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THE COMPARISON OF KNOWLEDGE, ATTITUDE, PRACTICE AND SOCIAL SUPPORT BETWEEN EXCLUSIVE AND NON EXCLUSIVE BREASTFEEDING OF MALDIVIAN MOTHER

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วัตถุประสงค์: เพื่อหาสัดส่วนของมารดาที่เลี้ยงและไม่ได้เลี้ยงลูกด้วยนมมารดาอย่างเดียว เพื่อเปรียบเทียบความรู้ เจตคติ การปฏิบัติ และการประคับประคองทางสังคมระหว่างกลุ่มที่เลี้ยง และไม่ได้เลี้ยงลูกด้วยนมมารดาอย่างเดียว

รูปแบบการศึกษา: การศึกษาเชิงพรรณา

สถานที่ศึกษา: โรงพยาบาลของรัฐ ประเทศมัลดีฟ

ตัวอย่างที่ใช้: มารดาครรภ์แรกซึ่งคลอดปกติทางช่องคลอด (จำนวน 300 คน) ระหว่างวันที่ 1 กุมภาพันธ์ 2543 ถึงวันที่ 31 สิงหาคม 2543

วิธีการศึกษา: รวบรวมข้อมูลโดยใช้แบบสอบถามที่ได้กำหนดโครงสร้างและให้กลุ่มตัวอย่างตอบเอง

ผลการศึกษา: มารดาที่เลี้ยงบุตรด้วยนมมารดาอย่างเดียวมีร้อยละ 21.7 และกลุ่มที่เลี้ยงด้วยนมมารดาร่วมกับสารอาหารอื่นร้อยละ 78.3 (95% CI=17.1-26.7%) รูปแบบของการปฏิบัติของมารดาแสดงว่ามีการเลี้ยงด้วยสิ่งอื่นนอกเหนือจากน้ำนม สารน้ำที่มารดาใช้บ่อยที่สุดคือน้ำและน้ำผลไม้ สัดส่วนของมารดาที่มีความรู้มากพอสมควรในกลุ่มที่เลี้ยงลูกด้วยนมมารดาอย่างเดียว มีมากกว่ากลุ่มที่ไม่ได้เลี้ยงด้วยนมมารดาอย่างเดียว อย่างมีนัยสำคัญทางสถิติ (p=0.001) ถึงแม้ทัศนคติด้านบวกและการได้รับการประคับประคองทางด้านสังคมจะมีมากกว่าในกลุ่มเลี้ยงด้วยนมมารดาอย่างเดียว (ร้อยละ 83.1 เทียบกับ ร้อยละ 74.5 และร้อยละ 93.8 เทียบกับ ร้อยละ 92.3) แต่ไม่มีความแตกต่างอย่างมีนัยสำคัญทางสถิติ (p=0.187 และ 0.794) โดยรวมมารดาชาวมัลดีฟมีทัศนคติด้านบวกต่อการเลี้ยงลูกด้วยนมมารดาและได้รับการประคับประคองด้านสังคมอย่างมาก

ความหมายโดยนัย: ผลของการศึกษาจะมีผลกระทบด้านบวกในเรื่องการเลี้ยงลูกด้วยนมมารดาอย่างเดียวในมัลดีฟ โดยเป็นข้อมูลที่แสดงให้เห็นถึงความจำเป็นในการพัฒนาต่อไปในด้านความรู้ของมารดา, การพัฒนาบุคลากรที่เกี่ยวข้องกับการดูแลสุขภาพ และในการเสริมระบบการประคับประคองด้านสังคมให้เข้มแข็ง ซึ่งจะเป็นผลให้มีการเปลี่ยนทัศนคติของมารดารุ่นใหม่ต่อไป

ภาควิชา การพัฒนาสุขภาพ ลายมือชื่อนิสิต.....

สาขาวิชา การพัฒนาสุขภาพ ลายมือชื่ออาจารย์ที่ปรึกษา.....

ปีการศึกษา 2544 ลายมือชื่ออาจารย์ที่ปรึกษาร่วม.....

ABSTRACT

4275386030: MAJOR HEALTH DEVELOPMENT
KEYWORDS: BREASTFEEDING, KNOWLEDGE, ATTITUDE, PRACTICE, SOCIAL SUPPORT.

MARIYAM SHAFEEG: THE COMPARISON OF KNOWLEDGE, ATTITUDE, PRACTICE AND SOCIAL SUPPORT BETWEEN EXCLUSIVE AND NON EXCLUSIVE BREASTFEEDING OF MALDIVIAN MOTHER. THESIS ADVISER: ASSISTANT PROFESSOR SUWIMOL SANPAWAT, M.D., Dip. Amer. Board of Pediatrics: CO-ADVISER: ASSISTANT PROFESSOR SOMRAT LERTMAHARIT, B.Sc., M.Sc., M.Med.Stat. 86pp. ISBN 974-03-0073-1

OBJECTIVES: To find out the proportion of the exclusive and non exclusive breastfeeding primi gravida mothers who delivered at government hospitals of Maldives. To compare the knowledge,attitude,practice and social support of exclusive and non exclusive breastfeeding groups.

DESIGN: Descriptive study.

SETTING: The government hospitals of Maldives.

SUBJECTS: All primi gravida mothers who had normal vaginal deliveries (n=300) from 1st February 2000 to 31st August 2000.

METHOD: A structural self administered questionnaire was used for data collection of primi gravida mothers.

RESULTS: The proportion of mothers who were giving exclusive breastfeeding was 21.7% and non exclusive breastfeeding was 78.3% (95% CI 17.1-26.7%)The recent practice of these mothers showed that they were giving prelacteal feeds and among the most common fluids were water and fruit juice.The proportion of mothers who had adequate knowledge was more in the exclusive group than the non exclusive group and difference was statistically significant (p = 0.001). Although positive attitude and provision of social support was more in exclusive group (83.1% vs 74.5% and 93.8% vs 92.3%), they were not statistically significant. (p = 0.187 and p = 0.794) Over all Maldivian mothers have positive attitude towards breastfeeding and good social support.

IMPLICATION: The result of the study will have a positive impact on the area of exclusive breastfeeding in Maldives. It will provide information for the need of further development of knowledge of the mothers, health care workers, and strengthen social support system in the view of the future changing pattern of Maldivian social life which will in turn change the attitude of new generation of the mothers.

Department: Health development **Student'sSignature……**

Field of study: Health development. **Adviser's Signature ……**

Academic Year 2001: **Co - Adviser's Signature ……..**

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CHAPTER I

BACKGROUND AND RATIONALE

The purpose of this paper is to identify the proportion of exclusive and non exclusive breastfeeding of Maldivian primi gravida mothers, and to compare knowledge, attitude, practice and social support provided to both groups.

This introductory chapter includes an overview of the setting in which general information about the Maldives, its health care delivery and related services are outlined. It also covers the socio-cultural background of women in the Maldives.The mortality and morbidity of Maldivian children under five years of age, the importance of breastfeeding and its rationales are also discussed. .

1.1 THE SETTING

The total area of the Maldives is 100,000 sq km, of which about 300 sq km is the land. The total land area of the country is scattered along very small and far flung 1200 islands of the archipelago in the Indian Ocean. The population of the country is 244,644 (1995 census) [(1)] with an annual growth rate of 2.8 percent. The population is dispersed among 200 inhabited islands with the capital, Male' (2 square kilometers) having about a third of the populations living there. These coral islands are geographically arranged in clusters (atolls).The atolls are the country's administrative units under a central government. About 90% of the islands are less than 1-2 square kilometers in area. The largest island is seven to eight square kilometers. Being a tightly knit community, the people are very similar, as historically they belong to the same religion, ethnicity, have a common language (Dhivehi) and culture.

The main occupation of Maldives is fishing. Tourism is an industry which is fast growing in the country. Limited availability of cultivable land and poor quality of water pose a major constraint for the development of agriculture activities. In spite of these limitations, today,

the Maldives has a fairly high GDP per capita income of Maldivian Rufiya 5453.7 (equivalent to US $ 454) [2] in comparison to other countries in the South Asia region.

In the field of education, the past decade was characterized by a continuous effort on the part of the government to ensure that every child has access to basic education. This, along with the emphasis given to read and write in the local language, has resulted in the Maldives achieving a literacy rate of 98%, the highest in the South Asia region.[3] This has a positive factor that has a potential to contribute to the understanding of written information and messages about health in general and breastfeeding in particular.

While transport and communication within the islands pose no difficulties due to the small land area, inter-island transport and communication is one of the major problems the country faces. Such difficulties are due to the large area of ocean covering between the islands and the unpredictable climatic conditions making travelling extremely difficult. Consequently, undertaking development programs including the delivery of health services becomes costly and time consuming.

1.2 HEALTH CARE DELIVERY SYSTEM IN MALDIVES

The government health service is delivered through a four tier system. At the first level, the primary level or the island level , the family health care worker and trained traditional birth attendants who are trained for six months, are responsible for the provision of maternal and child health and health services to the islanders.

The second level is the Atoll level at which the referred cases from the islands are treated by the community health worker at the local health centers. These health workers undergo a two-year-training before assuming the community health workers post.

The third level refers to the regional hospitals. There are altogether five regional hospitals, with each hospital catering for four or five Atolls of the region. These hospitals are staffed with professional nurses and doctors. The service that they provide include general surgery, maternal and child health care, including all preventive services

organized by the health sector of Maldives. Situations that cannot be handled at the regional hospitals are referred to the central level hospital in Male', the capital island. This hospital, the Indira Gandhi Memorial Hospital, with a capacity of two hundred beds, is staffed and equipped to provide health care in many specialized areas.

The Department of Public Health, the Ministry of Women Affairs and Social Welfare, the Ministry of Health, and Indira Gandhi Memorial Hospital are the key agencies responsible for the provision of health care and welfare services to the people. Almost all health programs are organized, planned and administered by the Ministry of Health with the co-operation of other concerned ministries, the non- governmental organizations (NGOs) and a limited number of, and comparatively expensive, private medical facilities available in the country.

The country's health policy has been shaped by the WHO global strategy of 'Health for All' by the year 2000, as well as by the goals and strategies promoted by the UNICEF and endorsed by its member countries. The success of these policies and strategies developed in Maldives has brought significant improvements in the health status of the community. In addition to lowering the infant mortality rate from 95 in 1980 to 21 in 1998 per thousand live births[4], these improvements have also resulted in the decrease in maternal mortality rate.

1.3 SOCIO-CULTURAL BACKGROUND OF WOMEN IN MALDIVES

Women in Maldives have the advantage of sharing the same cultural and religious values. These common values enable them to understand and empathize with each other's experiences, needs, problems and joy. Above all they share the same traditional way of living. The communities are formed by extended families which develop a strong support system within the families.

The last decade saw considerable improvements in the political, economic, health and social aspirations of Maldivian women. Following the Cairo Conference on Population and Development in 1995, the Beijing Declaration, and the Platform for Action adopted at the

Fourth World Conference on Women[5], the government of Maldives moved beyond the reproductive role of women to focus on women's health throughout their life span and in all aspects of their life. Women have taken a more active role in developmental activities This paradigm shift has made it possible for women to be in a better position in the country's decision making process. Nevertheless, most women still do not have regular income generating jobs, which in turn perpetuates their dependence on their male counterparts.

In Maldives, like in many other countries, it is the mother who makes most of the decisions regarding the welfare and rearing of the children. It is vital to make these mothers more confident and competent in performing their roles in community development.

Although women in Maldives today enjoy better social status than women in most countries of the South Asia region, there still remain areas of weakness, particularly in health related fields.

Divorce is common in the Maldives. The high divorce rate is largely due to economic reasons. Employment opportunities are very few in most of the islands . Most young men, therefore, get employed in the capital Male' or in tourist resorts, where the opportunity for married couples to live together is minimum. This is one of the most common reason which enforce separation from the spouse and family creates social problems resulting in divorce. Family accommodation is not available in tourist resorts and, accommodation in Male', the capital island, is very expensive. Most families are compelled to share accommodation to reduce costs and hence live in extended families.

As marital disruption has increased in frequency, the proportion of children in the society whose lives are directly touched by it has also increased.. A recent study on family problems indicated that , by the age of 18 years, about 40% [6] of Maldivian children are likely to experience their parents' separation. On an average the women had two children before reaching age 20years. Most of these divorced women have to take sole responsibility

for child rearing and caring. Early marriage is a major contributing factor for the lack of education of Maldivian women. As a result women have less opportunity to go for work, and no time to invest on their education. In such situations, strong community support is needed for these young mothers to overcome the burden of the above mentioned problems.

Although maternal mortality rate has declined since 1978, it was still 204 per 100,000 live births in 1995 [7], and more than 50% of all the emergency medical evacuations are obstetric emergencies. Some factors which influence maternal mortality rate in the Maldives are anemia at an early reproductive age, inadequate antenatal care, short hospital stay, lack of regular postnatal care, and inadequately trained staff for early identification of obstetric problems. Another significant factor influencing maternal mortality is the lack of regular health related information for expectant mothers and mothers with young children. Although there is adequate access to the mass media like TV, radio, leaflets, booklets, the health information they receive is not properly co-ordinated and disseminated, nor is it well directed to the target population.

1.4 PRESENT SITUATION OF MORTALITY AND MORBIDITY OF UNDER FIVE CHILDREN IN MALDIVES

In Maldives remarkable progress has been made in the control of many communicable diseases. A notable success has been the eradication of malaria. Vaccine preventable diseases have also been controlled to the extent that polio, neonatal tetanus, whooping cough and diphtheria may soon be eliminated.

However, infant mortality remains a problem. The current mortality rate is 21 [8] per thousand live births throughout the Republic. This rate is very high compared to the small population in Maldives. Eighteen percent of childhood mortality is due to pneumonia.[9] More than half of the out patient department cases come with acute respiratory infection. According to a survey conducted in the Maldives by UNICEF, [10] 70% of under five children had suffered at least one episode of respiratory infection during the year prior to the survey.

Though there has been considerable improvements in sanitation and drinking water, more than 44% of under five children still suffer from diarrhea[11]. The most alarming cause of morbidity in children in the Maldives is malnutrition. A survey shows that more than 50% [12] of under five children are malnourished.

Although no reliable research has yet been conducted in Maldives relating to the associating factors concerning the above mentioned problems, there is sufficient factual and published information that show that improving feeding practices can reduce diarrhea, acute respiratory infection and malnutrition.

The Maldivian government's concern is, therefore, developing preventive measures to improve the health of the future generations. However, the success of these programs will depend on how well they are planned, implemented, monitored and evaluated.

1.5 IMPORTANCE OF THE STUDY AND RATIONALE

According to UNICEF, if babies were exclusively breastfed from birth, an estimation of 1.5 million lives could be saved every year regardless of where they live [13]. Breast milk is the best food which provides nutrients for growth and development. It protects the child from diarrhea and acute respiratory tract infection which are the two leading causes of childhood death [14].Furthermore, children who are breastfed have lower rate of childhood cancer, including leukemia and lymphoma, and are less susceptible to pneumonia, asthma, allergies or ear infection.[15] The relative risk of mortality and morbidity of formula feeding when compared to breastfeeding, are shown in table.1[16].

TABLE .1 RELATIVE RISK OF BOTTLE/ ARTIFICIAL FEEDING VS. BREAST FEEDING

	Illness	**Relative Risk**
1.	Allergies, Eczema	2 to 7 times
2	Urinary tract infection	2.6 to 5.5 times
3.	Inflammatory bowel diseases	1.5 to 1.9 times
4.	Diabetes, type 1	2.4times
5.	Gastroenteritis	3 times
6.	Hodgekin's Lymphoma	1.8 to 6.7 times
7.	Otitis media	2.4 times
8.	Haemophilus influenzae meningitis	3.8 times.
9.	Necrotizing enterocolitis	6 to 10 times
10.	Pneumonia/lower respiratory tract infection.	1.7 to 5 times
11	Respiratory syncytial virus infection	3.9 times
12.	Sepsis	2.1times
13.	Sudden infant death syndrome.	2.0 times
14.	Industrialized world hospitalization	3 times
15.	Developing country morbidity	50 times
16.	Developing country mortality	7.9 times

It is also important to outline the benefits of breastfeeding versus formula feeding according to a cost burden analysis. In Uganda, the average annual cost of formula for a child was more than the average income of a village family.[17] In the Netherlands, a study at the University of Amsterdam showed that a 5% increase in breastfeeding would save almost US $850,000 annually.[18]

There was also evidence that exclusive breastfeeding prevented many pregnancies, by delaying the resumption of ovulation for child birth. Besides, frequent and vigorous

suckling provided more than 98% protection from pregnancy during the six months of breastfeeding.[19]

According to WHO, more than one third of the under five children are found to be malnourished, either being stunted, wasted, or deficient in iodine and vitamin A.

Malnutrition contributes to nearly half of the 10.5 million deaths each year among children world wide and remains one of the most global public health problems of today. The main reason for this is due to faulty feeding practices such as poor hygiene, or feeding from unclean bottles. [20] Faulty feeding practices in the first two years of life have both immediate and long term consequences for the health, growth and development of the child.

The above mentioned findings have prompted several international organizations such as WHO, UNICEF, UNDP to give high priority to exclusive breastfeeding and to start complementary feeding at the right time. The Baby Friendly Hospital Initiation (BFHI), a policy formulated by WHO/UNICEF in 1992, adopted Ten Steps of Successful BreastFeeding. which implies (APPENDIX1)

"Ensure every facility providing maternity services fully practices all Ten Steps of Successful Breastfeeding set out in the joint WHO/UNICEF statement “Protecting, promoting and supporting breastfeeding: the special role of maternity services.” [21]

Therefore breastfeeding should be initiated to all babies at birth and should be continued till four to six months without initiating anything else except medicine[22] . However, there are still disagreements regarding the duration of exclusive breastfeeding.

In many countries it has been found that the BFHI has brought an enormous change in the success of exclusive breastfeeding program . Although ‘Baby Friendly Hospital’ campaign/concept has been implemented for a decade, exclusive breastfeeding rates in Asian countries vary. In India 3 months of exclusive breastfeeding is 51% [23], while it is 24% in Sri Lanka [24] and only 4% in Thailand [25]. The main reason for the varying and low

percentage is the variety and quantity of available pre lacteal feeds, lack of knowledge, lack of positive attitude and insufficient support groups especially to help young mothers.

In Maldives special attention to promote breastfeeding is given in government hospitals. These hospitals are the centers for all health care activities and provide health care coverage to almost 80 per cent of the total population. The " Baby Friendly Hospital" campaign/concept has been initiated in all government hospitals since 1992, but only 8% of the mothers were exclusively breastfeeding during 0 to 3 months. [26]

Efforts have been made to improve this program by educating and training health care workers to promote breastfeeding and give support to the mothers in exclusive breastfeeding. The low rate of breastfeeding in Maldives shows that these efforts were not directly affecting mothers' knowledge attitude and practice. The failure of these efforts could be due to a mismatch between the goals and specific objectives of the programs and people's real problems: a reminder that the curriculums/programs were not based on identified problem

The reasons for having such low rates of exclusive breastfeeding could be:

(1) Early initiation of pre lacteal feeds.

(2) Lack of knowledge in management and leadership of program managers and mothers.

(3) Lack of a support system, specially to new mother.

(4) Adequate and effective programs and literature on health is not given via mass and print media on a regular basis.

(5) Lack of positive attitude of young mothers.

To overcome these constraints and to run a successful program, it is important to evaluate the factors which hinder the achievement of its objectives. Since breastfeeding has a direct effect on infant mortality and morbidity of any country, a well planned exclusive breastfeeding program will have positive effects on infants' and mothers' health - a pre-requisite for a healthy nation. It is timely to investigate and develop the exclusive breastfeeding

program in a more comprehensive and effective manner. It is also equally important to study the women's attitude on this crucial issue, since in Maldives no research has been conducted on exclusive breastfeeding, or on the impact of BFHI or other interventions. It becomes important to plan and mobilize resources to research on breastfeeding practices by all health professionals in order to make the "Baby Friendly Hospitals" concept a reality.

CHAPTER 2

LITERATURE REVIEW

2.1 BENEFIT OF BREASTFEEDING

The advantages of extended breastfeeding are indeed indisputable and include nutritional, immunological, psychological as well as economic benefits to infant and mother. Breastfeeding education efforts and clinical management must highlight the importance of nursing for a longer duration to achieve the potential benefits for both mother and infant.

Vestergaard and co-workers followed 1,656 Danish infants from birth and assessed the development of selected milestones around the age of 8 months. The sample was divided into four groups on the basis of duration of exclusive breastfeeding (0-1,2-3,4-5 and >6months) and was adjusted to social and other confounding factors. Those predominantly breastfed for six months or more were found to be 1.4 - 2.5 times more likely to have attained the selected milestones than those with less breastfeeding.[27].

Diaz et al followed the physical growth of 1,217 infants from birth to 12 months. Hundred percent of these children were exclusively breastfed for one month, 63% for six months, and 24% for 12 months. The researcher concluded that breast milk was sufficient to support adequate infant growth during the first six months of life and supplement should not be recommended before that time. [28].

Lartey et al followed 216 normal Ghanaian children from one month of age to 18 months. They noticed that the rate of diarrhea increased during the period if complementary foods were introduced between four and six months and that when complementary feeding was introduced after six months of age, there was an improved growth by lessening morbidity.[29]

WHO reports that in Vietnam that the cost of a year's supply of breast milk substitute is $257 compared to the country's per capita gross national product (GNP) of $320. [30] Saving this expenditure through exclusive breastfeeding could help raising the living standard of the country.

2.2 THE EFFECT OF HOSPITAL POLICY ON THE RATE OF BREASTFEEDING

To improve the effectiveness of the breastfeeding program it is important to have appropriate and strong policies and to sustain them. Added to this, all staff must comply with the policies and outcome, must be monitored or audited in order to give feedback for further development.

Pichaipat et al showed that implementation of an integrated comprehensive breastfeeding program which included early bonding, assistance with initiation of breastfeeding, rooming-in and provision of special care corner in special care unit, lactation clinic and provision of home care visits, made a remarkable change in the rate of breastfeeding. Breastfeeding for infant from 0-1month increased to 85%-90% and in 9 to 12months group it changed from 39% to 47%. [31].

Valdes et al in Chile also showed an increase in breastfeeding rates through improved hospital policies in management of breastfeeding. Their research finding also stressed on the necessity of complying with the policy by the medical and nursing staff. [32].

While strong policies can promote breastfeeding, weak policies can hinder the development of breastfeeding. Rieff & Essock- Vitale conducted a survey in University Hospital in United States of America where most official policies, educational materials and counseling program supported breastfeeding, however, there was no restriction of the infant formula, and a single brand of ready to use infant formula was used daily in the maternity ward. The survey done on labor patients in this hospital showed that 66% of the mothers had stated that they preferred exclusive breastfeeding, but when interviewed at two weeks after delivery, only 23% of these mothers were breastfeeding without

formula supplement. [33].

Strachan- Lindenberg, Caberara and Jimennez studied 375 Nicaraguan women who were assigned into two groups. Group 1 receive combined breastfeeding guidance and rooming-in with early contact. Group 2 remained separated from their infants. Full breastfeeding at one week was significantly higher in group 1. Breastfeeding at four months was also higher in the group1 with combined breastfeeding guidance and rooming - in than group 2. [34].

2.3 THE ROLE OF TRAINING THE HEALTH CAREWORKERS IN BREASTFEEDING PROGRAMMES

Improving knowledge alone may not be effective in increasing the number of breastfeeding rates unless it is accompanied by change of attitude or skills. Experienced trainers often report that a strong practical component can have more effect on both attitude and skills of health care workers than training which consists of theoretical information. Smooth implementation of policy can be done by having competent and trained personnel to enforce the program.

This is well reported by Bradely & Meme in a national breastfeeding promotion program in Kenya which included the training of 800 health workers from all over the country. The intervention involved, cessation of free supply of infant formula to hospital and directives recommending early contact, rooming- in and no supplementary feeds. The knowledge, attitude and practice of health workers were assessed in 1982 (before the program) and in1989(six years after the program).There were substantial improvements. In 1989, eighty nine percent of the health care workers, compared with 49% in 1982, advocated room- in at all times. Fifty eight percent (versus 3%) advocated exclusive breastfeeding in the first few days, 70% (verses 36%) knew that breastfed babies feed more frequently than formula fed babies , 48% (versus 93%) gave pre lacteal feeds and only 5% (versus 80%) practiced the use of bottles. The number of the hospitals reported to practice rooming in and early contact caused a corresponding increase in breastfeeding rates. The study

showed marked reduction in the use of pre lacteal glucose and formula feeds after the implementation of the training program. [35].

It was also found that community based health education program had a very good effect in improving breastfeeding rates. Davies- Adetugbo assessed a community based health education program in Nigeria, which included mothers exposure to breastfeeding posters and handouts, conversation at clinics and at home, and one to one counseling by trained community health workers. Full breastfeeding at 4months was significantly more frequent in the intervention group (40%, range 30%-50%) than among the control group (14%, range 8%-21%). [36].

2.4 THE EFFECT OF EARLY INITIATION OF BREASTFEEEDING

Many studies have shown that early initiation of breastfeeding improves rates of breastfeeding. This had been supported by researchers like Djauhariah & Dasril in Indonesia who had found out production of mature milk in room-in mothers was more than the ones who were separated from their babies. This research also proved that early initiation increases milk production which helped in the increased rate of breastfeeding [37]. Despite this important finding, policies of many hospitals do not encourage rooming in during care given to the patient after delivery.

Kurinji & Shiono did a cross sectional study and found that mothers were less likely to breastfeed exclusively in hospitals where the first feed delayed 7 to 12 hours postpartum. It happens in many health care settings where healthy babies are kept separated from their mothers after they are born; which can causes barrier to breastfeeding. [38]

Giving sedation like pethedine can cause mothers to be drowsy and not alert enough to take care of the babies. Rajan undertook a national survey in United Kingdom, where post natal questionnaires were answered by 1064 mothers at 6 weeks of postpartum. Results showed that 45% of patients who were not given pethedine during labor were fully

breastfeeding while only 38% of mothers who were given pethedine were breastfeeding. [39]

Early suckling also proves to be useful in many other ways. According to Chua at al, early suckling can increase postpartum uterine activity and may reduce the risk of postpartum hemorrhage. This study recorded uterine activity in 11 women immediately after delivery of the placenta before, during and after breastfeeding or manual nipple stimulation. The activity associated with manual nipple stimulation was 66% but was 93% with breastfeeding. [40]

2.5 EFFECT OF SUPPORTING GROUPS TO BREASTFEEDING

Continuous guidance is crucial and plays an important role in making breastfeeding more successful. This is well demonstrated by Avoa & Fisher in a study in Zaire. They studied the effect of one to one ratio for two minutes' individual guidance in 304 multiparae and primi para. Multiple regression analysis, controlling for possible cofounders, showed that infants of mothers who do not receive the guidance had less breastfeeding and lost more weight during hospital stay, than infant of mothers who received guidance. [41].

Continuous supporting is crucial in maintaining successful rates in breastfeeding. In many countries exclusive breastfeeding had been done successfully by promoting various kind of support groups.

In one study conducted by Jones and West in Wales, mothers attempting to breastfeed were divided into an intervention group (n=228) and a control group (n=355). The intervention group was visited by lactation nurse in hospital and at home. Breastfeeding at 4 weeks was more prevalent in the intervention group ($p<0.05$) particularly in low socio economical members of the group than in control group. [42]

Success in many community program lies mainly in community participation . It is well demonstrated in mothers to mothers support groups. Few studies about mother to mother groups have been published, but its effectiveness is, nevertheless, acknowledged. For example, Meera, in USA, found that mothers affiliated to La Leche League mother to

mother (post discharge support group in breastfeeding) were more likely than non affiliated mothers to breastfeed on demand in hospital (60% versus 29% respectively) and delay in introduction of solid foods until 4-6 months. (87% versus 31% respectively). [43].

Effectiveness of breastfeeding was also found among mothers who had post discharge community support based on peer counselors. Burkhalter & Marin studied three groups of suburban Chilean mothers of mixed socioeconomic status: one group as control and two intervention groups. One intervention group received prenatal support and the other intervention group received postnatal support. The researcher found that post natal support was most important factor for increasing the rate of exclusive breastfeeding. This support scheme consists of monthly follow up in the well baby clinic with specific protocols with mothers intending to start bottle feeding, 8 home visits by the program home member, peer group encouragement and additional weekly visits when difficulties arose. The researcher have found that at 6 months the intervention groups had significantly higher breastfeeding rates ($p<0.001$) than the control. [44]

2.6 EFFECT OF MOTHERS' AND FAMILY MEMBERS' ATTITUDE AND ENVIRONMENTAL FACTORS ON BREASTFEEDING

Many factors determine the rates of breastfeeding. Socio cultural factors including belief and attitudes, as well as environmental factors can influence breastfeeding.

Picado et al examined the relationship of several maternal variables to the duration of exclusive breastfeeding and total duration of breastfeeding along with attitude, beliefs and perceptions. A sample of 556 mothers of children who were at 12 months of age was interviewed and meetings of four directive discussion groups were held. Results showed that at one week of age, only 45% of the mothers were giving exclusive breastfeeding without extra fluids. At 12 weeks old, 30% were already completely weaned. The discussion group confirmed that giving exclusive breastfeeding without weaning was harmful and that breastfeeding only was insufficient. Previous experience was also strongly related to

duration of exclusive breastfeeding and duration of breastfeeding. The study confirms that attitude, social support and work experience are factors that can influence the total length of time women breastfeed a child. [45].

A woman's decision about infant feeding may be influenced by perceived or actual attitude of child's father. Study from Freed, Fraley & Schanler study showed that; the amount of support the mother had from family members and friends during the time to carry the decision through, could influence the breastfeeding rates. [46].

Clement et al in New Zealand examined factors associated with non exclusive breastfeeding at discharge from the obstetric hospital. The duration of breastfeeding was examined in 700 randomly sampled infants. Obstetric records were examined in 97.7% of the subjects and 73.0% of the subjects' families were interviewed. There were 66.5% infants exclusively breastfed at discharge from obstetric hospital. Factors associated with non exclusive breastfeeding at discharge from the obstetric hospital, after adjusting for confounders were:(1) mothers leaving school at less than 18 years, (2) mothers not attending antenatal classes and (3) use of dummies. The shorter duration for breastfeeding was associated with (1) leaving school before 18 years (2) smoking 20 or more cigarettes per day and (3) use of dummies. [47].

2.7 THE EFFECT OF BABY FRIENDLY INITIATIVE PROGRAMMES

In view of the factors discussed in the above section, many countries are promoting the Baby Friendly Hospital Initiative (BFHI) programs introduced by WHO/UNICEF in their health care institutes.

UNICEF reports that in Cuba, where 49 of the country's 56 hospitals and maternity facilities are baby friendly, the rate of exclusive breastfeeding tripled in six years, from 25% in 1990 to 72% in 1996. [48]

China, now has more than 6000 Baby Friendly Hospitals, and exclusive breastfeeding in rural areas rose from 29% in 1992 to 68% in 1994; in urban areas, the

increase was from 10% to 48%. [49]

UNICEF also reports in a survey conducted in 35 developing countries that the percentage of infants exclusively breastfed for the first four months has increased due to Baby Friendly Hospital Initiative program. The rates have increased in 21 countries, declined in 6 countries and stayed the same in 8 countries. [50].

According to the International Baby Food Action Network (IBFAN), there have been increases in rates or success in exclusive breastfeeding programs in many countries where all the ten steps of the program have been implemented. [51]

The above mentioned studies were conducted in developed and developing countries which are relatively large in size as well as population. There are no studies conducted in small island countries that refers to major components of knowledge, attitude and practice and social support for exclusive breastfeeding. This study offers a methodology that would be appropriate to assess the situation of breastfeeding in a small multi-island nation.

CHAPTER 3

METHODOLOGY

3.1 RESEARCH QUESTIONS

3.1.1 Primary Question

What is the difference in knowledge. attitude, practice and the provision of social support between exclusive and non exclusive breastfeeding primi gravida mothers who delivered at government hospitals of Maldives?

3.1.2 Secondary Question:

What are the proportions of primi gravida mothers who are giving exclusive and non exclusive breastfeeding from 1st February 2000 to 31st August 2000?

3.2 RESEARCH OBJECTIVES

3.2.1 General Objectives

To assess the proportion of primi gravida mothers who are giving exclusive and non exclusive breastfeeding and to compare their knowledge, attitude, practice and the social support, they received.

3.2.2 Specific Objectives

1. To find out the proportion of exclusive and non exclusive breastfeeding primi gravida mothers who delivered at government hospitals of Maldives from 1st February 2000 to 31st August 2000.
2. To compare knowledge, attitude, practice and social support received by exclusive and non exclusive breastfeeding primi gravida mothers who delivered at government hospitals in Maldives from 1st February 2000 to 31st August 2000.

3.3 RESEARCH ASSUMPTION

All Maldivian primi gravida mothers who delivered from 1st February 2000 to 31st August 2000 at government hospitals of Maldives will be able to give enough factual information about breastfeeding in the context of Maldives.

3.4.1 RESEARCH HYPOTHESIS

There is a difference in knowledge, attitude, practice and provision of social support received by exclusive and non exclusive breastfeeding Maldivian primi gravida mothers.

3.5 KEY WORDS.

Exclusive breastfeeding, primi gravida mother, knowledge, attitude practice, social support.

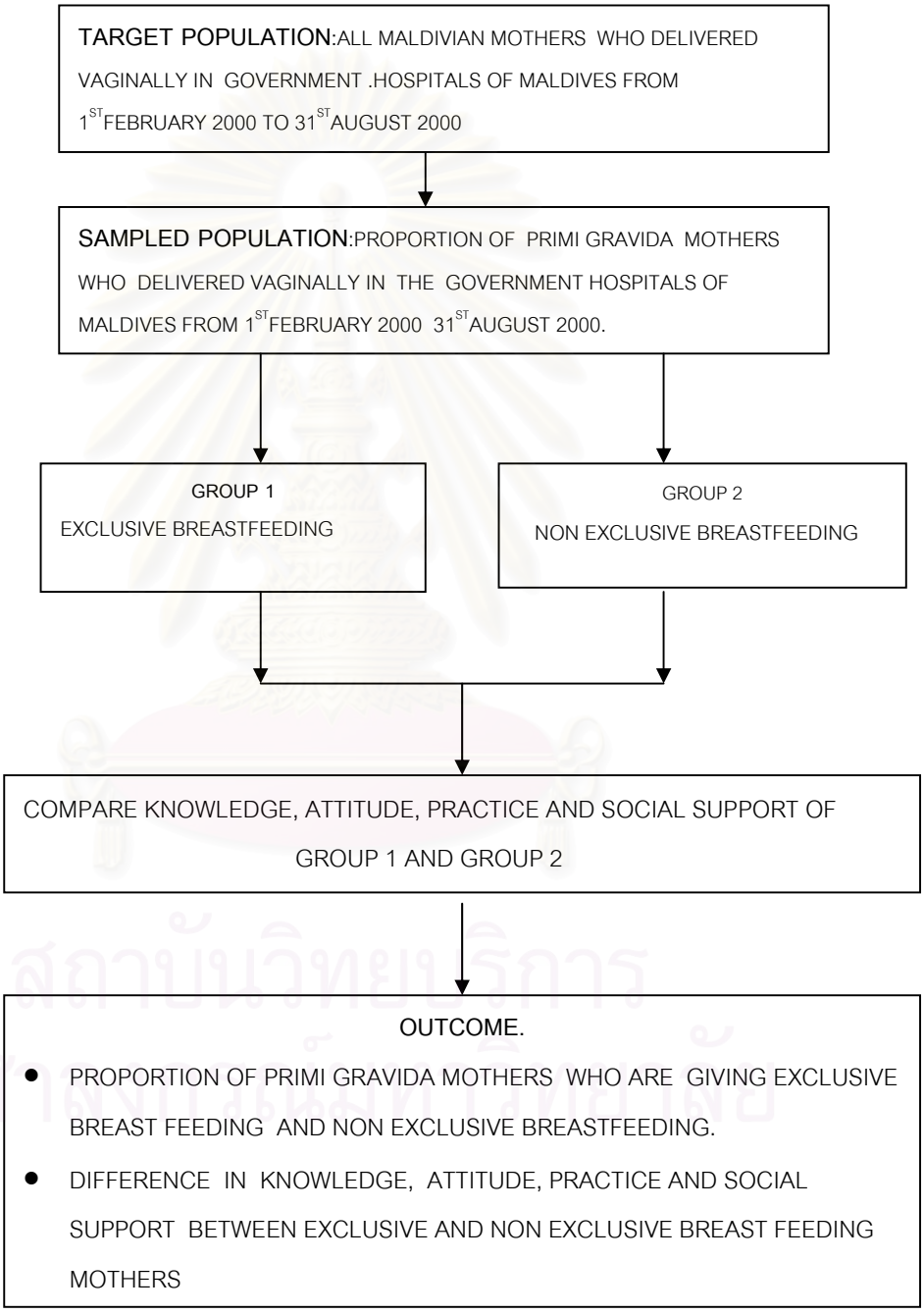
3.6 OPERATIONAL DEFINITIONS:

The definitions below are in accordance with the WHO definitions and have been slightly modified for the purpose of this study..

- **Exclusive breastfeeding :** Providing infants with only breast milk from his/her mother, a wet nurse or expressed breast milk, and no other liquids or solids with the exception of drops or syrups consisting of vitamins, mineral supplement or medicine before three months of age.
- **Bottle feeding:** Providing liquid or semi solid food from the nipple/teat.
- **Primi gravida mother:** A mother who has delivered first time**.**
- **Normal delivery:** Vaginal delivery without any intervention excepting an episiotomy.
- **Instrumental delivery:** Vaginal delivery with the assistance of an instrument e.g. forceps.
- **Breastfeeding:** Feeding directly from mother's breast.
- **Pre lacteal feeding:** The child has received other fluids or solids with breast milk with in three months of age.
- **Knowledge:** Understanding of information about the subject from experience through any other source.

- **Attitude:** Favorable or unfavorable feeling of mothers towards exclusive and non exclusive breastfeeding.
- **Practice:** The recent method of practice of breastfeeding in the context of Maldives.
- **Social support:** The availability of people whom the individual trusts, and whom she can rely upon, and from whom she feels she is cared for and by whom she is valued as a person.

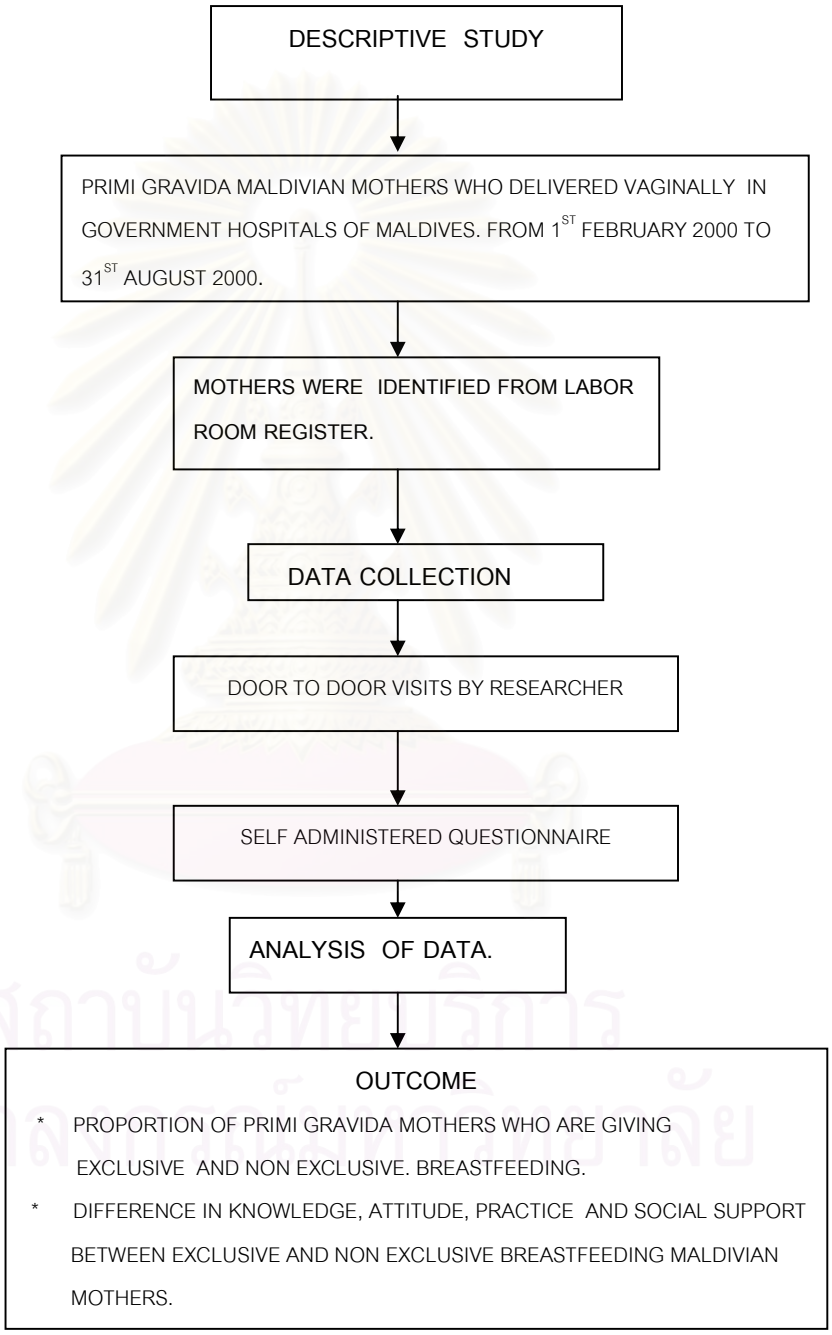
3.7 CONCEPTUAL FRAMEWORK



3.8 RESEARCH DESIGN

The study design was a descriptive study done cross sectionally. It was aimed at finding out the difference between knowledge, attitude, practice and provision of social support to exclusive and non exclusive primi gravida in Maldives. The study also aimed to identify the proportion of mothers giving exclusive and non exclusive breastfeeding. Door to door visit was undertaken by the researcher to collect the information. The mothers voluntarily self administered the question. Below are the steps the researcher followed in conducting the study.

3.8.1. DIAGRAM OF STUDY DESIGN



3.9 STUDY AREA.

The study was conducted in all the government hospitals of Maldives. There were five Regional hospitals in Maldives. They were Indira Gandhi Memorial Hospital, Seenu, Haadhaalu, Raa and Meemu. These five hospitals covered almost the whole population of Maldives. The hospitals adhere to the same policies and are the focal points for all health care activities of Maldives.

3.10 POPULATION AND THE SAMPLE SIZE

3.10.1 Target population: The target population was all Maldivian mothers who delivered normally in government hospitals of Maldives.

3.10.2 Sampled Population: The sampled population was the population drawn from the target population. For this study the sampled population consists of proportion of primi gravida mothers who delivered vaginally from 1st February 2000 to 31st August 2000. Multi gravidas and instrumental deliveries were not included due to possible bias reported from accumulated information; and a barrier in early initiation of breastfeeding, respectively

3.10.3 ELIGIBLE CRITERIA:

Inclusion criteria:

1. All the mothers who had normal vaginal deliveries.
2. All mothers who were willing to participate in the study.

Exclusion Criteria.

1. Mothers whose baby had died within three months of age.
2. Mothers who delivered a premature baby.
3. Single parent (never married).
4. Mothers with mental disorders.
5. Mothers and babies who had medical problems which can lead to contraindications in breastfeeding.
6. Mothers who do not permanently reside in Maldives.

3.10.4 Sample size calculation:

A pilot study of thirty primi gravida mothers who delivered normally from 1st December 1999 to 31st January 2000 were chosen to asses the proportion of exclusive breastfeeding for the sample size calculation. The actual sample size was calculated by using the formula for the descriptive study [52]

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

n = desired sample size.

Z = the reliability of coefficient at 95% CI=1.96.

P = 13 percent (mothers who gave exclusive breastfeeding from the pilot study)..

q = 1-p=1-.013=0.87 (proportion of non exclusive breastfeeding mothers.).

d = absolute precision of the study assured 0.04 (acceptable error is justified in the study).

n = 272

3.10.5 Sample

Although the calculated sample size was 272, a total of 300 was selected for the study. The researcher had estimated that about 10% would be non respondents and 28 more samples were included in the study.

The proportion of mothers selected from each of five regional hospitals was based on the total number of normal deliveries which took place in each of these hospitals during the time of the study. Although the total of all normal deliveries which took place in all the hospitals from 1st December 1999 to 31st December 2000 was 2,659, the majority of the mothers were from Indira Gandhi Memorial Hospital. This difference was due to the difference in bed capacity of the hospitals . So after calculating the number according to the normal deliveries of ratio 4:1:1:1.6:1 respectively, Indira Gandhi Memorial Hospital was 200 (66.7%), Seenu 24 (8.0%), Haadhaalu 24 (8.0%), Raa 28 (9.3%) and Meemu 24 (8.0%).

Hence the total number of mothers who took part in the study was 300. The sample was taken by simple random sampling by using the labor room registers.

3.11 MEASUREMENT

The outcome measurement were breastfeeding catergories:

- Exclusive breastfeeding.
- Non exclusive breastfeeding.

Independent Variables.

Demographic variables.

- Age
- Religion
- Atoll.
- Marital status.

Socio Cultural Variables.

- Education.
- Work outside home.
- Allowed to go home for feeding
- Income of mothers.
- Diet of mothers.
- Contraceptive users.
- Knowledge at recall level based on benefits and management of breastfeeding.
- Attitude of primi gravida mothers towards exclusive and non exclusive breastfeeding.
- The recent practice of breastfeeding mothers.
- The type of social support the mothers were getting during breastfeeding.

3.12 RESEARCH INSTRUMENT

Six sections were used in the questionnaire (Appendix 2) in collecting data. Criteria used in the development of the questionnaire were:

- It should contain factual information on breastfeeding from the literature, WHO/UNICEF guidelines and opinions of experts.
- Items of the questionnaire will be clear and understandable.
- Items on attitude have been tested for reliability and validity[53]
- Items of social support have been tested for reliability and validity[54].

3.12.1 Sequencing of the questionnaire:

- **Section A**

  This section includes questions regarding the background of the mother in a Maldivian context.

- **Section B**

  This section consists of the recall level of knowledge which a primi gravida mother had, about the benefits and management of breastfeeding. It is further classified into:

  1. Nutritional benefits.
  2. Immunological benefits.
  3. Bonding.
  4. Maternal benefits.
  5. Care of the breast
  6. Problems encountered during breastfeeding
  7. Mechanism of milk flow
  8. Methods of feeding.

- **Section C**.

  This section consists of primi gravide mothers' attitude towards exclusive breastfeeding versus formula feeding.

- **Section D**.

  This section provides information about the recent feeding methods and will identify the rates of exclusive breastfeeding.

- **Section E**

  This section will help to obtain information on the social support a Maldivian primi gravida mother had been getting while breastfeeding.

3.12.2 Scales used in the measuring tool

Section A and D contain questions based on dichotomous scales yes/no.

Section B will test the knowledge of the mothers at recall level by using a three point Likert scale:yes=1, no=0, not sure=0.

Section C and Section E contain five point Likert scales that provide the patients a whole range of answers to select from. Strongly disagree=1, disagree=2, no opinion=3, agree=4, strongly agree= 5. For the positive questions, the rating scale ranged from 5 to 1 with "5" being the most positive and "1" the least positive. For the negative or reverse questions, the rating scale range from 1 and 5 with "1" being the most negative and "5" being the least negative. So the reversing was done after data collection.

3.12.3 Translation of the questionnaire:

The translation of the questionnaire was done by a language expert.

3.12.4 Validity of the of the measuring tool

Validity is the degree to which the methods and its measurement measures what it intended to measure. Content validity is the main focus of this study.

In this study, content validity was concerned with the adequacy of the instrument in finding out the knowledge, attitude, practice and social support of an exclusive breastfeeding primi gravida mother.

To evaluate the content validity of the instrument the questionnaire was shown to five experts with experience in related subjects, to comment on the objectivity and the clarity of each item of the questionnaire. Each item was rated as +1= relatively valid item, 0=not sure, -1 = relatively irrelevant. The given scores were then analyzed for item correlation.

The item which has >0.5 score was accepted to include in the questionnaire. Most of the items showed good correlation.

Formula used for item correlation was:

$$\text{Item content (IC)} = \frac{\sum R}{N}$$

IC= refers to the correction of items to content of variables.

R= total score of that item.

N= number of experts.

The results are shown in the Appendix 3.

3.12.5 Pre test.

The pretest of the questionnaire was conducted in one of the government hospitals of Male'. From 1st December 2000 to 31st January 2000. Among 30 primi gravida mothers who delivered normally .

The purposes of the pre test were:

1. To check whether the questions were clear to the respondent.
2. To examine the flow of the answers.
3. To confirm the amount of time required to complete the questionnaire.

Three questions from the knowledge section and four from attitude section were not clear. Consequently these questions were modified. Other questions were reviewed and finalized before conducting the study.

Eighty percent of the mothers took 45 minutes to complete the questionnaire. Twenty percent of them took fifty minutes. The average time taken was 47 minutes. All mothers had no difficulty in understanding the questionnaire. The researcher did not intend to make the questionnaire shorter as the items for the questionnaire were found to be relevant to the content it had to measure and the mothers had no objection in filling the questionnaire. Hence it was used as a tool to collect data.

3.12.6 Reliability of the Questionnaire.

For reliability assessment of the instrument for measuring knowledge, attitude, social support, internal consistency was tested by using computer with the statistical program SPSS version 9.5. Test Cronbach's alpha was used for three scales because the method was appropriate for the items answered with more then two choices.

1. knowledge alpha =.6385.
2. Attitude alpha =.7170
3. Social support = .8869.

1. All the items in knowledge were found to be important as they were coming from the "must know" area. The reliability for the whole scale was alpha value .6385 which was accepted.
2. The reliability for the 20 items of attitude was found to be alpha =.7170. When compared to a previous study done in America (Iowa Infant Feeding Scale) alpha = .68 [55] it was found to be higher. So the researcher did not make any changes.
3. The reliability for social support also has been previously tested in the United States. The test for Cronbach's alpha for this study was found to be .8869 which was quite good. Hence the researcher decided to use this scale without any adjustment.

3.13 DATA COLLECTION

The study was a descriptive form of research to find out the proportion of exclusive breastfeeding primi gravida mothers and to find out the knowledge, attitude practice and social support received by these mothers. The questionnaire was used for data collection as a descriptive survey. It was also found to be the most appropriate method for collecting specific information.

3.13.1 Procedure for data collection

At first an appointment was made by phone with the mothers regarding the convenient time.

After that the researcher visited the houses of the mothers and explained the purpose of the study and the objectives so as to get their full co - operation. The time was scheduled to suit the convenience of the mothers.. Most of the mothers preferred a time at night. After getting the consent the researcher clearly explained the following points:

1. The reason for doing the research
2. The method of filling up the questionnaire.
3. Components of the questionnaire.
4 The mothers were free to refuse at any stage.

The mothers assessed the questions on their own and it took an average of 47 minutes to fill the whole questionnaire. The investigator was present when the questionnaire was filled to explain and answer any questions that may arise.

3.14 Data Processing.

Data processing is an important part of the study. The investigator checked each questionnaire for completeness. An ID number was given to each questionnaire. The data was entered by using program SPSS for windows version 9.5.

3.15 Data Analysis.

Validity of the analysis depends on the quality of the responses. Analysis and interpretation of data was done in relation to the objectives of the study.

The demographic data and socio cultural data were analyzed by using frequency and percentage.

Frequency distribution of the responses to each of the 27 items in knowledge was prepared. Then the investigator constructed an index of 27 items . Correct response were given as “1” and incorrect and not sure answers were given as “0”. Furthermore, for the

purpose of decision making, the corrected scores were added and the mothers were classified into two groups.

1. Scores 80 and > 80% signify having adequate knowledge.
2. Scores < 80% signify having inedequate knowledge.

A cut off point of 80% was given because all the items were coming from the "must know" area.

The attitude and social support questions were summarized using percentage frequency distribution of the responses to each of the 5 point Likert type rating scale.The response on attitude with ‘strongly agree’ to ‘strongly disagree’ was categorized as ‘strongly positive’ attitude for exclusive breastfeeding and 'strongly negative' attitude by having a cut off point of 3.51(no opinion was considered as having negative attitude).

For social support, it was categorized into 'strong' social support and 'weak' social support for decision making. by having a cut off point of 3.51.

3.16 STATISTICAL TEST.

Descriptive statistics for all variables in the study were performed in percentage, mean and standard deviation as appropriate.

The proportion of exclusive and non exclusive breastfeeding was presented with 95% confidence interval,

Chi square test was used for hypothesis testing of the differences in knowledge, attitude, practice and social support between exclusive and non exclusive breastfeeding groups.

3.17 ETHICAL CONSIDERATION.

1. Approval was sought and obtained from the ethical committee and administration site where research was performed.
2. There was no personal identity used in order to assure anonymity.
3. Subjects were given rights to decide whether to take part in the study.

4. Confidentiality of information regarding each mother was assured.

3.18 LIMITATION OF THE STUDY.

1. Data collection was difficult due to the floating nature of the population. As some patients were not found in the addresses where they are registered, repeat visits were necessary to meet and interview them.
2. The study was not done on a single island. Visiting five different island to collect the data was very inconvenient and time consuming.
3. The study might not represent the whole picture of mothers who are giving exclusive breastfeeding in Maldives as it does not include home deliveries, and those who deliver in other facilities/ institute. Inspite of this give some suggestions for future plan of action in promoting breastfeeding.
4. Being a small, multi - island nation, the need for research and identifying the weaknesses in the program has alerted hospital authorities to become aware of the result of their present program. This can produce a bias in data collection as patients were given extra attention during the patients stay in hospital and during discharge.
5. There might be a recall bias in this study, as the definition of exclusive breast feeding is three months. Keeping this in mind, the investigator always tried to reduce this bias by asking factual and relevant and easily communicable and understandable questions to the mothers. Also time duration was not extended more than four or five months.

3.19 IMPLICATIONS OF THE STUDY.

- This is the first systemetic research undertaken to identify the present situation of exclusive breastfeeding in the Maldives. So any plan or the findings of this study can provide useful input for the formulation of projects and plans including those that are submitted for funding from various international agencies.

- It will be useful for program managers who are responsible for planning and improving the breastfeeding program.
- The study will provide information to find the weaknesses and strengths in breastfeeding. Hence the authorities concerned will know where they should concentrate more and what areas needs further improvement and effort.
- Data obtained from the study can be used as baseline data in promoting the breastfeeding program in Maldives.
- The study will also help the health educators in planning and implementing the curriculum and develop modules which will be best suited for the mothers and health care workers in Maldives.
- It will also help to initiate the establishment and formation of group or bodies to help support breastfed mothers socially and mentally in promoting exclusive breastfeeding program e.g: mothers' support group.
- It will provide useful information to the Maldivian policy makers to assess the present situation of Maldivian mothers in terms of exclusive breastfeeding and offer suggestions for improving their situation in the future.
- By improving the rate of exclusive breastfeeding the overall health of the mother and child can be improved.

CHAPTER 4

RESULTS OF THE STUDY

The number of primi gravida mothers who fulfilled the eligibility criteria and were recruited in the study was 300. All these mothers have filled up the self administered questionnaire with voluntary consent. Confidentiality was observed for each individual and steps were taken to prevent the confounding factors. Most of mothers were of childbearing age. The minimum age was 17 years and the maximum age was 40 years. Sixty six percent were coming from Male' the capital (urban area). Most of them were married (Table 4.1).

Table.4.1 BACKGROUND CHARACTERISTIC OF PRIMI GRAVIDA MOTHERS

	DEMOGRAPHIC FACTORS	n	CHARACTERISTIC OF WHOLE SAMPLE	
	Age distribution of mothers.	300	NO	%
1	17years to 20years.		98	32.7
2	21years to 30years.		199	66.3
3	31years to 40years.		3	1.0
	Mean = 22.5 SD= 3.29		Minimum = 17 years	Maximum = 40years
	Religion	300	100% muslims.	
	Atoll	300	NO	%
1	Male'		200	66.7
2	Seenu		24	8.0
3	Haa dhaalu		24	8.0
4	Raa		28	9.3
5	Meemu		24	8.0
	Married status of mothers.	300	NO	%
1	Married		285	95.0
2	Divorced.		11	3.7
3	Married but separated.		4	1.3

Most of the mothers who participated in the study, had completed secondary education. There was no mother who was illiterate. Therefore all mothers were able to

complete the questionnaire without any assistance. Sixty six percent of the mothers were housewives. The mothers who had full time jobs worked a minimum of 6 hours and maximum of 10 hours per day. Almost all (97.0%) of the mothers were allowed to go home for feeding. Thirty six percent needed medical treatment. Most of them were treated for obstetric problems (80.9%). The mothers were found to have nutritional food during this three month period, Seventy seven percent of mothers had milk and 98.3% had fish in their diet. Only (26.0%) of the mothers were using contraceptive methods. Very few mothers (1.7%) were smoking as shown in Table 4..2

Table 4.2 SOCIOCULTURAL BACKGROUND OF MALDIVIAN PRIMI GRAVIDA MOTHERS

	SOCIOCULTURAL BACKGROUND	n	NO	%
	Educational status of patients.	**300**		
1	Primary		34	11.3
2.	Secondary		255	85.0
3.	College		7	2.3
4.	University		4	1.3
	Work outside home	**300**		
1	No		199	66.3
2	Yes		101	33.7
	Hours of work per day.	**101**		
1	Six Hours		16	5.3
2	Seven Hours.		48	16.0
3	Eight Hours		29	9.7
4	Nine Hours.		5	1.7
5	Ten Hours.		3	1.0
	Allowed to go home for breastfeeding.	**101**		
1	Yes		98	97.0
2	No		3	3.0
	Takes treatment from the doctor.	**300**		
1	Does not take any treatment.		190	63.4
2	Takes treatment.		110	36.6
	Reason for taking treatment.	**110**		
1	Obstetric		89	80.9
2	Medical		20	18.2
3	Others		1	.9

Table.4.2. Continued.

	Takes milk	**300**		
1	Yes		233	77.7
2	No		67	22.3
	Takes fish	**300**		
1	Yes		295	98.3
2	No		5	1.7
	Contraceptives used.	**300**		
1	Yes		78	26.0
2	No		222	74.0
	Smoking.	**300**		
1	Nonsmoking.		295	98.3
2	Smoking.		5	1.7

Of all three hundred samples, only 21.7% were exclusive and 78.3% were nonexclusive breastfeeding. (Table 4.3).

Table 4.3 THE PERCENTAGE OF MOTHERS WHO ARE GIVING EXCLUSIVE AND NON EXCLUSIVE BREASTFEEDING

	Breastfeeding	**No**	**%**	**95% Confidence interval**
1	Exclusive breastfeeding	65	21.7	17.1% to 26.7%
2	Non exclusive breastfeeding	235	78.3	
	Total	300	100.0	

The maximum number of information were received from the relatives (51.0%). It was almost the same when comparing between both exclusive and non exclusive group .(50.8% vs 51.1%). Mothers in the exclusive group identified the doctors and others, which included other health care workers (excepting nurses), as the main source of information, among the health care workers and this was significantly different from the nonexclusive group.(p= value 0.019, and 0.005 respectively).(Table 4.4).

TABLE 4.4 SOURCES FROM WHICH MOTHERS ACQUIRED INFORMATION

	Information	Exclusive (21.7%)		Nonexclusive (78.3%)		Total	P. value
		No	%	No	%	%	
1	Radio	24	36.9	100	42.6	41.3	.477
2	Television	11	16.9	67	28.5	26.0	.078
3	Booklet	24	36.9	95	40.4	39.7	.669
4	Posters	9	13.8	24	10.2	11.0	.380
5	Doctors	22	33.8	46	19.6	22.7	.019 *
6	Nurses	18	27.7	46	19.6	21.3	.172
7	Relatives	33	50.8	120	51.1	51.0	.999
8	Friends	13	20.0	57	24.3	23.3	.512
9	Others	15	23.1	22	9.4	12.3	.005 *

(*) Denotes result of chi square test less than 0.05.

4.5 KNOWLEDGE OF EXCLUSIVE BREASTFEEDING MOTHERS

Knowledge of the mothers were tested by using Likert scale. "Yes "=1 and " no" or "not sure" = 0. The results of the test scores are given below.

Table.4.5.1 PERCENTAGE OFTHE MOTHERS HAD CORRECT ANSWER REGARDING THE BENEFITS OF BREASTFEEDING TO THE BABY

	Knowlegde	% Correct		
	Benefits to baby.	Exclusive	Non Exclusive	Total
		n=65 (%)	n=235 (%)	N=300 (%)
1	Breast milk provides insufficient nutrients to my baby.	75.4	61.7	64.7
2	If I give breast milk it will prevent my baby from being malnourished..	92.3	86.8	88.0
3	Breastfeeding should be withheld if my baby is having diarrhea	93.8	78.3	81.7
4	Breast milk is best for my baby.	100.0	97.9	98.3
5	If I give only breast feeding to my baby he/she will not put on any weight	78.5	72.8	74.0
6	The first three days of milk is thin and watery and should be discarded.	90.8	86.0	87.0
7	If I breastfeed my baby it will prevent diarrhea.	64.6	50.2	53.3
8	If I breastfeed my baby it will prevent respiratory infection.	75.4	60.4	63.7
9	If I keep my baby in the same room with me it will enhance breastfeeding.	92.3	89.8	90.3
10	If I breastfeed it will form a good relationship between me and my baby.	90.8	95.7	94.7

The benefit of breastfeeding for the babies consists of statements regarding: nutritional value, immunological contribution and bonding. Almost all of the mothers had adequate knowledge in item 9,10 (90.3%, 94.7% respectively). Overall it showed mothers had very good knowledge about the benefit of bonding and almost all mothers knew breast milk is best for their babies (98.3%).

When comparing the exclusive and non exclusive group in all the items, more mothers had correct knowledge in the exclusive group than those in the non exclusive group as shown in Table 4.5.1

Table.4.5.2 PERCENTAGE OF THE MOTHERS WHO HAD CORRECT ANSWERS REGARDING THE BENEFIT OF BREASTFEEDING TO MOTHERS

	Knowledge	% Correct		
	Benefits to mother	Exclusive	Non exclusive	Total
		n =65 (%)	n=235 (%)	n=300 (%)
1	Breastfeeding does not help in contraception	66.2	44.3	49.0
2	If I breastfeed my baby my uterus will heal slowly	67.7	53.6	56.7

The test result showed that, overall, about half of the mothers had knowledge regarding the benefits they get during breastfeeding. Percentage of mothers who knew about the contraceptive effect while breastfeeding was only (49%).

When comparing the exclusive and non exclusive groups, it was found that the percentage of mothers who had knowledge in this area were more in the exclusive group than in the nonexclusive group.(Table 4.5.2)

Table. 4.5.3 PERCETAGE OF MOTHERS WHO GOT CORRECT ANSWERS ABOUT CARE OF THE BREAST

	Knowlegde	% Correct		
	Care of the breast	Exclusive	Non exclusive	Total
		n=65 (%)	n = 235 (%)	n=300 (%)
1.	Antenatal preparation of nipple will help in successful breast feeding	92.3	67.7	73.0
2.	I would clean my nipple every time I feed my baby.	89.2	88.9	89.0

Two items were tested for the self care of their breast. The results showed that more than 80% of the mothers were able to answer item number 2 correctly.

In comparing the two groups, exclusive and non exclusive groups, it was found that there was no difference in the knowledge of the hygiene, but more mothers of the exclusive group knew about the importance of antenatal care.(Table4.5.3.)

Table.4.5.4 PERCENTAGE OF MOTHERS WHO GOT CORRECT ANSWERS KNOWLEDGE RELATED TO PROBLEMS DURING BREASTFEEDING

	Knowledge	% Correct		
	Problems related to breast	Exclusive	Non exclusive	Total
		n=65 (%)	n=235 (%)	n=300 (%)
1	I should not breastfeed my baby if my breast is engorged	67.7	59.6	61.3
2	I should not breastfeed my baby if the nipple is cracked	41.5	32.3	34.3

To avoid problems during breastfeeding the mothers must know the problems they would encounter during breastfeeding. Two items were included in the test and the results showed that 61.3% were able to answer the item on breastfeeding and engorgement correctly and only 34.3% got the second item correct. This item relates to cracked nipples and breastfeeding

When comparing both the nonexclusive and exclusive groups, it was found that in both the items, the mothers had very little knowledge about problems related to breastfeeding but the percentage of mothers who had the knowledge were more in the exclusive group than the non exclusive group.(Table.4.5.4.).

Table.4.5.5 PERCENTAGE OF MOTHERS WHO GOT CORRECT ANSWERS FOR KNOWLEDGE ABOUT THE PRODUCTION OF BREAST MILK

	Knowledge	%Correct		
	Production of Milk	Exclusive	Non Exclusive	Total
		n=65	n =235	n=300
1	It is not important to breastfeed my baby as soon as the baby is born..	75.4	76.2	76.0
2	Maternal emotional depression can stop milk production.	38.5	36,2	36.7
3	If I stopped breastfeeding I will not be able to get the milk flow again.	33.8	23.0	25.3
4	To have enough milk flow I should have proper nutrition and drink enough..	96.9	96.2	96.3
5	I will have enough milk if my baby sucks frequently.	80.0	67.7	70.3

Almost all the mothers knew that proper nutrition was important for milk production. Only one fourth knew about the re-initiation of breastmilk ,and only one third knew that emotional depression can stop milk production.

When comparing both exclusive and non exclusive breastfeeding groups, it was found that, in almost all the items, the exclusive group had better knowledge than the non exclusive group although the difference in items were not statistically significant.(Table.4. 5.5).

Table 4.5.6 PERCENTAGE OF MOTHERS WHO GOT CORRECT ANSWERS FOR KNOWLEDGE RELATED TO METHOD OF BREASTFEEDING

	Knowledge	% Correct		
	Method	Exclusive	Non Exclusive	Total
		n=65 (%)	n=235 (%)	n=300 (%)
1	I should breastfeed my baby at fixed timings	67.7	59.6	61.3
2	I must put the baby in a comfortable position when I am breastfeeding	98.5	98.3	98.3
3	I must not burp the baby if the baby is sleeping after the feed	56.9	61.7	60.7
4	When I breastfeed I should put the areola (black part) into baby's mouth	58.5	37.9	42.3
5	When I am breast feeding baby must be given enough time with each breast	96.9	97.4	97.3
6	I will have more milk if I allow my baby to breastfeed for longer duration from each breast	90.8	90.6	90.7

The interventions used should be convenient for the mothers and they should know how baby should be breastfed. Six items were selected to test whether the mothers have enough knowledge in this area. More than fifty percent of the mothers were able to get five items correct and 42.3% knew how to position baby to the breast. More emphasis should be given regarding the timing, position and how to initiate the sucking reflex, and when to burp the babies .

There is no difference in the various areas when comparing both the groups. More mothers in the exclusive group knew about the effective way of sucking (item 4) than ones in the nonexclusive group (58.5 vs 37.9%) although it is not statistically significant. Overall, exclusive group had more knowledge than the nonexclusive group. As shown in (Table 4.5.6)

4.6 PRACTICE OF BREASTFEEDING MOTHERS

Below are the results of the recent practice of Maldivian primi gravida mother

4.6.1 RESULTS OF RECENT PRACTICE OF BREASTFEEDING MOTHERS

	Method of Breastfeeding	Outcome	
		Exclusive	Non exclusive
		n=65 (%)	n=235 (%)
1	I gave only breastfeeding to my baby between 0-3months	21.7	78.3
2	Estimate the time only breastfeeding was given per day.		
	Not able to estimate	0	5.1
	Four times.	0	.9
	Five times	0	1.3
	Six times	0	5.1
	Seven times	6.2	3.0
	Eight times	12.3	13.2
	Nine times	1.5	3.4
	Ten times	80.0	68.1
3	First initiated breastfeeding , after delivery.		
	Within an hour	0	0
	Within two hours	73.8	45.1
	2-5 hours	20.0	29.4
	5-10 hours	4.6	11.1
	10-12 hours	1.5	14.5
4	Who helped to initiate breastfeeding		
	Family member	52.3	41.3
	Nurses	35.4	49.4
	Alone	9.2	6.4
	Friends	3.1	1.7
	Doctors	0	1.3
5	Do you enjoy breastfeeding.		
	Yes	98.5	96.6
	No	1.6	3.4

The results showed that only 21.7% were giving exclusive breastfeeding and 78.3% were giving non exclusive breastfeeding. Eighty one percent of the mothers in the exclusive group were giving breastfeeding 9-10 times/day when compared to 71.5% in the non exclusive group. None of the mothers in the exclusive group breastfed less than seven times/day..

Early initiation of breastfeeding within two hours was more in exclusive group than the nonexclusive group (73.8%vs 45.1%).The rest initiated breastfeeding more than two hours later, and none gave breastfeeding within one hour after delivery. For both the groups

initiation of breastfeeding were mainly helped by the family members (52.3% and 41.3% respectively) and the nurses (35.4% and 49.4% respectively). Very little help was given by the doctors. Almost all the mothers in both the groups enjoyed breastfeeding (98.5% and 96.6% respectively) (Table 4. 6.1.).

Table.4.6.2 TYPES OF PRELACTEAL FEEDS THAT MOTHERS GIVE TO THEIR BABIES

	Prelacteal Feeds	n	Non Exclusive %
1	I give breastmilk with water to my baby during 0-3months.	235	
	Yes		84.3
	No		15.7
2	When was water. initiated	198	
	Just after first feed.		19.6
	First day		15.7
	Between 1-4 weeks		30.2
	Between 4-8 weeks		10.9
	Between 8-12weeks		10.2
3	I give only bottle feeding during 0-3months	235	
	Yes		3.8
	No		96.2
4	I give breastfeeding and bottle feeding during 0-3months.	235	
	Yes		44.0
	No		56.0
5	Estimate the time bottle was initiated.	103	
	First day		6.0
	Second day to four weeks		9.4
	Between four weeks to eight weeks		6.4
	Between eight weeks to twelve weeks.		78.2
6	Reasons why initiated bottle	103	
	1. Have to go to the office		40.0
	2. Not enough milk.		43.2
	3. Due to doctors advice.		1.7
	4. Refuse to take breastmilk.		8.3
	5. Constipated.		.9
	6. No one to help.		.4
	7. Cracked nipples.		1.6
	8. Not good to give only breast milk.		2.2
	10. Crying too much.		.4
	11. Advice from the hospital.		.9
	12. Later baby will not take bottle.		.4
7.	Give other fluids (not including water and formula)	235	
	Yes		86.0
	No		14.0
	Commonly use other fluids.	202	
	Fruit juice		78.5
	Tea		1.4
	Honey water		20.1

The most common type of pre lacteal feeds that the mothers gave to their babies was water (84.3%) and it was initiated as early as just after the first feeding. Very few gave only bottle feeding (3.8%) and 44.0% gave bottles with breastmilk. Most mothers initiated bottle between eight to twelve weeks and the most common reasons were (1) not enough milk (43.2%) (2). have to go to the office (40.0%), Eighty six percent of the mothers gave other fluids excluding water and formula feeds. Among these fluids most common fluid was fruit juice (78.5%). as shown in Table.4.6.2.

Table 4.6.3 COMPARISON OF PROBLEMS ASSOCIATED WITH BREASTFEEDING BETWEEN EXCLUSIVE AND NON EXCLUSIVE PRIMI GRAVIDA MOTHERS

	Problems associated with breastfeeding	**Exclusive n = 65 (%)**	**Non exclusive n=235 (%)**	**Total n=300 (%)**
1	Engorged breast.			
	Yes	29.2	38.3	36.3
	No	70.8	61.7	63.7
2	If yes what did you do			
	Continued breastfeeding	100	94.9	
	Discontinued breast feeding	0	5.1	
3	Cracked nipples			
	Yes	20.0	26.8	25.3
	No	80.0	73.2	74.7
4	If yes, what did you do ?			
	Continued breastfeeding	100	92.3	
	Discontinued	0	7.7	

Table 4.6.3. The problems that usually occur during breastfeeding were engorged breast and cracked nipples. Thirty six percent of the mothers experienced engorged breast and 25.3% had cracked nipples. All mothers in the exclusive group and most of the mothers in the non exclusive group continued breastfeeding

4.7 ATTITUDE OF BREAST FEEDING MOTHERS

The table 4.7.1 showed the respondent ratings in different dimensions of attitude towards breastfeeding. The rating scale was 1= strongly disagree (SD), 2=disagree (D), 3=no opinion (NO), 4=agree (A), 5= strongly agree (SA).

TABLE 4.7.1 PERCENTAGE OF MOTHERS AND MEAN SCORES OF ATTITUDE OF PRIMI GRAVIDA MOTHERS IN DIFFERENT DIMENSIONS

ATTITUDE (n=300)	SD	D	NO	A	SA	MEAN SCORE	SD
	1 (%)	2 (%)	3 (%)	4 (%)	5 (%)		
1. The nutritional benefits of breast feeding last longer than formula fed babies.	3.7	2.0	4.0	19.7	70.7	4.52	.94
2. Breast feeding is more convenient than formula feeding.	1.7	2.0	4.3	22.7	69.3	4.56	.81
3. Breast milk increases mother and infant bonding.	2.3	1.3	2.0	18.3	76.0	4.64	.79
4. Breast milk is lacking in nutritional value for my baby.	5.7	7.3	17.3	33.7	36.0	3.87	1.15
5. If I breastfeed it will change my physical appearance.	8.7	13.3	27.3	24.7	26.0	*3.46	1.25
6. Formula fed babies are more likely to be overfed than breast fed babies.	15.0	21.7	38.7	16.7	8.0	*2.81	1.13
7. Formula feeding is better choice if the mother plans to work outside home.	10.7	39.7	14.7	22.7	12.3	*2.86	1.24
8. Mothers who smoke when breast feeding can cause danger to the baby.	5.7	2.0	6.3	21.0	65.0	4.38	1.08
9. Mothers who formula feeds miss one of the joys of motherhood.	4.0	4.0	4.3	26.3	61.3	4.37	1.02.
10. Babies who are breast fed are healthier than babies who are fed formula.	2.7	1.7	12.7	25.7	57.3	4.33	.95
11. Breast fed babies are more likely to be over fed than formula fed babies.	19.0	22.3	43.0	10.7	5.0	*2.60	1.07
12. Breast milk is ideal food for babies.	1.3	.3	1.3	13.7	83.3	4.77	.62
13, Breast milk is more easily digested than formula milk.	.3	.7	8.3	26.0	64.7	4.54	.70
14. Formula milk is as healthy for an infant as breast milk.	2.0	1.7	13.7	34.3	48.3	4.25	.90
15. Breast milk is less convenient than formula milk.	5.3	5.3	14.7	36.0	38.7	3.97	1.11

Continue Table: 4.7.1

16. Breast milk is less expensive than formula milk	4.3	3.7	5.0	26.0	61.0	4.36	1.04
17. If I breast fed my baby it will gain enough weight.	6.7	7.7	19.0	34.0	32.7	3.78	1.18
18, Father feels left out when mother breast feeds.	5.3	8.3	28.0	25.7	32.7	3.72	1.16
19. Breast feeding interferes with my sexual relationship.	3.3	5.0	23.7	26.0	42.0	3.98	1.08
20. Mothers do not exclusively breast feed their babies because they do not have enough milk.	9.0	22.0	26.3	22.7	20.0	*3.23	1.25

The results showed most of the scores were between (3.51score to 4score) This showed that the attitude of the mothers were good.(nearly 4=agree). There are altogether five negative items. They were related to mother centered reasons eg: about physical appearance of mothers and baby centered reasons eg: about weight of the baby, an item related to mothers work outside home. Items 5, 6,7,11,20 got the lowest scores. These five items come under negative attitude.

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When comparing both the group most of the score of exclusive group were found to be higher than in non exclusive group.(item* shows item less than 3.51) (table 4.7.2.)

Table. 4.7.2 COMPARISON OF MEAN SCORE OF ATTITUDES OF EXCLUSIVE PIRMI GRAVIDA MOTHER AND NON EXCLUSIVE

ATTITUDE	Exclusive breastfeeding	Non exclusive breastfeeding	Total
1. The nutritional benefit of breast feeding last longer than formula fed babies.	4.60	4.49	4.52
2. Breast feeding is more convenient than formula feeding.	4.63	4.54	4.56
3. Breast milk increases mother and infant bonding.	4.77	4.61	4.64
4. Breast milk is lacking in nutritional value for my baby.	4.08	3.81	3.87
5. If I breast feed it will change my physical appearance.	3.74	*3.38	*3.46
6. Formula fed babies are more likely to be overfed than breast fed babies.	*2.49	*2.90	*2.81
7. Formula feeding is better choice if the mother plans to work outside home.	*3.31	*2.74	*2.86
8. Mothers who smoke when breast feeding can cause danger to the baby.	4.23	4.42	4.38
9. Mothers who formula feeds miss one of the joys of motherhood.	4.54	4.32	4.37
10. Babies who are breast fed are healthier than babies who are fed formula.	4.58	4.26	4.33
11. Breast fed babies are more likely to be over fed than formula fed babies.	*2.51	*2.63	*2.60
12. Breast milk is ideal food for babies.	4.86	4.75	4.77
13, Breast milk is more easily digested than formula milk.	4.72	4.49	4.54
14. Formula milk is as healthy for an infant as breast milk.	4.28	4.25	4.25
15. Breast milk is less convenient than formula milk.	4.05	3.95	3.97
16. Breast milk is less expensive than formula milk.	4.49	4.32	4.36
17. If I breast fed my baby he/she will not gain enough weight.	3.77	3.79	3.78
18. Father feels left out when mother breast feeds.	3.91	3.67	3.72
19. Breast feeding interferes with my sexual relationship.	4.09	3.95	3.98
20. Mothers do not exclusively breast feed their babies because they do not have enough milk.	*3.43	*3.17	*3.23
TOTAL	**4.05**	**3.92**	**3.95**

4.8 PROVISION OF SOCIAL SUPPORT FOR MOTHERS.

The table 4..8.1. below showed the percentages of the respondents rating in different dimension in social support. The scale rates, 1= strongly disagree(SD), 2 =disagree (D), 3=no opinion (NO), 4= agree (A),5=strongly agree.(SA).

Table4.8.1. PERCENTAGES OF PROVISION OF SOCIAL SUPPORT OF MOTHERS

SOCIAL SUPPORT	SD	D	NO	A	SA	MEAN	SD
	1 (%)	2 (%)	3 (%)	4 (%)	5 (%)		
1. I have people who cares what happen to me	1.0	1.0	2.3	40.0	55.7	4.48	.69
2. I get love and affection from my family.	.7	2.0	3.3	31.0	63.0	4.54	.72
3. I get chances to talk with some one about problems at work or housework.	2.0	2.7	4.0	51.0	40.3	4.25	.82
4. I get chances to talk to someone I trust about my personal and family problems.	2.0	3.0	5.7	48.0	41.3	4.24	.85
5. I get chances to talk about money matters.	2.0	2.3	6.7	50.7	38.3	4.21	.83
6. I get initiation to go and do things with other people.	0	2.0	5.7	50.7	41.7	4.32	.67
7. I get useful advice about important things in life.	1.0	1.3	4.0	44.0	49.7	4.40	.72
8. I get enough advice from the doctor after my delivery.	4.3	10.7	10.7	40.7	33.7	*3.89	1.12
9. I get enough care from the nursing staff.	3.0	5.7	9.0	42.7	39.7	4.10	.99
10. I get enough help from my husband in caring for my baby.	1.7	1.7	2.7	21.3	72.7	4.62	.77
11.I get enough support from my family members to care for my baby.	1.0	2.7	2.7	29.7	64.0	4.53	.76
12. I get enough time to rest when I am tired.	.3	4.7	5.7	43.0	46.3	4.30	.80
13. I get enough support from the community mothers group in caring for my baby.	2.3	7.3	18.3	44.0	28.0	*3.88	.98
14. I get enough financial support from my husband.	2.0	2.0	2.7	28.3	65.0	4.52	.82
15. I get enough financial support from my family when I am in need.	3.3	4.3	7.7	40.7	44.0	4.18	.98

Most of the item scores were more than four, which showed provision of social support was positive, specially from the husband and family. Advice from the doctors and

mothers community groups were rated below four (3.88 and 3.89 respectively) , these two items were weaker than all the other items. Most of the scores had more than 4 which showed social support for mothers were strong.

When comparing the two groups the exclusive group had got the higher score in all items than in the non exclusive group of mothers. as shown in table 4.8.2.

TABLE 4.8.2 MEAN SCORE OF SOCIAL SUPPORT OF EXCLUSIVE AND NON EXCLUSIVE BREASTFEEDING MOTHERS

Social Support	Exclusive	Non exclusive	Total
1. I have people who cares what happen to me.	4.62	4.45	4.48
2. I get love and affection from my family.	4.63	4.51	4.54
3. I get chances to talk with some one about problems at work or house work.	4.38	4.21	4.25
4. I get chances to talk to someone I trust about my personal and family problems.	4.40	4.19	4.24
5. I get chances to talk about money matters.	4.40	4.16	4.21
6. I get initiation to go and do things with other people.	4.38	4.30	4.32
7. I get useful advice about important things in life.	4.48	4.38	4.40
8. I get enough advice from the doctor after my delivery.	4.00	3.86	3.89
9. I get enough care from the nursing staff.	4.17	4.09	4.10
10. I get enough help from my husband in caring for my baby.	4.72	4.59	4.62
11. I get enough support from my family members to care for my baby.	4.65	4.50	4.53
12. I get enough time to rest when I am tired.	4.37	4.29	4.30
13. I get enough support from the community mothers group in caring for my baby.	4.06	3.83	3.88
14. I get enough financial support from my husband.	4.66	4.49	4.52
15. I get enough financial support from my family when I am in need.	4.37	4.12	4.18
TOTAL	**3.54**	**4.26**	**4.30**

4.9. DECISION MAKING CRITERIA FOR KNOWLEDGE, ATTITUDE AND SOCIAL SUPPORT

The criteria used for judging the three categorical scales of ,knowledge ,attitude, and provision of social support are shown below.

The area of knowledge was divided into five categories. The cut off point used to differentiate between "have knowledge" and "have inedequate knowledge" was 80% (rationale p..63) of correct answers. It was found only 24% of the mothers were considered having knowledge. (Table4.9.1)

Table 4.9.1 JUDGEMENT CRITERIA FOR KNOWLEDGE

	Criteria for knowledge.	**NO**	**%**
1	Very good (Above 80%)	72	24.0
2	Good. (70% to 79%)	112	37.3
3	Fair (60% to 69%)	56	18.7
4	Low (50% to 59%)	41	13.7
5	Very Low. (less than 50%)	19	6.3
	Total	**300**	**100.0**

The area of attitude was divided into five categories. The cut off point used to differentiate between positive attitude and negative attitude was >3.51(rationale, p.63) and 76.3% of the mothers were having positive attitude towards breastfeeding. (Table.4.9.2).

Table 4.9.2 JUDGEMENT CRITERIA FOR ATTITUDE

	Judgment Criteria for attitude	No	%
1	Very positive attitude (>4.51)	6	2.0
2	Positive attitude (3.51 to 4.50)	223	74.3
3	Fair (2.51 to 3.50)	69	23.0
4	Negative attitude (1.51 to 2.50)	2	.7
5	Very negative attitude (1.51 and less)	0	0
	TOTAL	**300**	**100.0**

The area of social support was divided into five categories. The cut off point used to differentiate between strong social support and weak social support was >3.51(rationale p.63) and 92.6% had strong social support as shown in (table 4.9.3.)

Table 4.9.3 JUDGEMENT CRITERIA FOR SOCIAL SUPPORT

	Judgement criteria for social support.	NO	%
1	Very strong social support . (>4.51)	127	42.3
2	Strong social support. (3.51 to 4.50)	151	50.3
3	Fair (2.51 to 3.50)	21	7.1
4	Weak social support system (1.51 to 2.50)	1	3
5	Very weak social support system (1.51 and less)	0	0
	TOTAL	**300**	**100.0**

4.10 THE DIFFERENCE IN KNOWLEDGE, ATTITUDE, SOCIAL SUPPORT OF EXCLUSIVE AND NON EXCLUSIVE BREAST FEEDING GROUPS

The difference between exclusive and non exclusive groups were identified and its statistical significance of results are shown below.

Table 4.10.1 DIFFERENCE IN KNOWLEDGE, ATTITUDE AND SOCIALSUPPORT BETWEEN THE EXCLUSIVE AND NON EXCLUSIVE MOTHERS

	Items	Exclusive n=65		Non Exclusive n=235		Chi square	P. Value
.		No	%	No	%		
1	Have knowledge	29	44.6	43	18.3	19.334	.001
2	Positive attitude	54	83.1	175	74.5	2.089	.187
3	Strongsocial support	61	93.8	217	92.3	.680	.794

Only the knowledge of the mothers in exclusive group were found to be significantly different from those of non exclusive group (44.6% vs 18.3% , p=0.001).

Although positive attitude and provision of social support were more in exclusive breastfeeding group when compared to the non exclusive group. (83.1%vs 74.5% and 93.8% vs 92.3% respectively), by using a cut off point of >3.51 they were not statistically significant.

Table 4.10.2 DIFFERENCE IN PRACTICE BETWEEN EXCLUSIVE AND NON EXCLUSIVE BREASTFEEDING MOTHERS

Table 4.6.1 showed that the non exclusive breastfeeding mothers gave prelacteal feeds whereas in the exclusive group non of the mothers were giving any fluid.(21.7% vs78.3%) with in (CI 17.1% to 26.7%). Among the most common fluids which were given to the babies extra to formula feeding was water (84.3% vs 0%) difference was significant (p=0.001). It was also found that none of the mothers initiated breastfeeding within one hour but with in two hours was (73.8% vs 45.1%) p=0.001.

CHAPTER 5

DISCUSSION, CONCLUSION AND RECOMMENDATION

5.1 DISCUSSION

5.1.1 THE RATE OF EXCLUSIVE AND NONEXCLUSIVE BREASTFEEDING MALDIVIAN PRIMI GRAVIDA MOTHERS AND THEIR RELATED PRACTICE

The result of the study showed that 21.7% were giving exclusive breastfeeding and 78.3% were giving nonexclusively breastfeeding (95%CI 17%-26%). The low rate of exclusive breastfeeding was mainly due to the prelacteal feeds which the mothers gave to their babies.

Although very few gave only bottlefeeding (3.8%) to their babies, 44% gave bottle feeding with breastfeeding. The two most common reasons for giving bottlefeeding were: 1) having to leave home for work and 2) insufficient milk. According to a WHO study, even in societies where breastfeeding is the norm, mothers continue to introduce complementary foods or drinks at an early age. The common reason for introducing complementary food was due to their own belief that they did not have enough milk and the suggestions which the mothers had been getting from their relatives, friend or health care workers that they may not have enough milk. This was seen to easily undermine the confidence of the mothers especially new mothers, of their ability to meet their babies need through exclusive breastfeeding. [56]. This study of Maldivian mothers strongly implies that a similar situation prevails in the Maldives in general.

Among the fluids given to the babies the most common were water (84.3%) and fruit juice (78.5%). In the exclusive group none of the mothers were giving any fluids till the babies were three months old. This showed that most of the mothers in the Maldives believed that only breast milk was insufficient for the babies. It could also be assumed that as

Maldives is a tropical country, mothers feel that the babies need more fluid. However a WHO study reveals that if the babies are exclusively breastfed till six months, they do not need any extra fluid consumption at any climatic condition.[57] It appears that mothers in Maldives had little understanding of the breast milk being sufficient for the baby even in the hot climatic condition.

More pre lacteal feeds were associated with the greater likelihood of not breastfeeding. A study done in Honduras by Perez-Escamilla et al showed that infants who received one or more pre lacteal feeds were less likely to be breastfed at 6 weeks.The same study showed pre lacteal feeds were negatively associated with greater likelihood of not breastfeeding (OR=0.19,95%CI 0.09-0.41). The use of bottle feeds was negatively associated with exclusive breastfeeding or any breastfeeding.(OR=0.19,95%CI0,08-0.43). [58] WHO reports that 98% of those born in Africa, 96% of those born in Asia and 90% of those born in South America were breastfed for some time during the first year. [59] For all three groups, period of exclusive breastfeeding was however for a shorter duration. The study findings indicated that providing accurate information regarding the adequacy of fluid content in breast milk may reduce the rate of giving water and fruit juice to babies

Another important factor which can reduce the rate of exclusive breastfeeding could be late initiation of breastfeeding. Gupta, suggested that babies should be put to the breast within an hour after birth when the suckling reflex is strongest and the baby is more alert. It will also stimulate breast milk production through prolactin reflex, stimulate the oxytocin reflex for better milk flow from mother's breast to baby, and ensure colostrum to provide infant with the antibacterial and antiviral protection. It also prevent the breastfeeding problems and promotes the mother and infant bonding. [60] According to the Baby Friendly Hospitals policy, babies born in hospitals in Maldives should be given to their mothers to hold within an hour after birth and staff members should promote and encourage mothers to practice breastfeeding within an hour. This study showed that none of the mothers were

given their baby within one hour after birth. However initiating breastfeeding within two hours were significantly more among the mothers in the exclusive group compared to the non exclusive group (73.8% vs 45.1%, p = 0.01). Most of the mothers were helped by their relatives and very little support was given by the doctors. This negligence to initiate breastfeeding in the first hour after birth could lead to babies born in the Maldives being deprived of above mentioned benefits. These findings also reflect the ineffective implementation of Baby Friendly hospital policy which can reduce the rate of exclusive breastfeeding.

5.1.2 KNOWLEDGE OF MALDIVIAN PRIMI GRAVIDA MOTHER ABOUT EXCLUSIVE BREASTFEEDING

Although the policy of all government hospitals is to give appropriate knowledge regarding the benefits and management of breastfeeding to the mothers who deliver at government hospitals of Maldives, this study showed that only 24% of the primi gravida mothers had adequate knowledge. More mothers in the exclusive group had knowledge of breastfeeding when compared to those in the non exclusive group (44.6% vs 18.3%, p= 0.001) This indicates that the implimentation of the policy regarding information of benefit and management of breastfeeding was inadequate. Although the percentage of exclusive breastfeeding mothers for all the following items were higher the exclusive group, only a relatively small proportion of mothers were able to understand: (1) the benefits mothers get during breastfeeding (2) that breastfeeding can reduce diarrhea (3) breastfeeding should continue even with the cracked nipples (4) that emotional depression can stop milk production. Weakness in these results indicates that Maldivian mothers are in need of both greater awareness and information regarding benefits and also more knowledge and skill in management of breastfeeding. This could be done by providing information through reliable sources such as TV, radio etc., training healthcare workers and strengthening both antenatal and post natal services.

Kistin et al had demonstrated the effect of prenatal education on the rates of any breastfeeding in low - income black women who attended a prenatal clinic conducted by midwives. Groups were randomly assigned to attend group classes (n=38) or individual sessions (n=36). A control group (n= 56) received neither the class nor the session. The topics discussed were reasons for feeding choice, common myths, physiology, health benefits, problems in breastfeeding and ways to overcome them. Starting breastfeeding was significantly more in both intervention groups (45% and 50%) than control group (22%). This study shows the necessity to train health care workers to promote and strengthen antenatal and postnatal education of mothers.

5.1.3 ATTITUDE OF MALDIVIAN PRIMI GRAVIDA MOTHERS

The data indicated that there was no significant difference in the attitude between exclusive and non exclusive breastfeeding mothers (p=.187) and the attitude towards exclusive breastfeeding was positive in both the groups (exclusive 83.1%, non exclusive 74.5%, total 76.3%). One of the reasons that may lead to the strong positive attitude of mothers towards breastfeeding could be due to all mothers being 100% muslims. Islam encourages, all mothers to breastfeed their babies for at least two years. This has a positive influence on the mother's attitudes to breastfeeding, although their religion does not specify whether breastfeeding should be exclusive.

The results of the study showed that, both the exclusive and nonexclusive groups, scored less in item 6: (Formula fed babies are more likely to be overfed than breastfed babies) and in item 11 (Breast fed babies are more likely to be overfed than formula fed babies). The scores were lower than 3. The reason may be due to the lack of understanding and insufficient clarification of the question. In the Maldivian language there is no commonly used word for "overfed".

Maldivian government regulations provide the right for women workers to breastfeed their babies during working hours by allowing them to go home for feeding for one hour and

giving the mothers sixty days of maternity leave.[62] Despite all these privileges, mothers in the non exclusive breastfeeding group still had the attitude towards formula feeding being the better choice than the breastfeeding if they plan to work regularly outside the home. A similar study done in Thailand by Pichaipat et al showed that one of the most common reason why most of the mothers stopped breastfeeding was due to the inconvenience caused to the working mothers. This study done in Maldives also revealed that 97.0% of the mothers are allowed to go home for feeding. However, the study did not seek information on the percentage of mothers who availed themselves of this opportunity. Therefore further research is needed in this area.

5.1.4 SOCIAL SUPPORT OF PRIMI GAVIDA MOTHERS DURING BREASTFEEDING

The social support system in breastfeeding was catergorized into mainly (a) physical support (b) emotional support and (c) financial support. In the context of Maldivian mothers although the exclusive breastfeeding group had stronger social support than the non exclusive group the difference was not statistically significant (93.8% and 92.3%) p=.794. This was in contrast to the studies done in other countries which showed significant difference caused by social support for the exclusive breastfeeding group.

Bryant did a study in Florida among Cuban mothers, had found that there was a significant difference in the rates of exclusive breastfeeding when it was supported by the health personnel, relatives, friends, peers and community groups.[64] However with the Maldives being a male dominant society and, according to Islamic law and Maldivian customs, divorce is very easy and is always left in the hand of the husband except in very special circumstances. This makes women in Maldives very insecure with regard to marital stability. Also traditionally most of these women are financially supported by the husband so they become very submissive and are afraid to express their feelings. Therefore there might be difficulty in finding true and reliable information regarding women's feeling about emotional

and financial support, which can mask the reality of the social support for women in Maldives. The study also revealed that mothers scored low in the area of community support group. There are very few support groups such as mothers groups in the Maldives, there fore it is very difficult for the mothers in this study to visualize how such a group can bring benefit and change in their attitude and practice regarding breastfeeding.

Long et al found that mothers who were postnatally in contact with peer counselor by telephone, home visit or clinic visits undergo remarkable change in exclusive breastfeeding rates. [65] Maldivian mothers come from an extended and supportive family structure and physical support is strong. However this might not be the reality in the near future, as nuclear families are increasing in number. Another factor would be that, with increased education, more mothers are likely to be working women which in turn will require more community support to promote exclusive breastfeeding. The above changes in society requires serious consideration. This study addresses some factors that discourage or impede breastfeeding in Maldives, such as health care practices and maternal knowledge and practices. Hence careful attention will have to be given for these areas, if positive breastfeeding practices are to be promoted..

5.1.5 IMPORTANT POINTS TO BE NOTED

In comparing the findings of the study with those of other studies about breastfeeding it is important to note:

1. Being the first study done in breastfeeding in Maldives it was difficult to get strong background information to develop a culturally appropriate tool for this study.
2. The questionnaire used was too long, which could have a bearing on its effectiveness, as mothers may have lost the power in concentration in the last part of the questionnaire.
3. Some readers might feel that the cut off point (80%) of the correct answer for knowledge was too high for decision making. But the researcher feels differently because in the context of Maldives where every mother can read and write and every

island has very few delivery amonth, if mothers are given enough information during the antenatal and postnatal visits it is quite likely the mothers would recall the information correctly.

4. Cut off point for 3.51 was used in attitude and social support because "no opinion" which was below 3.51 cannot be considered to be having a positive influence to either in attitude or social support.

5.2 CONCLUSION.

The study showed that only 21.7% of the mothers were exclusively breastfeeding. The low rate of exclusive breastfeeding was mainly due to insufficient information and misconception regarding benefits and management of breastfeeding The reason for giving prelacteal feed was mainly due to two reasons.(1) insufficient milk (2) having to leave home for work. Water and fruit juice were most common fluids that were given to the babies. In both the groups, exclusive as well as non exclusive, there was late initiation of breastfeeding as none of the mothers in the sample population initiated breastfeeding within an hour after delivery.

The knowledge difference between exclusive and non exclusive groups was found to be statistically significant. Mothers needed to be effectively informed about the benefit of exclusive breastfeeding.

Attitude and social support of mothers were found to be good in both the groups, but the exclusive breastfeeding group had more positive attitude although it was not statistically significant.

This study may not cover all the factors and the depth of the problems regarding exclusive breastfeeding, so further research is needed to reveal the answer to promote exclusive breastfeeding in Maldives.

5.3 RECOMMENDATION

1. Monitoring and evaluation:

It is important that special attention be given by the Ministry of Health and the Department of Public Health to monitoring and enforcing policies on breastfeeding in all government hospitals of Maldives.

2 Breastfeeding issue:

Breastfeeding issues should be raised in all areas concerning maternal and child health activities in Maldives**.**

3 Change Hospital routine practices:

Hospital practices regarding late initiation of breastfeeding , early contact and rooming -in should be promoted. There is a need to strengthen antenatal and post natal support in area of breastfeeding

4 Stop promotion of infant formula food through out Maldives:

Existing regulation regarding monitoring of marketing of infant food should be fully implemented by the concerned authorities. If the regulation is violated strict action should be taken.

5 Strengthen educational curriculum of health care workers :

Ensuring the modification of curriculum in support of exclusive breastfeeding should be brought about especially in the courses at nursing schools, for community health care workers, primary health care workers, family health care workers and even for traditional birth attendants. Evaluation should be undertaken to ensure that special components regarding the benefits and management of exclusive breastfeeding are included in the curriculum and should be well supported by the administrating bodies.

6 Evaluation of secondary school curriculum :

The secondary school curriculum should also be evaluated and important areas regarding breastfeeding should be incorperated so that it will enhance positive attitude towards breastfeeding among school children which can influence young mothers as well as mothers to be.

7 In service training:

Training to be given to all health care workers highlighting the benefits and management of exclusive breastfeeding. Also special emphasis should be given to counseling, supervision, evaluation and dissemination of information to the authorities concerned.

8 Information support: .

Support and motivation through specific messages on initiation, maintenance of exclusive breastfeeding with the help of communication experts may benefit the whole community. Locally and culturally appropriate educational materials should be developed and should be targeted to young children, adolescents, fathers and older members of the community.

9 Promote breastfeeding compaigns:

Mass media can play a crucial role in creating a social climate that support breastfeeding. Radio shows, television dramas, plays and puppet shows, playcards these and many other medias can disseminate useful information about breastfeeding.

10 Support at work place:

Advocating and ensuring maternity benefits to women specially in the informal and unorganized sector.

11 Create support groups:

More support groups should be created to promote the program. eg: mothers groups women social groups and encourage NGO's. to work in this area.

12 Breastfeeding day:

Breastfeeding day should be marked throughout the country and information to provide exclusive breastfeeding should be promoted through the mass media, in medical/ health institutions and in schools and to the community.

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APPENDICES

APPENDIX 1

THE TEN STEPS TO SUCCESSFUL BREASTFEEDING (WHO/UNICEF)

Every facility providing maternal services and care for newborn infant should:

1. Have a written breastfeeding policy that is routinely communicated to all healthcare staff,
2. Train all health care staff in skills necessary to implement this policy.
3. Inform all pregnant women about the benefits and management of breastfeeding.
4. Help mothers initiate breastfeeding within half-hour of birth.
5. Show mothers how to breastfeed, and how to maintain lactation even if they should be separated from their infants.
6. Give new born infants no food or drinks other than breastmilk, unless medically indicated.
7. Practice rooming in- allow mothers and infants to remain together-24hours a day.
8. Encourage breastfeeding on demand.
9. Give no artificial teats or pacifiers(also called dumies or soothers) to breastfeeding infants.
10. Foster the establishment of breastfeeding support groups and refer mothers to them on discharge from the hospital or clinic.

APPENDIX 2

QUESTIONNAIRE ON BREAST FEEDING

Dear Mothers

You have been selected for my study to improve the nutritional status of our children in Maldives. As you know, many children in our community are suffering from stunting, malnutrition and wasting. I would be very grateful if you would fill in these questions with care and deep thinking. Please be assured that the information will be highly confidential.

A. DEMOGRAPHIC AND SOCIO ECONOMICAL BACKGROUND OF MOTHERS

INSTRUCTIONS:

PLEASE FILL IN THE BLANK SPACES OF PLACE A TICK IN THE SPACE PROVIDED

DATE OF INFORMATION: .....

1. NAME AND ADDRESS ..... 2. AGE : ..... YEARS
3. AVERAGE INCOME / MONTH .....
4. LEVEL OF EDUCATION
   - ☐ 1. PRIMARY LEVEL 1 2 3 4 5
   - ☐ 2. SECONDARY LEVEL 6 7 8 9 10
   - ☐ 3. COLLEGE LEVEL 11 12 13 14 15

5. OCCUPATION		BEFORE DELIVERY	AFTER DELIVERY
	1. GOVERNMENT	☐	☐
	1. PRIVATE	☐	☐
	2. HOUSEWIFE	☐	☐

6. WHICH ATOLL DO YOU BELONG TO ? .....
7. MARITAL STATUS
   - ☐ 1. MARRIED
   - ☐ 2. MARRIED BUT NOT STAYING WITH HUSBAND
   - ☐ 3. NOT MARRIED AT ALL
8. DATE OF DELIVERY .....
9. ARE YOU CURRENTLY BEING TREATED FOR ANY MEDICAL CONDITION
   - ☐ 1. YES
   - ☐ 2. NO

   IF YES PLEASE SPECIFY .....
10. DO USE ANY CONTRACEPTIVES
    - ☐ 1. YES
    - ☐ 2. NO

    IF YES SPECIFY THE TYPE
    - ☐ 1. PILLS
    - ☐ 2. CONDOM

☐ 3. INJECTION
☐ 4. IUD

11. DO YOU DRINK MILK EVERY DAY?

☐ 1. YES
☐ 2. NO

IF YES SPECIFY HOW MANY GLASSES 1 2 3 OR MORE

12. DO YOU EAT FISH IN YOUR DIET?

☐ 1. YES
☐ 2. NO

IF YES SPECIFY HOW MANY TIMES 1 2 3 4 OR MORE

13. DO YOU SMOKE?

☐ 1. YES
☐ 2. NO

IF YES, HOW MANY / DAY

14. DO YOU WORK OUTSIDE YOUR HOME?

☐ 1. YES
☐ 2. NO

IF YES HOW MANY HOURS? LESS THAN 6 7 8 9
MORE THAN 10 / DAY

IF YES ARE YOU ALLOWED TO FO HOME FOR FEEDING

1. YES
2. NO

15. I KNEW ALL THESE BREAST FEEDING INFORMATIONS FROM

☐ 1. RADIO
☐ 2. TV
☐ 3. LEAFLETS
☐ 4. POSTERS
☐ 5. DOCTORS
☐ 6. NURSES
☐ 7. RELATIVES
☐ 8. FRIENDS

9. OTHERS. SPECIFY.....

B. KNOWLEDGE

THE QUESTIONNAIRE CONSISTS OF TWO PARTS

PART (1) WHICH INVOLVES THE GEENRAL KNOWLEDGE ABUT BREAST FEEDING

PART (2) WHICH INVOLVES THE KNOWLEDGE ABOUT SOME ACTIVITIES THE MOTHER NEED TO PERFORM TO ENHANCE BREAST FEEDING

PART .1 GENERAL KNOWLEDGE ABOUT BREAST FEEDING

TICK THE CORRECT BOX RELEVANT TO YOUR EXPERIENCE

INFORMATION	Yes	No	Not sure
→ 1. Breast milk carries insufficient nutrients for my baby			
* 2. If I give breast milk, it can prevent my baby from malnutrition			
* 3. Breast feeding should be withheld if my baby has diarrhoea →			
4. Breast milk is the best food for my baby			
→ 5. The first three days of milk is very thin and watery and should be discarded			
* 6. If I breast feed my baby, it will prevent diarrhoea →			
7. If I breast feed my baby it will prevent respiratory infections			
8. If I keep the baby in the same room with me it will enhance breast feeding			
* 9. It is not important to breast feed my baby as soon as she is born →			
* 10. Maternal emotional depression can stop milk production			
11. If I breast feed my baby it will form a good relationship between me and my baby			
* 12. Breast feeding does not help in contraception →			
→ 13. If I breast feed my baby my uterus will heal slowly			
14. Antenatal preparation of the nipple will help successful breast feeding			
→ 15. If I stop breast feeding I will not be able to get milk flow again			
* → 16. If I only give breast feed to my baby, she will not put on enough weight			
17. To have enough milk flow, I should have proper nutrition and drink enough			

PART 2

KNOWLEDGE ABOUT SOME ACTIVITIES OF MOTHER

ACTIVITIES	Yes	No	Not sure
* 18. I should breast feed my baby at fixed timings →			
19. I will have enough milk if my baby sucks frequently			
* 20. I must put the baby in a comfortable position when I am breast feeding			
* 21. I must not burp the baby if the baby is sleeping after the feed →			
23. When I feed the baby I should put the oreola (black part) into the baby's mouth			
23. I should not breast feed my baby if my breast is engorged →			
* 24. I should not breast feed my baby if the nipple is cracked →			
25. I should clean my breast every time I breast feed my baby			
26. When I am breast feeding, baby must be given enough time with each breast			
27. I will have more milk if I allow my baby to breast feed for longer duration from each breast			

C. ATTITUDE

The questions below are based on breast feeding vs. bottle feeding

It consist of TWENTY questions, It is mainly based on your feeling

INSTRUCTIONS;

SD = STRONGLY DISAGREE, D = DISAGREE, NO = NO OPINION, A = AGREE SA = STRONGLY AGREE

TICK THE RIGHT BOX

	SD	D	NO	A	SA
BREAST FEEDING VS. FORMULA FEEDING	1	2	3	4	5
1. The nutritional benefits of breast mild last longer than Formula fed babies					
2. Breast feeding is more convenient than formula feeding					
3. Breast milk increases mother infant boding					
* 4. Breast mil is lacking in nutritional value for my baby					
* 5. If I breast feed, it will change my physical appearance					
6. Formula fed babies are more likely to be overfed than					
7. Formula feeding is better choice if the mother plans to work outside the home					
8. Mothers who smoke when breast feeding can cause danger to the baby					
9. Mothers who formula feeds miss one of the joys of Motherhood					
10. Babies who are breast fed are healthier than babies who are fed formula					
* 11. Breast fed babies are more likely to be overfed than formula fed babies					
12. Breast milk is ideal food for babies					
13. Breast milk is more easily digested than formula milk					
* 14. Formula milk is as health for an infant as breast milk.					
* 15. Breast milk is less convenient than formula milk					
16. Breast milk is less expensive than formula milk					
* 17. If I breast feed my baby will not gain enough weight					
* 18 Father feels left out if a mother breast feeds					
* 19. Breast feeding interferes with my sexual relationship					
* 20. Mothers do not exclusively breast feed their babies because they do not have milk					

D. PRACTICE

The questions below are based on the recent methods, duration, problems and the hygienic condition of breast feeding mothers.

Instructions: Tick ( ) the right boxes, circle the correct numbers and fill in the blank spaces

METHODS

1. I gave only breast feed to my baby during the first three months

☐ 1. Yes
☐ 2. No

If yes, estimate the number of times breast fed in 24 hours

1 2 3 4 5 6 7 8 9 10 more than 10

2 I gave breast milk with eater to my baby during the first three months.

☐ 1. Yes
☐ 2. No

Specify the time you initiate water to your baby

☐ 1. Right after the first feed
☐ 2. The first day of life
☐ 3. Between one week to four weeks
☐ 4. Between four weeks to eight weeks
☐ 5. Between eight weeks to twelve weeks

3. I am giving bottle feeding only during the first three months

☐ 1. Yes
☐ 2. No

4. I gave breast feeding and bottle feeding to my baby during the first three months

☐ 1. Yes
☐ 2. No

Estimate when did you initiate bottle feed

☐ 1. First day of life
☐ 2. First week
☐ 3. Between first week and four weeks
☐ 4. Between four weeks and eight weeks
☐ 5. Between eight weeks and twelve weeks

Specify Why .....

Tick other most common fluid you gave extra to breast feeding during the first three months

☐ 1. Fruit juice
☐ 2. Tea
☐ 3. Honey water

Specify others .....

5. Do you enjoy breast feeding your baby?

☐ 1. Yes
☐ 2. No

If you still breast feed your baby give your reason.....

DURATION

6. Answer only if your baby ism ore than three months old). How long did you only breast feed your baby?

☐ 1. Less than one week
☐ 2. Between one week to four weeks
☐ 3. Between four weeks to three months
☐ 4. Between three months to twelve months

7. When did you initiate breast feeding to you baby after birth?

☐ 1. Within two hours after delivery
☐ 2. Within two to five hours
☐ 3. Within five to ten hours
☐ 4. Within ten to twelve hours
☐ 5. Within twelve to twenty four hours
☐ 6. More than 24 hours
☐ 7. within an hour.

Who helped you to initiate your first breast feeding?

☐ 1. Family member
☐ 2. Friend
☐ 3. Nurse
☐ 4. Doctor
☐ 5. On my own

PROBLEMS

8. Have you ever experienced painful swelling of the breast while you were breast feeding

☐ 1. Yes
☐ 2. No

If yes what did you do?

☐ 1. Continued breast feeding
☐ 2. Stopped breast feeding completely and start of formula feeding
☐ 3. Stopped breast feeding temporarily and started on formula, till it healed and then resumed breast feeding again
☐ 4. Give breast feeding and formula feeding alternately

9. Did you have the experience of cracked nipples when you were breast feeding?

☐ 1. Yes
☐ 2. No

If yes what did you do?

☐ 1. Continued breast feeding
☐ 2. Stopped breast feeding completely and start of formula feeding
☐ 3. Stopped breast feeding temporarily and started on formula, till it healed and then resumed breast feeding again
☐ 4. Give breast feeding and formula feeding alternately

HYGEINE

10. Do you clean your breast every time you feed your baby?

☐ 1. No

☐ 2. Yes

If no why? .....

11. How many times do you take a bath everyday?

0 1 2 3 4

SOCIAL SUPPORT

Here is a list of other things that other people do for you during the first year of delivery, that may be supportive. Please read each statement carefully.

And ( ) the box which is closest to your situation

	SD	D	NO	A	SA
EMOTIONAL SUPPORT	1	2	3	4	5
1. I have people who care what happens to me					
2. I get love and affection from my family					
3. I get chances to talk with someone about problems at work or housework					
4. I get chances to talk to someone I trust about my personal and family problems					
5. I get chances to talk about money matters					
6. I get initiation to go and do tins with other people					
7. I get useful advice about important things in life					
PHYSICAL SUPPORT					
8. I get enough advice from the doctors after my delivery					
9. I get enough care from nursing staff					
10. I get enough help from my husband in caring for my baby					
11. I get enough support from my family members to care for My baby					
12. I get enough time to rest when I am tired					
13. I have enough support from the community mothers group in caring for my baby					
14. I get enough financial support from my husband					
15. I get enough financial support from my family when I am in need					

APPENDIX 3

CONTENT VALIDITY OF THE QUESTIONNAIRE ON EXCLUSIVE BREASTFEEDING

ITEM NO:	EXPERT 1	EXPERT 2	EXPERT 3	EXPERT 4	EXPERT 5	IC. NO.
1	+1	+1	+1	+1	-1	0.6
2	+1	+1	+1	+1	+1	1
3	+1	+1	+1	+1	+1	1
4	+1	+1	+1	+1	0	0.8
5	+1	+1	+1	+1	0	0.8
6	+1	+1	+1	+1	+1	1
7	+1	+1	-1	+1	+1	0.6
8	+1	+1	+1	+1	+1	1
9	+1	+1	+1	+1	+1	1
10	+1	+1	+1	+1	+1	1
11	+1	+1	+1	-1	+1	0.6
12	+1	+1	-1	+1	+1	0.6
13	+1	+1	+1	+1	+1	1
14	+1	+1	+1	+1	+1	1
15	+1	+1	+1	+1	+1	1
16	+1	+1	+1	+1	+1	1
17	+1	+1	+1	+1	+1	1
18	+1	+1	+1	+1	+1	1
19	+1	+1	+1	+1	+1	1
20	+1	+1	+1	+1	+1	1
21	+1	+1	+1	+1	+1	1
22	+1	+1	+1	+1	+1	1
23	+1	+1	+1	+1	+1	1
24	+1	+1	+1	+1	+1	1
25	+1	+1	+1	+1	+1	1
26	+1	+1	+1	+1	+1	1
27	+1	+1	+1	+1	+1	1
28	+1	+1	+1	+1	+1	1
29	+1	+1	+1	+1	+1	1
30	+1	+1	+1	+1	+1	1
31	+1	+1	+1	+1	+1	1
32	+1	+1	+1	+1	+1	1
33	+1	+1	+1	+1	+1	1
34	+1	+1	+1	+1	+1	1
35	+1	+1	+1	+1	+1	1
36	+1	+1	+1	+1	+1	1
37	+1	+1	+1	+1	+1	1
38	+1	+1	+1	+1	+1	1
39	+1	+1	+1	+1	+1	1
40	+1	+1	+1	+1	+1	1
41	+1	+1	+1	+1	+1	1
42	+1	+1	+1	+1	+1	1
43	+1	+1	+1	+1	+1	1
44	+1	+1	+1	+1	+1	1
45	+1	+1	+1	+1	+1	1
46	+1	+1	+1	+1	+1	1
47	+1	+1	+1	+1	+1	1
48	+1	+1	+1	+1	+1	1
49	+1	+1	+1	+1	+1	1
50	+1	+1	+1	+1	+1	1
51	+1	+1	+1	+1	+1	1
52	+1	+1	+1	+1	+1	1

53	**+1**	**+1**	**+1**	**+1**	**+1**	**1**
54	**+1**	**+1**	**+1**	**+1**	**+1**	**1**
55	**+1**	**+1**	**+1**	**+1**	**+1**	**1**
56	**+1**	**-1**	**+1**	**+1**	**+1**	**0.6**
57	**+1**	**+1**	**+1**	**+1**	**+1**	**1**
58	**+1**	**+1**	**+1**	**+1**	**+1**	**1**
59	**+1**	**+1**	**+1**	**+1**	**+1**	**1**
60	**+1**	**+1**	**+1**	**+1**	**0**	**0.8**
61	**+1**	**+1**	**+1**	**+1**	**+1**	**1**
62	**+1**	**+1**	**+1**	**+1**	**+1**	**1**
63	**+1**	**+1**	**+1**	**+1**	**+1**	**1**
64	**+1**	**+1**	**+1**	**+1**	**+1**	**1**
65	**+1**	**+1**	**+1**	**+1**	**+1**	**1**
66	**-1**	**+1**	**+1**	**+1**	**+1**	**0.6**
67	**+1**	**+1**	**+1**	**+1**	**+1**	**1**
68	**+1**	**+1**	**+1**	**+1**	**+1**	**1**
69	**+1**	**+1**	**+1**	**+1**	**+1**	**1**
70	**+1**	**+1**	**+1**	**+1**	**+1**	**1**
71	**+1**	**+1**	**+1**	**+1**	**+1**	**1**
72	**+1**	**+1**	**+1**	**+1**	**+1**	**1**
73	**-1**	**+1**	**+1**	**+1**	**+1**	**0.6**
74	**-1**	**+1**	**+1**	**+1**	**+1**	**0.6**
75	**-1**	**+1**	**+1**	**+1**	**+1**	**0.6**
76	**-1**	**+1**	**+1**	**+1**	**+1**	**0.6**
77	**-1**	**+1**	**+1**	**+1**	**+1**	**0.6**
78	**-1**	**+1**	**+1**	**+1**	**+1**	**0.6**
79	**-1**	**+1**	**+1**	**+1**	**+1**	**0.6**
80	**+1**	**+1**	**+1**	**+1**	**+1**	**1**
81	**+1**	**+1**	**+1**	**+1**	**+1**	**1**
82	**+1**	**+1**	**+1**	**+1**	**+1**	**1**
83	**+1**	**+1**	**+1**	**+1**	**+1**	**1**
84	**-1**	**+1**	**+1**	**+1**	**+1**	**0.6**
85	**-1**	**+1**	**+1**	**+1**	**+1**	**0.6**
86	**-1**	**+1**	**+1**	**+1**	**+1**	**0.6**
87	**-1**	**+1**	**+1**	**+1**	**+1**	**0.6**

VITAE.

Ms. Mariyam Shafeeg was born in June 1956 in Male' Republic of Maldives. She studied from Lady Hardinge Nursing School and achieved a Diploma in Nursing and Midwifery in 1980. She was offered a scholarship from WHO to study for Degree in Nursing in Edith Cowan University in Perth, Western Australia and was graduated in 1995. During the course of professional career Mariyam Shafeeg has completed three months of Post graduate Certificate Course in Midwifery in Chaingmai University in Thailand (1982), Three months of Community Maternal and Child Health course in Khon Kean, Thailand. She also has participated workshops and seminars, conferences related to nursing education and services. held in Burma, Indonesia, Srilanka, India. Thailand.

During her experience as a nurse (1980 to 2001) she first worked in Central Hospital as a staff nurse . With the initiation of Diploma Nursing course (1991) she was transferred to Institute of Health Sciences where she was co ordinating the first Diploma Nursing course in Maldives. At present she is working as a Senior tutor in Institute of Health Sciences in Maldives.