their perception (bottle feed is more convenient and breast milk is not interested/ not enough) to breast feed exclusively, such as create exclusive breast feeding corner for giving support, promote and good perception about exclusive breast feeding. It is possible to invite those who had experience in exclusive breast feeding to be mentor because they have the real practice to show.
2. It is kindly recommend that the health personal to set the program for working mother to promote exclusive breast feeding even they have to work, such as they can keep their breast milk in refrigerator or cool pack instead of choosing formula milk.
3. It is kindly recommended that the government to facilitated the maternity leave for working mother from 3 months to 4 months, because it found that there was significantly difference between those who had > 4 months breast feeding experience compare to those < 4 months. This also recommend by WHO for at least 4 months breast feeding exclusively.

4. It is kindly recommended that doctor and health personals team should be more aggressive in promote of exclusive breast feeding in their services, despite of curative.
5. For further health promotion strategies in North Minahasa, regarding to exclusive breast feeding, should be emphasize on the target group who identified had less likely to exclusive breast feed in this study (pregnant women who are middle reproductive age 20-30 years old, high educated, high financial status and less experience in breast feeding), then more precise and more appropriate health promotion intervention could be created.

6.2.2 Recommendation for future research

1. It is important and interesting to conduct further research that concern about working status as an important point in this study and cover the group in 3rd area (Rural remote area) which had excluded.
2. It will be interesting to conduct further research to follow up from intention to the real practice in term of exclusive breast feeding in the same population.
3. It also interesting to study all the variables in Health Belief Model, such as knowledge and working status.

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APPENDIX

APPENDIX A
ADDITIONAL DATA

Table 1 Number and percentage of confidence to exclusive breast feeding based on the answered in questionnaire

No	Statement	Agree		Disagree	
		Number	%	Number	%
10.	I feel comfortable when trying to breast feed in the public area.	340	97.1 %	10	2.9 %
11.	I belief that exclusive breast feeding will change the shape of my breast.	180	51.4 %	170	48.6 %
12.	I have good feeling about my decision to practice breast feeding	345	98.6 %	5	1.4 %
13.	I feel uncomfortable when trying to breast feed in front of my family.	98	28.0 %	252	72.0 %
14.	I belief that woman's breast sharp is more determined by race, age than by breast feeding.	169	48.3 %	181	51.7 %
15.	I feel ashamed to think about breast feeding.	24	6.9 %	326	93.1 %

Table 2 Number and percentage of perceived susceptibility and severity on exclusive breast feeding based on the answered in questionnaire

No	Statements	Agree		Not sure		Disagree	
		n	%	n	%	n	%
20.	I perceived that it is necessary to provide exclusive breast feeding to the baby during the first 4 months of life.	321	**91.7**	15	**4.3**	14	**4.0**
21.	I perceived that if not give exclusive breast feeding, the baby will be easy to get sick.	263	**75.1**	43	**12.3**	44	**12.6**
22.	I perceived that breast feed continuously the baby for at least 4 months, will destroy my figure.	26	**7.4**	102	**29.1**	222	**63.4**
23.	I perceived those healthy babies are not necessary to get exclusive breast feeding for the first 4 months.	32	**9.1**	36	**10.3**	282	**80.6**
24.	I perceived that exclusive breast feeding could prevent diarrhea for new born.	226	**64.6**	95	**27.1**	29	**8.3**
25.	Breast feeding is a normal practice and it is according to the normal norm.	335	**95.7**	13	**3.7**	2	**0.6**
26.	Both breast feed and bottle feed baby have the same susceptibility to get ill	39	**11.1**	141	**40.3**	170	**48.6**
27.	It is not practical to breast feed the baby if the baby get sick	28	**8.0**	45	**12.9**	277	**79.1**

Table 2 Number and percentage of perceived susceptibility and severity on exclusive breast feeding based on the answered in questionnaire (cont.)

No	Statements	Agree		Not sure		Disagree	
28.	**I perceived that it is not enough for the baby if only give breast feeding for the first 4 months of life.**	168	**48.0**	75	**21.4**	107	**30.6**
29.	**I perceived that if not give exclusive breast feeding for the first 4 months, will affect to the baby health.**	248	**70.9**	65	**18.6**	37	**10.6**
30.	**I perceived that colostrums is useless and could not give to the baby during the first week of life.**	65	**18.6**	95	**27.1**	190	**54.3**
31.	**Bottle feeding makes the child healthy as well as breast milk**	69	**19.7**	161	**46.0**	120	**34.3**

Table 3 Number and percentage of perceived benefit and barrier to exclusive breast feeding based on the answered in questionnaire

No	Statements	Agree		Not sure		Disagree	
		n	**%**	**n**	**%**	**n**	**%**
32.	**I perceived that exclusive breast feeding make the baby healthier and enhance their brain development.**	345	**98.6**	4	**1.1**	1	**0.3**
33.	**I perceived that exclusive breast feeding could satisfies baby emotional need.**	276	**78.9**	52	**14.9**	22	**6,3**
34.	**I perceived that breast milk help pass meconium**	225	**64.3**	112	**32.0**	13	**3.7**
35.	**I perceived that breast milk contain immunities to disease and help develop baby's immune system.**	335	**95.7**	15	**4.3**	0	**0**
36.	**Baby's sucking helps prevent post partum hemorrhage in mother.**	165	**47.1**	152	**43.4**	33	**9.4**
37.	**I perceived that breast feeding could decrease the mother risk of developing ovarian and endometrial cancer.**	173	**49.4**	151	**43.1**	26	**7.4**
38.	**I perceived that exclusive breast feeding for the first 4 months of life too long and boring baby.**	19	**5.4**	32	**9.1**	299	**85.4**
39.	**I perceived that exclusive breast feeding could negatively influence mother's health and nipple shape.**	17	**4.9**	80	**22.9**	253	**72.3**
40.	**Breast feeding could prevent pregnant.**	159	**45.4**	118	**33.7**	73	**20.9**
41.	**I perceived that not every mother has breast milk**	176	**50.3**	103	**29.4**	71	**20.3**
42.	**I perceived that breast feeding should be set as baby and mother's right.**	327	**93.4**	13	**3.7**	10	**2.9**

Table 4 Number and percentage of social support to exclusive breast feeding based on the answered in questionnaire

No	Statement	Yes		No	
		Number	%	Number	%
43.	**Has your husband ever told you about the disadvantage of the bottle feeding?**	175	**50.0**	175	**50.0**
44.	**Did your husband encourage you to exclusive breast feeding?**	332	**94.9**	18	**5.1**
45.	**Did your relatives tell you about disadvantage of the bottle feeding?**	198	**56.6**	152	**43.4**
46.	**Did your relative encourage you to exclusive breast feeding?**	326	**93.1**	24	**6.9**
47.	**Did your friend tell you about the disadvantage of the bottle feeding?**	197	**56.3**	153	**43.7**
48.	**Did your friend give information to you about the advantage of exclusive breast feeding?**	310	**88.6**	40	**11.4**
49.	**Did health worker tell you about the disadvantage of the bottle feeding?**	214	**61.1**	136	**38.9**
50.	**Did health worker tell give you information about the advantage of exclusive breast feeding?**	328	**93.7**	22	**6.3**

Table 5 Number and percentage of formula marketing exposed to maternal based on the answered in questionnaire

No	Statement	Yes		No	
		Number	%	Number	%
54.	Get information bottle feeding from television	308	**88.0**	42	**12.0**
55.	Get information bottle feeding from magazine/news paper	235	**67.1**	115	**32.9**
56.	information bottle feeding from friends	240	**68.6**	110	**31.4**
57.	Get information bottle feeding from milk company	100	**28.6**	250	**71.4**
58.	Get information bottle feeding from health worker	207	**59.1**	143	**40.9**
59.	Get free formula milk sample from milk company	53	**15.1**	297	**84.9**
60.	Get free formula milk sample from health worker	72	**20.6**	278	**79.4**

Table 6 Number and percentage of maternal work or study commitment based on the answered in questionnaire

No	Statement	Agree		Disagree	
		Number	%	Number	%
61.	My work (or my study) is less important for my baby's future than breast feeding.	267	**76.3**	83	**23.7**
62.	Take the maternity leave or holiday for breast feed make me feel regretful and irresponsible.	57	**16.3**	293	**83.7**
63.	I have to go to work {or study), after delivery as soon as possible, matter I breast feed or not.	289	**82.6**	61	**17.4**
64.	It will make me happy, if I can get maternal leave for exclusive breast feeding.	308	**88.0**	42	**12.0**
65.	I have a big responsible in my work (or study) rather than breast feed.	32	**9.1**	318	**90.9**
66.	Even I go to work; I still practice exclusive breast feeding	346	**98.9**	4	**1.1**

Table 7 Relationship between socio-demographic and psychological characteristic and intention to exclusive breast feeding

Socio-demographic Characteristic	Dependent variable: Intention N	%	Un-intention N	%	X^2 (df)	P-value
Maternal age						
< 20 years old	26	21.0%	40	17.7%	1.230	0.541
20-30 years old	71	57.3%	143	63.3%	(2)	
> 30 years old	27	21.8%	43	19.0%		
Education						
Primary	21	16.9%	44	19.5%	1.762	0.414
Secondary	97	78.2%	164	72.6%	(2)	
University	6	4.8%	18	8.0%		
Financial status						
Low	89	71.8%	149	65.9%	1.846	0.397
Middle	34	27.4%	72	31.9%	(2)	
High	1	0.8%	5	2.2%		
Maternal race						
Minahasa	95	76.6%	170	75.2%	0.084	0.772
Others	29	23.4%	56	24.8%	(1)	
Previous experience						
< 4 months	4	5.3%	20	14.4%	4.126	**0.042 ***
> 4 months	72	94.7%	119	85.6%	(1)	
Parity						
Primiparity	44	35.5%	80	35.4%	0.000	0.987
Multiparity	80	64.5%	146	64.6%	(1)	
Living area						
Urban area	52	41.9%	113	50.0%	2.090	0.148
Semi urban	72	58.1%	113	50%	(1)	
Confidence on exclusive breast feeding						
Low level	65	52.4%	96	42.5%	3.186	0.074
High level	59	47.6%	130	57.5%	(1)	

Table 8 Relationship between perceived susceptibility and severity and intention to exclusive breast feeding

Perceived susceptibility and severity	Dependent variable					
	Intention		Un-intention		X^2 (df)	p-value
	N	%	N	%		
Low level	59	47.6%	115	50.9%	0.350	0.554
High level	65	52.4%	111	49.1%	(1)	
Total	124	100%	226	100%		

Table 9 Relationship between perceived benefit and barrier and intention to exclusive breast feeding

Perceived benefit and barrier	Dependent variable					
	Intention		Un-intention		X^2 (df)	p-value
	N	%	N	%		
Low level	61	49.2%	110	48.7%	0.009	0.926
High level	63	50.8%	116	51.3%	(1)	
Total	124	100%	226	100%		

Table 10 Relationship between cues to action factors and intention to exclusive breast feeding

Cues to action	Dependent variable					
	Intention		Un-intention		X^2 (df)	p-value
	N	%	N	%		
Social support						
Low support	32	25.8%	75	33.2%	2.563	0.278
Moderate	53	42.7%	80	35.4%	(2)	
High support	39	31.5%	71	31.4%		
Formula milk marketing						
Low exposed	54	43.5%	121	53.5%	3.197	0.074
High exposed	70	56.5%	105	46.5%	(1)	
Work/study commitment						
Low commitment	88	71.0%	149	65.9%	0.930	0.335
High commitment	36	29.0%	77	34.1%	(1)	

Table 11 Frequency and percentage of intention to exclusive breast feeding (both exclusive and non exclusive)

Dependent variable	Respondents	
	Number	Percentage
▪ Intention (both exclusive and not)	349	99.7 %
▪ Un-intention	1	0.3 %
Total	**350**	**100 %**

STUDY AREA
MAP OF NORTH MINAHASA, INDONESIA

Remark :

1. Zone 1 : Kec.Airmadidi, Kalawat, Dimembe
2. Zone 2 : Kec.Kauditan, Kema, Wori
3. Zone 3 : Kec. Likupang barat, Likupang timur

APPENDIX B

QUESTIONAIRE

QUESTIONNARE

INTENTION TO EXCLUSIVE BREAST FEEDING AMONG PREGNANT WOMEN IN NORTH MINAHSA, INDONESIA

IDENTIFICATION

Name of Interviewer:……..…….. Code number :……..
Name of respondent:…….. LMP :……...
Address or zone :…….

PART 1. INFORMATION ABOUT SOCIO-DEMOGRAPHIC AND PSYCHOLOGICAL CHARACTERISTIC

INSTRUCTION : Please fill or tick the dot in front of the answer.

1. How old were you on your last birthday ?..... years old..

2. What was your last education background?
   - a. Less or equal to Primary school
   - b. Secondary school.
   - c. University or above.

3. What is your race or where did you born?
   - a. Minahasa.
   - b. Others (specify)…….

4. How much is your family's total income per month?
   …….

5. **Parity**: How many times have you ever been give birth ?
   - a. Primiparity; this is the first time.(to question 8)
   - b. Multyparity: this is for the second times or more.(if multyparity,go to question 6)

6. How many live births have you ever had?.....

7. How many living children do you have now?.....

8. **Previous experience**: Have you ever breast feed your babies before?
   - a. No, never.(go to question 10)
   - b. Yes, I have.(If yes, go to question 9)

9. Since you have breast feed experience before, how long did you breast feed your baby?
   …….. months.

Confidence on exclusive breast feeding

Instruction:
Please indicate whether you agree or disagree by circling the appropriate answer.

10. I feel comfortable when trying to breast feed in the public area.
    - 1. Disagree
    - 2. Agree.

11. I belief that exclusive breast feeding will change the shape of my breast.
    - 1. Agree.
    - 2. Disagree.

12. I have good feeling about my decision to practice breast feeding.
    - 1. Disagree
    - 2. Agree

13. I feel uncomfortable when trying to breast feed in front of my family.
    - 1. Agree
    - 2. Disagree

14. I belief that woman's breast sharp is more determined by race, age than by breast feeding.
    - 1. Disagree
    - 2. Agree

15. I feel ashamed to think about breast feeding.
    - 1. Agree
    - 2. Disagree

PART 2 : INTENTION TO EXCLUSIVE BREAST FEEDING.

16. Are you going to breast feeding your baby, after give birth?
    - 1. Yes, I am (if yes, go to question 17)
    - 2. No, I am not (if not, go to question 19)

17. Are you going to give exclusive breast feeding to your baby?
    - Yes
    - No (go to question 19)

18 How long, are you going to give exclusive breast feeding to your baby?
…… months.

19. If not, what is your reason? (can be multiple answers)	Yes	No
• 1. Breast/nipple problem	☐	☐
• 2. Bottle feed is more convenient	☐	☐
• 3. I have go to work/study	☐	☐
• 4. Husband disapprove	☐	☐
• 5. To maintain beauty	☐	☐
• 6. Not interested	☐	☐
• 7. Others (specify)……	☐	☐

PART 3. PERCEIVED SUSCEPTIBILITY AND SEVERITY ON EXCLUSIVE BREAST FEEDING

INSTRUCTION : Please mark in columns, in order to indicate whether you agree, not sure or disagree with the following statements.

Maternal perception	**Agree**	**Not sure**	**Disagree**
20. I perceived that it is necessary to provide exclusive breast feeding to the baby during the first 4 months of life.			
21. I perceived that if not give exclusive breast feeding, the baby will be easy to get sick.			
22. I perceived that breast feed continuously the baby for at least 4 months, will destroy my figure.			
23. I perceived those healthy babies are not necessary to get exclusive breast feeding for the first 4 months.			
24. I perceived that exclusive breast feeding could prevent diarrhea for new born.			
25. Breast feeding is a normal practice and it is according to the normal norm.			
26. Both breast feed and bottle feed baby have the same susceptibility to get ill			
27.It is not practical to breast feed the baby if the baby get sick			
28. I perceived that it is not enough for the baby if only give breast feeding for the first 4 months of life.			

Maternal perception	**Agree**	**Not sure**	**Disagree**
29. I perceived that if not give exclusive breast feeding for the first 4 months, will affect to the baby health.			
30. I perceived that colostrums is useless and could not give to the baby during the first week of life.			
31. Bottle feeding makes the child healthy as well as breast milk			

PART 4. PERCEIVED BENEFIT AND BARRIERS ON EXCLUSIVE BREAST FEEDING

INSTRUCTION : Please mark in column, yes or no to answer the following statements.

Maternal perception	Agree	Not sure	Disagree
32. I perceived that exclusive breast feeding make the baby healthier and enhance their brain development.			
33. I perceived that exclusive breast feeding could satisfies baby emotional need.			
34. I perceived that breast milk help pass meconium			
35. I perceived that breast milk contain immunities to disease and help develop baby's immune system.			
36. Baby's sucking helps prevent post partum hemorrhage in mother.			
37. I perceived that breast feeding could decrease the mother risk of developing ovarian and endometrial cancer.			
38. I perceived that exclusive breast feeding for the first 4 months of life too long and boring baby.			
39. I perceived that exclusive breast feeding could negatively influence mother's health and nipple shape.			
40. Breast feeding could prevent pregnant.			
41. I perceived that not every mother has breast milk			
42. I perceived that breast feeding should be set as baby and mother's right.			

PART 5. INFORMATION ABOUT CUES TO ACTION FACTORS.

SOCIAL SUPPORT

43. Has your husband ever told you about the disadvantage of the bottle feeding?

- ( ) Yes ( ) No

44. Did your husband encourage you to exclusive breast feeding?

- ( ) Yes ( ) No

45. Did your relatives tell you about disadvantage of the bottle feeding?

- ( ) Yes ( ) No

46. Did your relative encourage you to exclusive breast feeding?

- ( ) Yes ( ) No

47. Did your friend tell you about the disadvantage of the bottle feeding?

- ( ) Yes ( ) No

48. Did your friend give information to you about the advantage of exclusive breast feeding?

- ( ) Yes ( ) No

49. Did health worker tell you about the disadvantage of the bottle feeding?

- ( ) Yes ( ) No

50. Did health worker tell give you information about the advantage of exclusive breast feeding?

- ( ) Yes ( ) No

51. Does your husband want you to breast feed your baby?

- ( ) Yes ( ) No (to question52)

52. What is the reason that, he doesn't want you to breast feed your baby? Yes No

- Anxious about wife's health. ☐ ☐
- To maintain beauty. ☐ ☐
- Not understand the benefit of exclusive breast feeding. ☐ ☐
- Not interested. ☐ ☐
- Others (specify)……

53. The advice for exclusive breast feeding, was given by?

	Yes	No
• Doctor…….	☐	☐
• Nurse…….....	☐	☐
• Other health worker……	☐	☐
• Husband……..	☐	☐
• Mother/mother in law/relative……	☐	☐
• Friends/neighbors……..……	☐	☐
• Others ……..……..	☐	☐

FORMULA MARKETING

No.	Yes	No
54. Get information bottle feeding from television……	☐	☐
55. Get information bottle feeding from magazine/news paper…….	☐	☐
56. Get information bottle feeding from friends……	☐	☐
57. Get information bottle feeding from milk company……	☐	☐
58. Get information bottle feeding from health worker ……	☐	☐
59. Get free formula milk sample from milk company ……	☐	☐
60. Get free formula milk sample from health worker ……	☐	☐

WORK/STUDY COMMITMENT

INSTRUCTIONS:
Below you will find a list of statement concerning of intention on exclusive breast feeding. Please indicate whether you agree or disagree by circling the appropriate answer.

61. My work (or my study) is less important for my baby's future than breast feeding.
- 1. Agree
- 2. Disagree

62. Take the maternity leave or holiday for breast feed make me feel regretful and irresponsible.
- 1. Disagree
- 2. Agree

63. I have to go to work {or study), after delivery as soon as possible, matter I breast feed or not.
- 1. Disagree
- 2. Agree

64. It will make me happy, if I can get maternal leave for exclusive breast feeding.
    - 1. Disagree
    - 2. Agree

65. I have a big responsible in my work (or study) rather than breast feed.
    - 1. Disagree
    - 2. Agree

66. Even I go to work; I still practice exclusive breast feeding
    - 1. Disagree
    - 2. Agree

Note : Finally, I would like to express my graceful and thank you to all of you that have participated in this research and hopefully that this study will give positive impact for the mother and child health, especially in North MINAHASA district.

Researcher,

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BIOGRAPHY

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