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Evaluation of the Breast Feeding Promotion Program at Ard El Insan Association: Effect on Mothers' Knowledge, Attitudes and Practices

Khader Mohamed Abu Hasan

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Prepared By
Khader Mohamed Abu Hasan

BSN Islamic University Palestine

Supervisor: Dr. Bassam Abu Hamad

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Prepared By: Khader Mohamed Abu Hasan
Registration No.: 20511998

Supervisor: Dr. Bassam Abu Hamad

Master thesis submitted and accepted: Date: 24/5/2008
The names and signatures of examining committee members are as follows:

Head of Committee : Dr Bassam Abu Hamad Signature: ……...

Internal Examiner : Dr. Yehia Abed Signature: ……...

External Examiner : Dr. Anwar Al-Shaikh Khaleel Signature: ……...

Jerusalem Palestine

1429/2008

Dedication:

To my

To my wife

Whose patience, energy and intellect are an inspiration

To my children:

Who have been loving and cooperative

For all those:

Who have been supportive and encouraging

Khader Mohamed AbuHasan

Declaration:

I certify that this thesis submitted for the degree of Master is the result of my own research, except where otherwise acknowledged, and that this thesis (or any part of the same) has not been submitted for a higher degree to any other university or institution.

Signed:

Khader Mohamed AbuHasan

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Abstract:

Nutrition health promotion programs comprise an important component of Primary Health Care and the breastfeeding promotion and support program is an essential component of these programs.

This study aimed at evaluating the impact of Ard El Insan Association (AEI) Breastfeeding Promotion and support Program on mothers' knowledge, attitudes and practices. A pre-test–post-test quasi experimental study was conducted. A total of 132 Breastfeeding Promotion Program new attendants were recruited to participate of them 112 remained and participated in the post-test (20 subjects withdrawn). Data were collected over a five months time period. Baseline readings were obtained on admission and post intervention readings were obtained on discharge or when a mother made at least 4 visits to the program. AEI breast feeding program include health education, training of mothers and growth monitoring.

Enacted activities of AEI Breastfeeding Promotion Program contributed significantly ($P<0.001$) to the improvement the participants' knowledge about breastfeeding. Post intervention; 61.12% of the participants compared to 25.04% at the baseline were able to recall benefits of breastfeeding. Knowledge gained has positively affected participants' attitudes towards breastfeeding. Attitudes towards exclusive breastfeeding for 6 months of age have been positively affected also (91.9% posttest compared to 76.9% pretest). Exclusive breastfeeding found to be statistically significantly associated with the increased level of mothers' knowledge ($p < 0.001$).

There found to be no statistically significant differences ($p > 0.05$) between the method of health promotion used to promote and support breastfeeding and its effect on mothers' exclusive breastfeeding in the last 24 hours. Thus, no approach can be spoken to be the best or the most influential one over the other. Therefore, utilizing a diverse multi-method approach is most likely to provide the intended outcomes. No statistically significant relationship were found between the number of visits a mother conducts to the program and its interval, and whether it was enough to help her exclusively breastfeed her baby. AEI has achieved a 32.8 % increase in exclusivity rate amongst its Breastfeeding Promotion and Support Program attendants, which is more than the universal goal set by WHO.

Almost all participants expressed their satisfaction with the methodologies used to support them exclusively breastfeed. AEI breast feeding program is effective in meeting its targets and its approach can be generalized to other areas in Palestine and analogous cultures.

ملخص الدراسة:

تشكل برامج دعم و تشجيع الرضاعة الطبيعية أحد أهم الأجزاء الرئيسية في برامج التثقيف الصحي ، و التي تعتبر من أهم مكونات برامج الإرشاد و التثقيف الصحي الغذائي في نظام الرعاية الصحية الأولية.

هدفت هذه الدراسة إلى تقويم الأثر الذي تحدثه نشاطات برنامج تشجيع و دعم الرضاعة الطبيعية في جمعية أرض الإنسان الخيرية الفلسطينية- في محافظات قطاع غزة على المعرفة و التوجه و الممارسة عند الأمهات المشاركات في هذا البرنامج.

أجريت هذه الدراسة شبه التجريبية باستخدام طريقة الفحص الأولى و من ثم الفحص بعد التدخل. حيث شارك بالدراسة 132 مشتركة من الأمهات الحضور الجدد في برنامج تشجيع الرضاعة الطبيعية في جمعية أرض الإنسان في القراءة الأولى. انسحبت 20 مشتركة وتبقى 112 مشتركة في القراءة الثانية.

جُمعت البيانات على مدار خمسة أشهر في الفترة الواقعة ما بين أكتوبر 2007 و يناير 2008 . حيث أجريت القراءات الأولى عند قبول الأم بالبرنامج، و أجريت القراءة الثانية بعد التخرج أو عند إتمام الأم لأربع زيارات للبرنامج على الأقل. تضمن البرنامج تدريب و تثقيف الأمهات حول الرضاعة الطبيعية.

أوجدت نتائج هذه الدراسة أن النشاطات المنفذة في برنامج دعم و تشجيع الرضاعة الطبيعية في جمعية أرض الإنسان قد ساهمت و بدرجة مهمة و ذات دلالة إحصائية ($p<0.001$) في تحسين مستوى وعي و معرفة الأمهات المشاركات في هذه الدراسة . ففي القراءة الثانية و بعد التدخل وجد أن 61.12% من الأمهات المشاركات كن قادرات على ذكر فوائد الرضاعة الطبيعية للأم و الطفل مقارنة مع 25.04% في القراءة الأولى. و قد أثرت المعرفة التي اكتسبنها في تحسن إيجابي في توجهاتهن نحو الرضاعة الطبيعية .

كما بيّنت الدراسة أن المعرفة التي اكتسبتها الأمهات ساهمت بالإيجاب في تحسين توجهاتهن حول الرضاعة الطبيعية البحتة لمدة الستة أشهر الأول من عمر الطفل و بدلالة إحصائية ($p< 0.001$) و مستوى ثقة 95%.

لم تجد الدراسة أي فروقات ذات دلالة إحصائية ($p<0.05$) بين الطرق المستخدمة لتشجيع و دعم الرضاعة الطبيعية و أثرها على الرضاعة الطبيعية البحتة لمدة 24 ساعة سابقة، و عليه لا يمكن القول بأن هناك طريقة مثلى لتشجيع و دعم الرضاعة الطبيعية أو ذات أفضلية على الطرق الأخرى في هذه الدراسة . لذلك اتباع نهج متنوع و متعدد الطرق يمكن أن يؤدي الى تحقيق هدف البرنامج . كما ولم تجد الدراسة أية علاقة ذات دلالة إحصائية بمستوى معنوية أكبر من (0.05) بين عدد الزيارات المنفذة و الزمن بين كل زيارة و الأخرى، و بين كفاية هذه الزيارات في دعم الأمهات لإرضاع أطفالهن رضاعة طبيعية بحتة.

حققت أرض الإنسان نسبة زيادة في معدل الرضاعة الطبيعية البحتة بين الأمهات المشاركات في هذه الدراسة بلغت 32.8%، و هذا المعدل يفوق الهدف الذي حددته منظمة الصحة العالمية على مستوى العالم بإحداث تحسن في مستوى الرضاعة الطبيعية البحتة بمعدل 30% .

لقد أعربت معظم المشاركاتفي الدراسة عن رضاهن عن الطرق التي اتبعت فيتشجيعهن على ممارسة الرضاعة الطبيعية. و لهذا يمكن القول أن برنامج جمعية أرض الإنسان كان فعالا في تحقيق أهدافه و أنه يمكن تعميم هذا النهج في مناطق أخرى من فلسطين و في مناطق ذات ثقافات مشابهة.

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Term	Definition
Health Education	Education that increases the awareness and favorably influences the attitudes and knowledge
Health Promotion	Process of enabling people to increase control over, and to improve their health
Knowledge	Facts, information, skills, and awareness of BF acquired through experience or education
Attitudes	Favorable or unfavorable evaluative statements concerning breastfeeding reflecting how one feels about it
Practices	Do or perform often, customarily, or habitually, style of behavior regarding Breastfeeding
Breastfeeding	A child has received breast milk direct from the breast or expressed (WHO)
Exclusive Breastfeeding	No other liquid or solid from any other source enters the infant's mouth (WHO)
One to one counseling	Technique that counselor face to face provides advice, information and skills on health practices

Acronyms:

AAP	American Academy of Pediatrics
AEI	Ard El Insan Association
AF	Artificial Formula
BC	Breastfeeding Counselor
BF	Breastfeeding
CBR	Crud Birth Rate
CES	Charities Evaluation Services
EBF	Exclusive Breastfeeding
GAO	U.S. General Accounting Office
IGAB	Interagency Group for Action on Breastfeeding
LLLG	La Leach League Guatemala
MOH	Ministry of Health-Palestine
NGOs	Non Governmental Organizations
NSIYCF	National Strategy for Infant and Young Child Food
ORS	Oral Re-hydration Solution
TDH	Terr Desse Hommes
UNICEF	United Nations Children's Fund
UNRWA	United Nation Relief and Work Agency
USAID	United States Agency for International Development
USPSTF	United Stats Preventive Services Task Force
WHO	World Health Organization
WIC	Nutrition Program for Women Infant and Child

Chapter One

Introduction

Breastfeeding promotion and support program is an essential pillar of the health promotion programs which comprise a major component of the Primary Health Care (PHC). Breastfeeding is widely believed to be the most beneficial method of feeding for the health and well-being of most infants. Breastfeeding also contributes to the health and well-being of the mother. In addition to the individual health benefits, breastfeeding may provide significant benefits in terms of defraying or reducing both direct and indirect costs of health services.

Still, breastfeeding promotion, protection and support possess a global concern. In 1991, the World Health Organization (WHO) established categories for defining breastfeeding status. These categories were created to track the success of breastfeeding promotion programs. The WHO recommends 6 months of exclusive breastfeeding and continued breastfeeding with the addition of appropriate complementary foods until at least 2 years of age. However, breastfeeding rates lag behind public health goals in many parts of the world (WHO, 1989)

WHO and the United Nations Children's Fund (UNICEF) in a joint statement stated that, "*Breast feeding is an unequalled way of providing ideal food for the healthy growth and development of infants and has a unique biological and emotional influence on the health of both the mother and the child. The anti-infective properties of breast milk help to protect infants against diseases and there is an important relationship between breastfeeding and child spacing"* (WHO/UNICEF, 1989).

Health care providers are encouraged to play an active role in the breastfeeding promotion and support to increase the proportion of mothers who breastfeed their infants. It is recommended that clinicians, nurses and health workers counsel mothers about breastfeeding initiation and continuation and be knowledgeable about the basics of lactation and the role of supplementation. Clinicians and nurses are encouraged also to offer mothers returning to work specific advices on how to continue breastfeeding in the workplace, including the use of breast pumps and the expression and storage of breast milk (Tavera et al, 2004). Evidence suggests that formally structured, behaviorally oriented counseling and ongoing support by clinicians and other health care providers are associated with increased rates of breastfeeding initiation and continuation (USPSTF, 2003).

In Palestine, the Palestinian Ministry of health (MOH) adopted the WHO and the UNICEF international code of breastfeeding promotion, protection and support in the year 2003. The MOH initiated a breastfeeding promotion, protection and support program in its health facilities including the primary health care centers and the maternity units and in its hospitals all over the Palestinian Occupied Territories. Recently, in November 2007, the Palestinian MOH has announced its national strategy for feeding infants and young children. Of its main items, the strategy endorses the protection of the Palestinian women right to breastfeed their babies and ensures the availability of correct and precise information and support about breastfeeding to all Palestinian social sectors, with what suits the Palestinian culture (Palestinian National Strategy of Infants and Young Children Food, 2007).

Palestinian MOH encourages None Governmental National Health Organizations to integrate its role in promoting and supporting child health and nutrition. Breastfeeding

promotion programs are among the prominent programs that MOH stresses on. Ard El Insan (AEI) plays a leading role in this domain. However, these programs are rarely been evaluated.

Research Problem

Ard El Insan works for years in the field of under five children nutrition. In 1998 AEI adopted the international code of marketing breast milk. And since then, it created a program to promote and support breastfeeding among its targeted beneficiaries, and to contribute to the increase of the national breastfeeding rates. The program uses a combination of different approaches to encourage breastfeeding, and it has been running for a long time. Yet, no studies have been conducted to find out the impact of the enacted activities on the program goal and the impact the program induces on mothers' knowledge, attitudes and practices. In addition, information is scant on how well the program works, and how AEI can best promote breastfeeding practices. Therefore, this study answers the question; to what extent does the Breastfeeding Promotion Program implemented in AEI contribute to increasing the rate of exclusive breastfeeding (EBF).

Justification

The prevalence and duration of breastfeeding have declined in many parts of the world for a variety of social, economic and cultural reasons. However unwittingly, health services frequently contribute to this decline, either by failing to support and encourage mothers to breastfeed or by introducing routines and procedures that interfere with the normal initiation and establishment of breastfeeding (WHO, 2003).

Increasing the rates of breastfeeding initiation and duration is a compelling public health goal worldwide including Palestine. Although the breastfeeding initiation rate is high and universal in Palestine, 95.6% (MOH, 2004; MARAM Project, 2003), only 25.5% of children (0-6 months of age) were exclusively breastfed (23.5% in Gaza and 26.8% in West Bank) (Palestine National Authority, Ministry of Health, 2004), which is lower than that of the worldwide (35%) (WHO, 2003). Exclusive breastfeeding rate for 4-6 months in the North Gaza went down to 31.2% compared to 40.1% in the year 1997 in the same governorate (Ibraheim, 2005).

Breastfeeding promotion and support is one of AEI core programs. AEI has adopted the international code and the WHO/UNCIEF statement of breastfeeding. The program is composed of two breastfeeding promotion units, one in Gaza City AEI Center and the other in Khanyounis City AEI Center south of Gaza. The program is operating by two female nurses (Breastfeeding Counselors) who received appropriate theoretical and practical training on breastfeeding promotion and support and supported by the other relevant AEI staffs (AEI, 1998).

More than 800 mothers are admitted to the program annually. Mothers with their infants, pairs come to the AEI breastfeeding units by themselves or being referred by either the AEI community based team, or by other health care providers. Mothers and infants (aged 0-6 months old) pairs whether malnourished or having breastfeeding problems are admitted to the program to receive breastfeeding support and growth monitoring services. On admission mothers' and infants' breastfeeding status is assessed. The infants' nutritional status is assessed too. Then mothers and infants pairs are followed up at the program once a week for two months (four months maximum or until the infant is six months old according to the infant's nutritional status).

To promote and support breastfeeding, AEI breastfeeding counselors provide individual counseling (one to one), group counseling, where the counselors facilitate a group discussion, lectures, and TV shows on breastfeeding. Mothers are handed educational leaflets about breastfeeding and lactating mother nutrition. Mothers with successful stories are allowed to speak in public to the mothers attending the AEI breastfeeding promotion program about their experience. Technical support is provided where needed to improve skills and help resolve encountered problems.

The program aims to increase the proportion of exclusive breastfeeding up to six months and stresses continued breastfeeding up to two years. No milk formula is provided. The program activities are conceptualized as an integrated part of routine work. Besides having specialized persons who devote their time to lactation advice, Ard El Insan aims at having everyone doing it at every opportunity, since the program activities are integrated into everybody's work.

However, there is a relatively little information on the effectiveness of these activities. While a great deal of breastfeeding promotion and support is happening in AEI at the local level, there has been no systematic effort to evaluate what might work best in the AEI setting.

In this study, the author tries to find out how effective the enacted activities of AEI Breastfeeding Promotion Program in manipulating mothers' knowledge and behaviors and if the program achieves its intended goal or not.

Main Objective

This study aims to assess the effect of breastfeeding promotion program on the mother's knowledge, attitudes and practices, who are attending the breastfeeding promotion and support program at Ard El Insan Association in the Gaza Strip, and to find out if the program achieves its preset goal of increasing the exclusive breastfeeding rate among the mothers attending the program.

Specific Objectives

- To assess the effect of AEI Breastfeeding Promotion Program on mothers' knowledge, attitudes and practices.
- To appraise the methods to increase the incidence of exclusive breastfeeding among women participating in AEI Breastfeeding Promotion Program.
- To identify the strengths and weaknesses of the Breastfeeding Promotion Program implemented in AEI.
- To explore to what extent the knowledge acquired had changed attitudes and practices of mothers participating in AEI.
- To provide recommendations and suggestions for improving the effect of the offered program.

Research Questions

1. What impact does Ard El Insan's breastfeeding promotion program induce on the knowledge attitudes and practices of mothers attending the program?
2. Does breastfeeding promotion methods used add to the mothers' knowledge?
3. Does knowledge acquired make a change on mothers' attitudes?

4. Does the program offered at AEI increases the incidence of exclusive breastfeeding among the participating mothers?
5. Do mothers think that health education delivered on breastfeeding is helpful?
6. Are mothers satisfied with the approaches used to promote and support them to breastfeed their babies?
7. What is the most influential method used that made a change in mothers' knowledge, attitudes and practices?
8. Will mothers be able to solve encountered common breastfeeding problems post intervention?

Study Context

Gaza Strip is a small coastal area of around 362 km², bordered by Egypt in the south, and Israel in the north and the east. More than 1,443,814 (37.13%) of the total Occupied Palestinian Territories (3,888,292), live in the Gaza Strip, with a population density of 3988 persons/km² (PCBS, 2006). About two third of them are registered refugees. The population natural growth rate in Gaza Strip is 3.8%, with 44987 newborn a year, and Crud Birth Rate (CBR) of 41.7 per 1000 population (Palestine National Central Bureau of Statistics, 2006).

Child Health

Child health indicators and their trends demonstrate the change of child health status over time. Infant mortality rates (IMR) are of the most health indices that reflect socioeconomic level and health status of a community. It helps the process of health surveillance and the evaluation of health programs. Countries set their health polices based on change of their health indices.

The Palestinian MOH devoted its efforts to the reduction of infant and child mortality through increasing the accessibility and affordability of Mother and Child Health services.

Infant mortality rate in Palestine scored 24 deaths per 1000 live births in 2004, reducing from 32.8 deaths/1000 live births in 1994. The mortality rate in Gaza Governorates (30.2 deaths/1000 live births) is higher as compared to West Bank Governorates (20 deaths/1000 live births) (PCBS, 2006).

Prematurity and low birth weight accounted for 41.1% of the total deaths (MOH, 2004). Congenital anomalies were responsible for 14.3% (MOH, 2004). Respiratory tract infections and diarrhea were responsible for 13.7% of the total infant morality in Palestine (MOH, 2004), which can be prevented by exclusive breastfeeding in the first six months and a continued breastfeeding with proper complementary food. International studies revealed that exclusive breastfeeding patterns contribute to the reduction of infant mortality due to respiratory tract infections and diarrhea (Vectoria et al, 1987; Arifeen et al, 2001). An ecological study of the effect of breastfeeding on infant mortality in Latin America found that 13.9% of infant deaths of all causes were preventable by following exclusive and partial breastfeeding patterns (Betran, de Onis, Lauer, Villar, 2001).

Infectious diseases were responsible for 6.6% of the total IMR in Palestine. Equitably, MOH jointly with UNRWA have achieved universal vaccination coverage in the West Bank and Gaza. In a technical paper (2005) Abu Hamad cited that children under two years who have been fully immunized according to WHO recommended vaccination regimen were 95% (PCBS HHS 2004). A pooled analysis by the World Health Organization (WHO) of a number of studies on the impact of breast-feeding on child

survival showed that the protective effect is strongest in the first six months of life, with a 4-6 fold survival benefit for breast-fed infants. The benefit extends throughout the first year of life, with a 1.4-1.8 folds protective effect against mortality during months six through twelve (WHO, 2000).

Ard El Insan Association

Primary health care services in Gaza are provided by four main service providers, MOH, United Nation Relief and Work Agency (UNRWA), Non Governmental Organizations (NGOs) and the Private Health Sector (PHS).

Ard El Insan Association is a local Palestinian non governmental benevolent association based in Gaza Governorate, and it is derived from the Swiss international organization Terr Desse Hommes (TDH) which began working in Gaza in 1984. AEI started localization process in 1997 and it became totally a registered national organization in 1999.

AEI has two community based centers, one located in Gaza City, and it serves Gaza City, North Gaza and the Middle Governorate residents. The other is located in Khanyounis City south of Gaza, and it serves Khanyounis City, Khanyounis eastern villages and Rafah governorate residents (Annex 1). AEI works in the field of under five children nutrition, and it provides its services to the needy, and most marginalized Palestinian families in the Gaza Strip (AEI, 1999).

Nutrition education in AEI is directed toward improving mothers' knowledge, attitudes and behaviors about food consumption. The goals of nutrition education as stated in the AEI program regulations are to:

(1) Stress the relationship between proper nutrition and good health with special emphasis on the nutritional needs of breastfeeding women, infants and children under five years of age; and

(2) Assist the individual who is at nutritional risk in achieving a positive change in food habits, resulting in improved nutritional status and in the prevention of nutrition-related problems.

Thus, AEI encourages breastfeeding as the best source of infant nutrition and currently earmarks funds for breastfeeding promotion and support activities. AEI breastfeeding promotion program receives 8-9 hundred cases annually. In 2007, AEI admitted 782 mothers to the program that needed support to continue breastfeed. Only 21.7% of them were exclusively breastfeeding their babies

Operational Definitions

- ***Health education:*** A combination of learning experiences that aim to develop not only knowledge and attitudes , but also skills (i.e., life skills) which are needed to make decisions and take positive actions to change behaviors and environments to promote health and safety and to prevent disease (UNCIEF, ND).

- ***Health promotion:*** WHO 1998 defined health promotion as the process of enabling people to increase control over, and to improve, their health. In the USA, health promotion is much more narrowly conceived as "the science and art of helping people change their lifestyle to move toward a state of optimal health" (Green and Kreuter, 1990).

- ***Knowledge:*** Refers to the state or condition of understanding that fact or subject, and being able to apply it (UNCIEF, ND).

- ***Attitudes:*** Favorable or unfavorable evaluative statements concerning breastfeeding reflecting how one feels about it.
- ***Practice:*** Do or perform often, customarily, or habitually, style of behavior regarding breastfeeding.
- ***Breastfeeding:*** WHO/UNICEF defined breastfeeding as a child has received breast milk direct from the breast or expressed (WHO/UNCIEF, 1991).
- ***Exclusive breastfeeding***: No other liquid or solid from any other source enters the infant's mouth (WHO, 1994).
- ***One to one counseling:*** counseling technique that counselor face to face provides advice, information and skills on health practice.
- ***TV shows:*** TV sessions, cartoons and/or live that provide information about breastfeeding and proper practices.
- ***Group counseling:*** Technique which includes interaction among group members with a counselor or other leader.
- ***Educational Pamphlets:*** paper folds of different sizes that contain information about breastfeeding.
- ***Peer counseling:*** technique in which a peer transmits her successful experience in breastfeeding her baby to other lactating mothers.

Chapter Two

Literature Review

What is Program Evaluation?

Health promotion initiatives are often delivered through structured programs. A program is any group of related complementary activities intended to achieve specific outcome or results. To be successful in achieving their goals, health promotion practitioners need to make ongoing decisions about optimal use of resources, determining if the program is meeting the needs of participants, ways of improving program and demonstrating the effectiveness of a program to funders and other stakeholders. Program evaluation is *"the systematic gathering, analysis and reporting of data about a program to assist in decision making"* (Ontario Ministry of Health, 1996).

The primary focus of evaluation is to determine the effectiveness of a program in light of the attainment of pre-set priorities and goals. Evaluation helps document whether a program is accomplishing its goals or not. It identifies program weaknesses and strengths and the areas of the program that need revision. The Joint Committee on Standards for Educational Evaluation (Canada Evaluation Society, 2006) defines evaluation as *"The systematic investigation of the worth or merit of an object"*.

Evaluation is the process of determining significance or worth, usually by careful appraisal and study. Evaluation is the analysis and comparison of actual progress vs. prior plans, oriented toward improving plans for future implementation. It is part of a continuing management process consisting of planning, implementation and evaluation;

ideally with each following the other in a continuous cycle until successful completion of the activity. Evaluation is the process of determining the worth or value of something. This involves assigning values to the thing or person being evaluated.

An evaluation plan may have two different focuses: formative and summative. A comprehensive evaluation plan should include both types of evaluation.

Formative evaluation: is designed to collect data while a program is being developed with the intention to improve it. Formative evaluation provides ongoing feedback on how the different components of a program are working and leads to decisions regarding what needs to be enhanced, what needs to be deleted, what needs to be added. Formative evaluation includes needs assessment, program logic models, pre-testing program materials, and audience analysis (Marris and Braz, 2006).

Summative evaluation: is designed to gather conclusive data that indicates how effective the overall program is. Summative evaluation results in decisions to continue or not a program (Maricopa, 2007). Summative evaluation includes change in attitudes, knowledge or behavior, change in morbidity or mortality rates, number of people participating or served, and impact assessment. It also includes cost benefit and cost effective analysis (Marris and Braz, 2006).

Another type of evaluation is called process evaluation. It focuses on programs while underway and it examines the procedures and tasks involved. Process evaluation includes tracking quantities and description of people reached and services provided, describing how services are provided and the quality of services provided.

Importance of Evaluation

Charities Evaluation Services (CES) approach is that monitoring and evaluation not only measure how well you are doing, but also help you to be more effective. Evaluation has two main purposes:

Learning and development

Monitoring and evaluating your services will help you assess how well you are doing in order to help you do it better. It is about asking what has happened and why - what is and what is not working. It is about using evaluation to learn more about an organization's activities and then using what has been learnt (Maricopa, 2007). Health promotion practitioners undertake program evaluation to collect evidence on the effectiveness/impact of a program, identify ways of improvement, assess the efficiency of a program (cost benefit analysis) and test hypothesis for research purposes (Marris and Braz, 2006).

In the past, program evaluation was used mainly to determine whether or not a program was effective (i.e., did it work?). Today program evaluation is more often used to ensure continuous quality improvement (i.e., what needs to be changed to improve the effectiveness of a program?) (Marris and Braz, 2006).

Accountability

Funders and other 'stakeholders' want to know whether a project has spent its money appropriately or not. There is pressure from funders to provide them with evidence of success. Many projects have to respond to this demand in order to survive (Charities Evaluation Services, 2007).

Breastfeeding

It is only recently that modern scientific research has brought to light the paramount importance of breastfeeding to the health of the child. Islam has known and emphasized this fact 1428 years ago. The Holy Quran endorses the breastfeeding as of prime source of nutrition to the infant and asked mothers in different verses to nurse their babies. "*Mothers shall suckle their children for two whole years; (that is) for those who wish to complete the suckling. The duty of feeding and clothing nursing mothers in a seemly manner is upon the father of the child"* (Al-Baqarq 233, The Holy Quran) *"And we inspired the mother of Moses saying; suckle him"* (Al-Qasas 7, The Holy Quran), *We have enjoined man to show kindness to his parents, with much pain his mother bears him, and with much pain she brings him into the world. He is born and weaned in thirty months"* (Al-Ahqaf 15, The Holy Quran).

Breastfeeding is widely believed to be the most beneficial method of feeding for the health and well-being of most infants. Although, breastfeeding is not recommended for all mothers (such as those who use illegal drugs, are receiving cancer chemotherapy, have tested HIV positive). Public health experts, such as the American Academy of Pediatrics, the American Dietetic Association, and the Surgeon General, endorse breastfeeding as the preferred infant-feeding method in most cases. Most recently, the American Academy of Pediatrics (AAP) issued a policy statement recommending that women breastfeed infants throughout the first year of the infants' lives (American Academy of Pediatrics, 1997). WHO recommends exclusive breastfeeding for the first six months of the baby's age and a continued breastfeeding with proper complementary food up to two years old and beyond.

Definition of Breastfeeding

For many years, there were no agreed-upon definitions for breastfeeding. What was meant by the word breastfeeding depended on who was defining it. In the 1960s and 1970s, the most generally used definition of breastfeeding was that of the formula industry. The term "exclusive breastfeeding" meant that breastfeeding was the infant's only source of milk, but other foods might be given in addition to breast milk. This definition views breastfeeding only as a substitute for formula, not as a maternal or child health issue, and it is soon forgotten (Labbok, 2000).

International Definitions of Breastfeeding

In 1989 the Interagency Group for Action on Breastfeeding (IGAB), an ad hoc working group of representatives from UNICEF, United States Agency for International Development (USAID), Swedish International Development Agency (SIDA) and WHO, defined breastfeeding as:

Exclusive breastfeeding: No other liquid or solid from any other source enters the infant's mouth.

Almost exclusive: Allows occasional tastes of other liquids, traditional foods, vitamins, medicines, etc.

Full breastfeeding: Includes exclusive and almost exclusive.

Full breast milk feeding (or fully breast milk fed): The infant receives expressed breast milk in addition to breastfeeding.

Partial: Mixed feeding, designated at high, medium, or low. Methods for classification suggested include percentage of calories from breastfeeding, percentage of feeds that

are breastfeeds, etc. Any feeding of expressed breast milk would fall under this category.

***Token*:** Minimal, occasional breastfeeds (for comfort or with less than 10 percent of the nutrition thereby provided) (Labbok, 2000).

More recently the WHO/UNICEF have defined breastfeeding as a child has received breast milk direct from the breast or expressed. It is classified as:

***Exclusive breastfeeding*:** where the infant has received only breast milk from the mother or a wet nurse, or expressed breast milk, and no other liquids or solids with the exception of drops or syrups consisting of vitamins, mineral supplements, or medicines.

***Predominant breastfeeding*:** where the infant's predominant source of nourishment has been breast milk. However, the infant may also have received water and water-based drinks (sweetened and flavored water, teas, infusions, etc.), fruit juice; oral rehydration salts solution (ORS), drop and syrup forms of vitamins, minerals and medicines, and ritual fluids (in limited quantities). With the exception of fruit juice and sugar water, no food-based fluid is allowed under this definition.

***Full breastfeeding*:** and it includes exclusive breastfeeding and predominant breastfeeding together (Labbok, 2000).

Advantages of Breastfeeding

Breastfeeding is recommended as the preferred infant feeding method because of the nutritional value and health benefits of human milk. Benefits of human breast milk, relative to formula feeding, have been established through considerable research. Breastfeeding is a health behavior that has a delayed impact on infant morbidity and mortality. Its advantages to mothers and infants have been widely documented (Howie

et al, 1990; Rogan & Gladen, 1993; Simmer, 2000). It is recognized that the immunological and nutritional properties of breast milk are beneficial to babies (Perse et al, 1988; Kelleher & Duggan, 1999), and breastfeeding is highly associated with decreased childhood morbidity and mortality (Jason et al, 1984).

Exclusive breastfeeding is recommended for the first six months of life with continued breastfeeding supplemented with appropriate solid foods till the infant's second birthday.

Benefits of Breastfeeding for Baby

The benefits of lactation go beyond nutrition; human milk has immune mechanisms that protect against intestinal and respiratory diseases, ear infections and even non-infectious illnesses like asthma and allergies (Wilmoth and Elder, 1995). Breastfeeding mothers often notice that their children are sick less often than their formula-fed counterparts. Human milk provides different kinds of defense against disease, including secretory antibodies against specific pathogens. It also contains lactoferrin, which not only is the source of iron for breastfed infants, but also appears to have antibacterial and antiviral properties. Other components in human milk protect infants on a molecular level because their actual shape hinders certain pathogen's access to the infant (Myer and Nebraska, 2006; Hamilton, 1991).

Breast milk provides protection against infection, both bacterial and viral. Human milk contains macrophages (which produce lysozymes and lactoferrins), lymphocytes (which secret interferon and secretory immunoglobulin A), bifidus factor (which enhance growth of lactobacillis bifidus) (Briony Thomas, Manual of Dietetic Practice, 2nd Edition, P-253). Immunoglobulins IgA, IgG, IgM and IgD are all found in human milk. Of these the most important is the IgA, which appears to be both synthesized and stored

in the breast. It paints the intestinal epithelium and protects the mucosal surfaces against entry of pathogenic bacteria and enteroviruses (Bennett and Brown, 1993). Breastfeeding provides complete nutrition when feeding is successfully established. Additional vitamins may be necessary after six months.

In addition; the bond that develops between mother and child during breastfeeding is fundamental to the child's overall physical growth and long-term development.

Benefits of Breastfeeding for Mother

Lactation not only contributes to the bond between mother and child (Huffman and Labbok, 1994) , but also decreases the risk of postpartum hemorrhage (Wilmoth and Edler, 1995), earlier return to pre-pregnancy weight, and a reduced risk of ovarian cancer and pre-menopausal breast cancer" (U.S. Department of Health and Human Services, 2000). Breastfeeding also contributes to worldwide fertility reduction (Huffman and Labbok, 1994; Haggrty and Rutstein, 1999).

Economic Benefits of Breastfeeding

In addition to individual health benefits, breastfeeding may provide significant economic benefits in terms of defraying or reducing both direct and indirect costs. The direct cost that might be reduced or averted would relate of course to physician, clinic, hospital, laboratory, and procedural fees. Other direct economic benefits to a family may be no or reduced costs to buy infant formula for the first year after birth.

Possible indirect costs may relate to time and wages lost by parents (primarily mothers) attending to an ill child. Ideally, attributing costs to time and wages lost by parents attending a sick child should be considered when estimating the possible economic benefits of breastfeeding. Many women return to work before a child is 1 year old

(Cohen et al, 1995). The U.S. General Accounting Office (GAO) studied in 1993 the extent to which the Nutrition Program for Women Infant and Child (WIC) program promoted breastfeeding and examined how increased breastfeeding would affect WIC food costs for a year (U.S. GAO, 1993).

For one scenario, for example, GAO estimated that a 10 percent increase in breastfeeding rates, with breastfed infants receiving 25 percent of the monthly amount of formula given to formula-fed infants, would save the WIC program almost $408,000 per year. If breastfed infants received, a 10 percent of the formula allowed to formula-fed infants, a 10 percent increase in breastfeeding rates would save the program approximately $ 750,000 (Weimer Jon P.2001). In addition to individual health benefits, breastfeeding may provide significant economic benefits to the Nation, including reduced health care costs and reduced employee absenteeism for care attributable to child illness.

The significantly lower incidence of illness in the breastfed infants, may allow the parents more time for attention to siblings and other family duties. The direct economic benefit to the family may also be significant. It has been estimated, for example, that the cost of purchasing infant formula for the first year after birth is about $1,000 (Tuttle and Dewey, 1996).

Breastfeeding: A Natural Act

Even though it is a natural act, breastfeeding is also a learned behavior. Virtually all mothers can breastfeed provided they have accurate information and support within their families and communities and from the health care system. They should also have access to skilled practical help from, for example, trained health workers, lay and peer counselors and certified lactation consultants who can help to build mothers' confidence

improve feeding technique and prevent or resolve breastfeeding problems. Mothers should have access to skilled support to help them initiate and sustain appropriate breastfeeding practices and to prevent difficulties and overcome them when they occur.

Why do so many mothers start to breastfeed, yet so few continue? At the first glance, breastfeeding seems to be a simple and natural thing for mothers to do for their children. But, breastfeeding is actually a much more complicated process than one might think. Given the complexity of our modern world, and the competing demands on any family with a newborn infant, it would be a mistake to think that breastfeeding is solely a private activity between mother and child.

For breastfeeding to be initiated and to continue over a significant period of time, women who choose to breastfeed need support from a variety of sources in order to overcome some frequently encountered barriers. This support includes clinical and counseling services from health care providers and hospitals, basic education about the importance and benefits of breastfeeding for parents, family and communities and community-based support services including milk expression and storage and breast pumps that have become an essential companion of the breastfeeding working mother.

Factors Affecting Breastfeeding

International studies have identified certain factors that affect breastfeeding intentions, such as employment, social attitudes and public facilities for breastfeeding and the variable standard and content of the advice given to mothers by health workers (Robin, 1993). Even after a decision to breastfeed, many mothers fail to reach their own breastfeeding goals because many factors discourage them (Thomson, 1990).

Some common factors identified from previous studies include personal perceptions (Chan et al, 2000; Diong et al, 2000; Blyth et al, 2002); employment and employer

support (Tuttle & Dewey, 1994); husband involvement (Earle, 2000); social attitudes (Henderson, 1999); social support (Joh, 1998); public facilities and advice given by health workers (Robin, 1993; James et al, 1994). Mothers' knowledge and attitudes followed by husbands support were identified as important in influencing infant feeding choice too (Kong et al, 2004).

Kong (2004) in her study: factors influencing decision to breastfeed, cited as suggested by Wallace (1992), most breastfeeding problems can be prevented or easily managed by prenatal education, anticipatory guidance and early knowledgeable support from family or health care providers. Lin et al (2007) have demonstrated the effectiveness of a prenatal education programs in Taiwan on maternal knowledge, attitude and satisfaction towards breastfeeding. Early detection of and education about potential breastfeeding problems have been found to have positive influences on feeding outcomes (Wallace, 1992). This research information has provided insights for breastfeeding promotion programs. However, for a large number of women who want to breastfeed, it is a common and frustrating occurrence to have prenatal breastfeeding risk factors go unnoticed and not discussed until after the birth. Lack of both knowledge and social support need to be addressed (Arora et al, 2000; Earle, 2000; Shepherd et al, 2000).

Breastfeeding Promotion Programs

Health care providers are encouraged to play an active role in breastfeeding promotion and support, to increase the proportion of the mothers who breastfeed their infants. It is necessary to increase knowledge, but it is also necessary to increase skills, or the knowledge may not be able to be used. There is a need to change attitudes which create barriers to breastfeeding promotion. Breastfeeding guidance is not always clearly

described, but it consists of different mixtures of practical help, educational messages about technique and feeding patterns, and psychological support. Inaccurate and inconsistent assistance from health staff has been recognized as a major obstacle to breastfeeding (WHO, 1998).

Effective communication during clinical interaction has been shown to influence health outcomes and a patient's understanding of medical information. Nonetheless, adherence by clinicians to breastfeeding counseling guidelines during routine preventive visits and breastfeeding related communications between mothers and clinicians remains understudied as potential contributors to the gap between real and optimal breastfeeding practices (Tavera et al, 2004).

According to the literature reviewed; breastfeeding promotion programs that include rooming-in education and support, generally increase breastfeeding duration and intensity. At the same time, these measures decrease in-hospital neonatal mortality and morbidity due to sepsis and diarrhea. Few studies in the field of breastfeeding, however, have addressed what could be broadly called "patient satisfaction". The issue is important because patient satisfaction relates not only with general well being, but also with compliance with a program's recommendations (Coreil J, 1995; WHO/UNICEF, 1989).

The WHO explains in a publication about breastfeeding that "Knowledge alone is insufficient, of course; also needs a positive attitude towards breastfeeding, which comes with experience and an understanding of the many incomparable advantages that this feeding mode offers mothers and infants alike" (WHO/UNICEF, 1989).

Therefore, lactation program planners should consider health workers' attitudes towards breastfeeding promotion programs as an important part of their planning. In fact, it has been noted that programs that are positively evaluated by the recipients themselves and

those where the staff feels motivated and committed to promote lactation have a greater chance to be effective. However, there is no clear understanding of how and why these programs work.

In a combination of documentary, quantitative and qualitative approaches study carried out in Jamaica on antenatal and postnatal clients and health service providers to assess the impact of Baby Friendly Hospital Initiative and the lactation management program to identify its strength and weaknesses, mothers were found to be more aware and believe in the benefits of breastfeeding to their infants (Hamilton, 2002).

The support services, however, to sustain the initial interest and willingness among mothers to continue breastfeeding were not at the required strength and comprehensiveness to support and maintain the initial high level of breastfeeding. Among all target groups in the study, it was unanimous that breastfeeding is best feed for infants. It was also very clear that men were willing supporters of breastfeeding and want their partners to breastfeed (Hamilton, 2002).

Another study using a method, developed from the tool used for accreditation of baby-friendly hospitals, to assess the primary health care units in enabling mothers to breastfeed, a 10-step scoring system assessed the extent to which procedures known to be effective at extending breastfeeding duration. 13 primary health care units showed fair performance, whereas 11 performed poorly of the 24 total primary health care units in Rio de Janeiro, Brazil. More babies less than 6 months old breastfed exclusively in the fair performing units, than in the poor performance (38.6% vs. 23.6% respectively, $P < 0.001$). Twice as many mothers in the fair performance units (61.9%) were satisfied with the support provided for breastfeeding compared with (31.4%) in the poor performing units (Olivera et al, 2003).

In Hong Kong, a study conducted at a government hospital to evaluate a peer counseling program to sustain breastfeeding practice, there was no significant differences in the overall breastfeeding duration or the exclusivity of breastfeeding between mothers who received routine breastfeeding support and advice (control group), and mothers who received additional peer counseling support consisting of a hospital visit, and a follow up telephone call support (peer counseling group) (Wong et al, 2007).

At the contrary; Palti et al, (1988) using a two quasi-experimental designs (comparison groups and time trends) to evaluate a breastfeeding promotion program in Jerusalem that was integrated into the maternal-child health service, which sought to increase the percentage of women breastfeeding and prolong its duration, found a consistent and significant differences between the study groups in the percent of breastfeeding. Of the participants, 80% initiated breastfeeding and 29% were still breastfeeding at 26 weeks in the intervention group; compared to 75% and 12% respectively among the controls. At 13 weeks postpartum, 29% of in the intervention group were being fully breastfed and at 26 weeks, 5% were in this category; among controls, these statistics were 18% and 2% respectively.

Dearden and colleagues (2002) noted in a study of the impact of mother to mother support on optimal breastfeeding in a controlled community intervention trial in peri-urban Guatemala City that the communitywide rates of early initiation of breastfeeding were significantly higher in the program area than in the control communities at both baseline and follow-up. Communitywide rates of exclusive breastfeeding were similar in program and control areas, and did not change significantly from baseline to follow-up. However, 45% of the mothers in the program communities who both received a home visit and attended support groups exclusively breastfed, compared to 14% of

women in the program communities who did not participate in those two activities. In addition, women who exposed to mother to mother support the year following the baseline were more likely to exclusively breastfeed than those exposed before that period.

However, studies of the effectiveness of the help breastfeeding promotion programs offer indicate that mothers in touch with promotion programs differ in many ways from mothers who are not involved with such programs. Mothers who are in contact with breastfeeding promotion programs tend to: breastfeed longer, wean more gradually, be more knowledgeable about breastfeeding, introduce solid food later, be more likely to wean to a cup than a bottle, be less concerned with schedules, be more in tune with baby's need, have fewer stated concerns about milk supply, demonstrate confidence and self determination and be better able to withstand criticism (Cincilla, 2000).

Chapter Three

Conceptual Framework

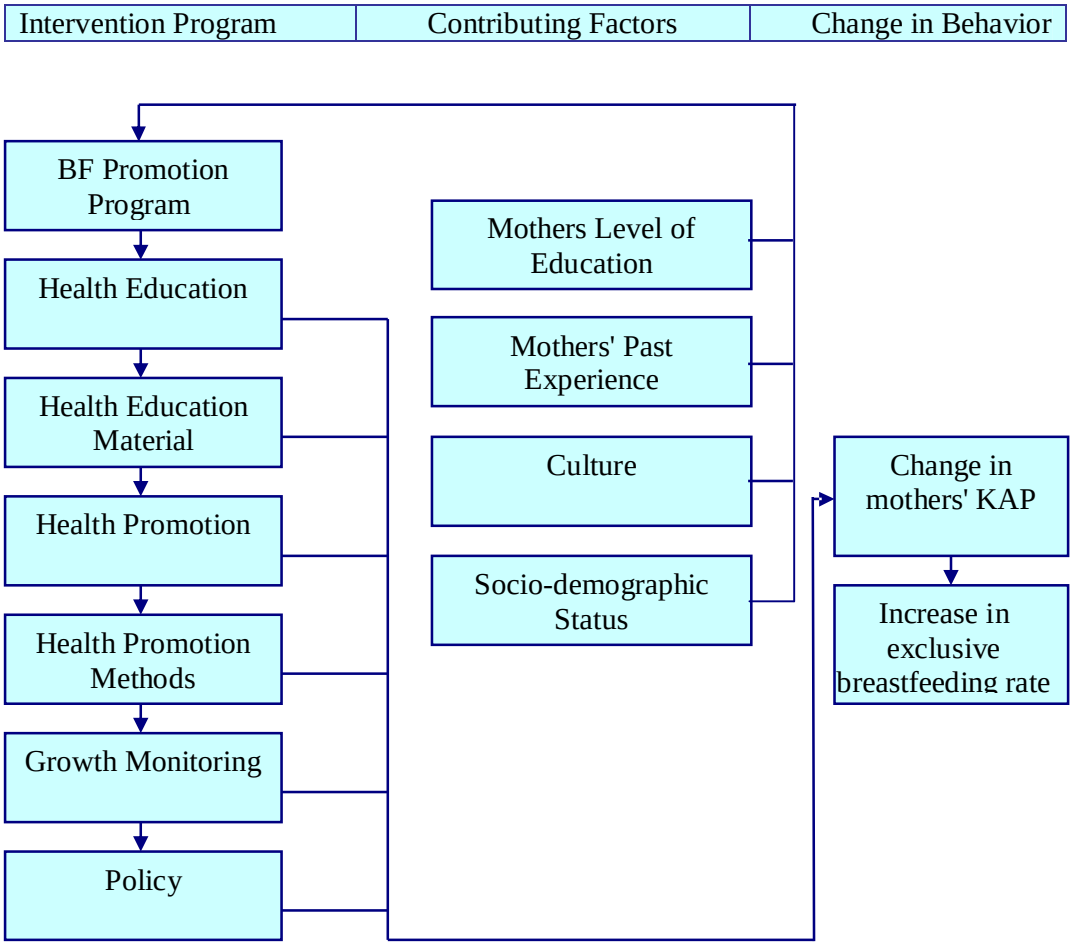

Figure 3.1: Concptual Framework

The conceptual framework (figure3:1) proposes the different components of AEI Breastfeeding Promotion Program and the contributing factors that influence breastfeeding practices**.**

The program approach (methods used to promote exclusive breastfeeding and the sessions' contents) are contributing to the decision that mothers have to practices exclusive breastfeeding.

The individual factors that relate directly to the mother include the mother's attitude towards breastfeeding, her level of education, knowledge about breastfeeding and the mother past experience of breastfeeding. Each of these can directly influence the exclusivity and duration of breastfeeding.

Other contributing factors are the attributes of the environments in which mothers and infants exist, the attributes that enable mothers to breastfeed. These include: health facilities environment in which professional support is provided, home environment where physical and social factors such as size of household, parity, family socioeconomic status and partner attitudes and support affect the time, energy and resolve that mothers have for breastfeeding.

Individual and environmental influences may interact in either positive or negative ways with maternal knowledge and skills. For example, a mother may be predisposed to breastfeed, but a non-supportive environment in the health facilities may lead to her deciding to stop breastfeeding early. Similarly, even if breastfeeding is still occurring, a lack of support at home or in the community may also lead to her stopping early.

Components of AEI BFPP

AEI Breastfeeding Promotion Program has been designed to support breastfeeding and to contribute to the increase of the national breastfeeding rates. To do so, the program adopted two approaches to help mothers acquire the knowledge and the skills that empower them gain confidence in themselves.

- **Health Education:** where it provides mothers with knowledge using printed materials (pamphlets, booklets, paper folds) and TV play outs to positively improve mothers' attitudes towards BF.
- **Health Promotion:** where it provides mothers with the skills to assist them combat breastfeeding barriers and manage breastfeeding problems and to exclusively breastfeed their babies. AEI adopts a combination of different breastfeeding promotion methods:
  - One to one counseling,
  - Peer counseling: passing peers' personal experience (successful stories), and
  - Group counseling: where the breastfeeding counselor facilitates a discussion of breastfeeding issues among a group of mothers.
- Occasional food support to lactating mothers: The program pays attention to mothers' nutrition in lactation. And AEI occasionally provides mothers with food incentives to help in supporting mothers' nutritional status and to motivate them to breastfeed their babies.
- Growth monitoring: In addition to breastfeeding promotion; AEI provides growth monitoring services to mothers' babies. Growth monitoring allows the breastfeeding counselor to show mothers how well their babies are doing.

The breastfeeding behavior and/or practice are linked to the knowledge and attitudes the mothers have about breastfeeding, which AEI breastfeeding promotion program intends to alter. The program interventions can result in positive changes in mothers' attitudes towards breastfeeding and breastfeeding behaviors.

Chapter Four

Methodology

Study Design

Evaluation research is to find out how well a program, treatment, practice, or policy is working. Evaluation research can employ experimental, quasi experimental or non-experimental designs. The author used a pretest-posttest quasi experimental design in this study. The greatest strength of quasi-experiments lies in their practicality, feasibility and to a certain extent generalizability (Polit & Hungler 1993). A pre-test was conducted as a baseline reading, followed by a post-test. Meaning that; data were collected at two points in time.

Study Population

The target populations of this study were mothers of infants less than 6 months old, who were attending at Ard El Insan Breast Feeding Promotion Program and Gaza Governorate residents (132) during the period of conducting the study.

Study Subjects

All new subjects attended the breastfeeding promotion program and met the criteria for admissions participated in the study. One hundred thirty two participants had been recruited along five months period to participate in the study on the baseline reading (pretest). Of the participants, 84.8% (n=112) continued participating in the follow-up reading (post-test), where 15.2% (n=20) have withdrawn from participating.

Study Setting

Since the author aimed to evaluate the Breastfeeding Promotion Program of Ard El Insan, the study was conducted at Ard El Insan's two main centers. One center is located in Gaza City, and it serves Gaza, North Gaza and the Middle of Gaza Governorates. The other center is located in Khanyounis City South of Gaza and it serves Khanyounis and Rafah Governorates residents.

Inclusion Criteria

Subjects included were mothers of infants less than 6 months old pairs, Gaza Strip governorates residents and attending Ard El Insan breast feeding promotion program centers in Gaza and Khanyounis Cities.

Mothers of infants who experience difficulties breastfeed their babies, mothers of infants who give bottle feeding and/or partially breastfeed and mothers of infants who suffer any degree of under weight were included in the study. Only new admissions were included in this study.

Exclusion Criteria

Subjects excluded were mothers of infants of the age 6 months and older who breast feed their babies and attending Ard El Insan centers. Breast feeding mothers of infants less than 6 months of age and attending Ard El Insan but not Gaza governorates residents (visitors) were not included. Previous admissions that were enrolled in the program at the time of the study were excluded. Mothers of infants aged less than 6 months old with special feeding needs and attending the breastfeeding promotion program (cleft lip and/or palate, lactose intolerance).

Table 4.1: Distribution of withdrawn subjects by cause:

Reasons for withdrawal	n	%
• Still under follow up	11	8.4
• Stopped attending for personal reasons	7	5.3
• Child sickness	2	1.5
Total	**20**	**15.2**

Twenty cases of the study subjects withdrew from the study and did not participate in the post test. Eleven of them were not discharged at the time when the researcher completed data collection. Seven of them stopped attending the program for personal reasons and two of the participant mothers reported baby sickness (table 1:4).

Ethical and Administrative Consideration

For ethical reasons, the author sought the Administration Board of Ard El Insan Association approval. A written approval was obtained (Annex 2).

A written consent form explaining the purpose of the study, and reserving the right of full voluntary participation of the participants were obtained from the study subjects. The participants understood, and it was clear to them, that they have the total right to stop and/or withdraw from participating in the study at any time they feel like they want to, without affecting the service they are receiving (Annex 3).

Data Collection Instrument

A structured questionnaire tool was developed for data collection based on an extensive literature review. The tool composed of five parts (Annex 4, 5):

Part one: Consisted of 12 items and it covered mothers' knowledge of breastfeeding, initiation time, feeding frequency, time of single feed, age to give EBF, benefits of breastfeeding to baby and mother and causes and management of some breastfeeding problems.

Part two: Consisted of six items that covered the mothers' attitude towards breastfeeding. Mothers' belief if breast milk alone is enough for the first six months of age and the intended duration of breastfeeding were of the prominent items.

Part three: Dealt with mothers' behavior and practices of breastfeeding, and their ability to solve encountered problems of breastfeeding.

Fourth part: Dealt with mothers' previous exposures to breastfeeding counseling. The methodologies and approaches AEI Breastfeeding Promotion Program used to encourage breastfeeding mothers breastfeed, in addition to times and frequency of follow-up.

Part five: Consisted of eight items which covered demographic data concerning mother age, baby age, parents' level of education, family type and size, and the socioeconomic status of the participant subjects.

Instrument Validity and Reliability

After being constructed, the data collection tool (questionnaire) has been reviewed by seven experts to ensure its face and content validity (Annex 5). Instrument looked acceptable to experts and data collectors. The instrument questions were relevant and comprehensive. It included items that measure knowledge, attitudes and practice of BF.

The instrument validity and reliability were also maintained through standardizing the designated implementation of the work. Then, the instrument has been statistically tested for its reliability. Cronbach alpha test for reliability were used. The average alpha value was 0.766, which is acceptable (Annex 6).

Piloting:

A pilot study has been conducted where 30 cases were recruited to participate. After implementation, few questions have been reworded to clarify the intended meanings, and two questions have been omitted. The piloting estimated the time consumed in conducting the interview, which was 20 minutes in average. The instrument questions were easily understood by data collectors and participants.

Data Collection:

Two female nurses (breastfeeding counselors) were recruited and trained on how to carry out interviews. After receiving sufficient training on interviewing technique, data collectors (breastfeeding counselors) conducted a face to face interview questionnaire with each new admitted mother to the program, and agreed to participate in the study. Interview took place in a two point time, once on admission as a baseline reading (pre-test) and the other was conducted after intervention as a follow-up (post-test) on discharge, or when a participant made at least four visits to the program on a one week or two weeks interval. This took one to three months period depending on the number of the visits and the time interval. Data has been collected along five months period, from Oct 2007 to Feb 2008.

Data Analysis:

Statistical Package for Social Sciences (SPSS) program was used to analyze the date. Data was cleaned refined and recoded as needed. For comparison reasons, cases have been matched and the withdrawn subjects have been excluded.

Frequency statistics were performed where means and standard deviations were calculated. Tables for data frequency have been constructed. Inferential statistics (Chi-

square, Kruskal Wallis testing) were performed to study relationships between variables. Nonparametric wilcoxon for paired variables test were used to find out differences between baseline and post intervention readings.

Limitations of the Study:

- The study was self funded.
- Scarcity of resources.
- Frequent cut offs of the electricity.
- The unstable security due to the sociopolitical situation and the embargo imposed on the Gaza Governorates made it take longer time.
- There has been some time constraint.
- Because the study was carried out on an organizational base, results may not be generalized.

Chapter Five

Results and Discussion:

A total of 132 mother-infant pairs who fit the inclusion criteria (see page 31, chapter four) were enrolled in this study in the pretest. Of the enrolled mothers, 112 have participated in the posttest. The withdrawn cases who comprised 15.2% of the total recruited subjects (n= 20) were excluded for comparative reasons.

Subjects Socio-demographic Characteristics:

Table 5:1 (page 40) shows that at the enrolment time; mothers' age ranged between 17 and 41 years with a mean of 28 years. The majority of them (84.9%) were between 17 and 35 years old. This young child bearing age of mothers attending the program comprises an opportunity for AEI to deliver sound health education concerning breastfeeding, which could be of potential positive effect on child and mother health alike.

Babies' age ranged between 1 and 5 months with a mean of 2.4 months old at the time of enrollment. More than half of the babies (55.3%) were two months old and less. This early age could be beyond the 63.6% exclusive breastfeeding amongst the participating mothers at the enrollment.

Of the participating mothers; 56.8% were living in nuclear families, while 43.2% were living in extended families. The majority of mothers (61.4%) had 1 to 2 children under 5 years old. This increases the burden of child care on the mother and reduces her time to look after her newborn.

Family size ranged from 5-15 persons per family (91.7%), where the majority centered around 6-10 members per family (40.9%). The participants' average family size in this study was 8.9 persons. The reported figures about Gaza average household size is 6.5 individuals (PCBS 2008). This is a relatively large family size which increases the family's economic burden, and the household duties of mothers, leaving less time for mothers to look after their babies.

The vast majority of mothers had a secondary school education (45.5%) and 21.2% had university education, where 12.9% and 19.7% received preparatory and elementary education respectively. Husbands of participants had 27.3% received university education, 30.3% received secondary school, and 19.7% and 20.5% received preparatory and elementary education respectively. Figure 5:1 below illustrates the differences between mothers and fathers level of education which is mostly rolling around basic education.

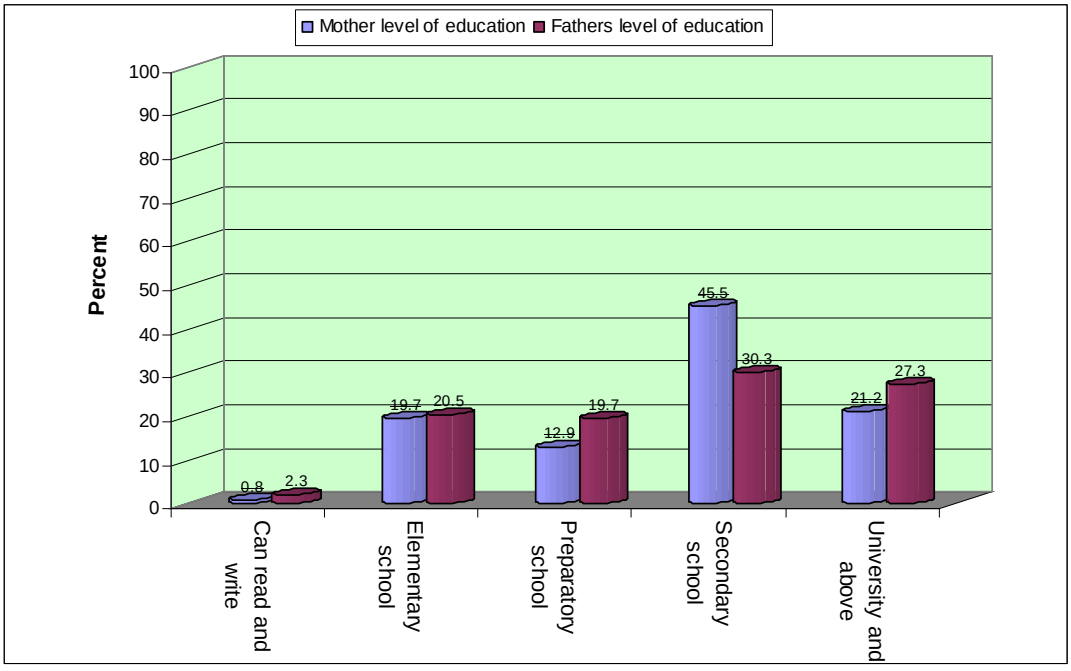

Figure 5.1: Distribution of Mothers and fathers level of education

As shown in table 5:1; 21.2% of the total participants reported that they receive social assistance, whether in-kind or cash; provided by charitable organizations which is intermittent and does not satisfy the families' needs.

The mean monthly income of the subjects families is 1185 NIS (265$), and the median is 1000 NIS with SD of 836 NIS. However, 68.2% of the participant subjects are not employed, while 25.8% earn less than 1200 NIS (Figure: 5:2).

The World Bank and the PCBS reported that poverty is common in Gaza Governorates and poor tend to have larger family size and lower level of education (PCBS & World Bank, 2004).

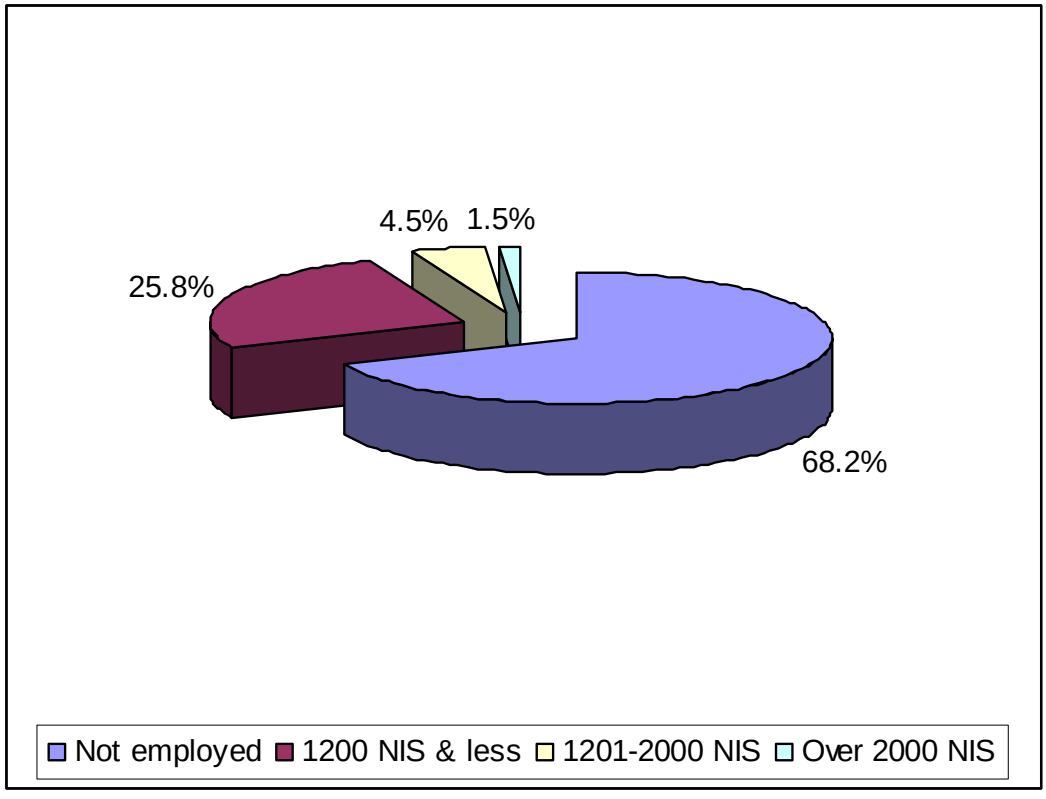

Figure 5.2: Distribution of Mothers by Monthly Income at Enrollment in the study

This means that 94% of the participant subjects are living below the poverty line specified by the World Bank for West-Bank and Gaza which was specified as $2/ person per day (World Bank, 2003) and the rest of the participants (6%,) are living at or around the poverty line taking in consideration the size of the family.

This also reflects the type of beneficiaries the AEI Organization serves, and the organization policy of providing services to marginalized and needy families of the Palestinian society in the Gaza Governorates.

Consequently, this context raises a question about a lactating mother food intake, taking in consideration the hard socioeconomic and political status that Gaza passes through. Low food and fluid intake may contribute to the low milk supply which is one of the most significant barriers and likely the most challenging to meet breastfeeding goal (Betzold, Laughlin & Shi, 2007).

Table 5.1: Distribution of subjects by socio-demographic characteristics

	Pretest (n=132)		Posttest (n= 112)	
	n	%	n	%
Mothers' age group:				
16 – 25 years	55	41.7	49	43.8
26 – 35 years	57	43.2	47	42.0
36 – 45 years	20	15.2	16	14.3
Baby age group:				
2 months & less	73	55.3	1	0.9
2.5- 4 months	52	39.4	61	54.5
4.5 – 6 months	7	5.3	50	44.6
Family Type:				
Nuclear family	75	56.8	63	56.3
Extended family	57	43.2	49	43.7
Live children under 5 other than the child in the program.				
No one	10	7.6	8	7.1
1 - 2 children	81	61.4	70	62.5
3 - 4 children	41	31.1	34	30.4
Family size:				
5 members & less	37	28.0	30	26.8
6 - 10 members	54	40.9	47	42.0
11 - 15 members	30	22.7	25	22.3
16 members & over	11	8.3	10	8.9
Mother education:				
Can read and write	1	.8	1	0.9
Elementary school	26	19.7	20	17.9
Preparatory school	17	12.9	15	13.4
Secondary school	60	45.5	49	43.8
University and above	28	21.2	27	24.1
Father education:				
Can read and write	3	2.3	2	1.8
Elementary school	27	20.5	24	21.4
Preparatory school	26	19.7	21	18.8
Secondary school	40	30.3	34	30.4
University and above	36	27.3	31	27.7
Received any social assistance:				
No	104	78.8	89	79.5
Yes	28	21.2	23	20.5
Monthly income (NIS)				
Not employed	90	68.2	94	83.9
1200 NIS & less	34	25.8	10	8.9
1201-2000 NIS	6	4.5	6	5.4
Over 2000 NIS	2	1.5	2	1.8

Knowledge of BF

Table 5.2: Distribution of mothers by their knowledge about breastfeeding

	Pretest (n=132)		Posttest (n= 112)		difference
	n	%	n	%	%
Best time to initiate breastfeeding after delivery:					
Hour and less*	108	81.8	103	92.0	10.2
2-3 hours	23	17.4	8	7.1	
4 hours and above	1	0.8	1	0.9	
Times to breastfeed day and night:					
On demand*	96	72.7	85	75.9	3.2
10 times & above*	17	12.9	19	17.0	4.1
9 times & less	19	14.4	8	7.1	
Time to breastfeed a baby in single sitting:					
Less than 20 minutes	37	28.0	11	8.9	
20 – 30 minutes*	79	59.8	91	81.3	21.2
Over 30 minutes	16	12.1	10	8.9	
Give a baby AF in his first six months:					
No*	101	76.5	110	98.2	21.7
yes	31	23.5	2	1.8	
Give baby fluids in his first six months:					
No*	96	72.7	104	92.9	20.2
yes	36	27.3	8	7.1	
Age to give exclusive breastfeeding	Mean 5.4		5.9		
3 months & less	9	6.8	0	0.0	
4 – 5 months	29	22.0	6	5.4	
6 months*	94	71.2	106	94.6	23.4

* correct answer.

The front line of AEI Breastfeeding Promotion and Support Program activities is the improvement of mothers' knowledge regarding select maternal and child health themes, and contributing to the proportion of national exclusive breastfeeding rates. Improving mothers' knowledge is an important first step towards beneficiaries internalizing the importance of targeted healthy behavior and adopting these behaviors.

As assumed in AEI program, successful implementation of the Breastfeeding Promotion Program activities should result in improvements in mothers' knowledge that are measurable in a comparison of mothers' responses from baseline to post-intervention.

Mothers in this study seemed to know a great deal about breastfeeding at the baseline reading. Table 5:2 shows that a considerable number of the study subjects (81.8%) knew that a mother has to initiate breastfeeding within the 1st hour after delivery (WHO, 1989) in the baseline reading (pretest). Post intervention, this percent has increased to 92% with a difference of 10.2%, and it was statistically significant (p value = 0.002) (table 5:3). Meanwhile, 16.7% in the pretest compared to 7.1% in the post-test said: she has to initiate BF 2 – 3 hours after delivery. A negligible number (0.8 and 0.9%) pre and post test said that breastfeeding has to be initiated after 4 hours.

However, 72.7% and 12.9% in the pretest compared to 75.9% and 17.0% in the post-test knew that a baby should breastfeed on demand and 10 times or more day and night respectively, with no significant difference (z = -1.216 and a p value > 0.05 (table 5:3) indicating that mothers' knowledge about the timing did not evidently change from what it was at the pretest.

Moreover, at the baseline 59.8% said that a baby has to breastfeed 20 – 30 minutes in a single sitting as recommended by AEI. In the posttest, this has increased to 81.3% with an increase of 20.5%, where 28.0% said that a baby has to breastfeed less than 20 minutes and 12.1% said to breastfeed over 30 minutes in a single sitting.

One of the elements to empower a woman to breastfeed is that she has sufficient knowledge to make decisions (Shelton, 1994). Breastfeeding choice and success are usually associated with higher knowledge about breastfeeding (Wallace, 1992).

Wilcoxon test values revealed a statistically significant differences between the mothers' knowledge of the times to breastfeed in a day, and the time to breastfeed per sitting (z =

- 3.246, p value = 0.001) indicating that the intervention made by the program improved mothers' knowledge in this regard. Of the participants, 76.5% and 72.7% said that babies need not be given infant formula and/or fluids in their first six months of age respectively, where 23.5% said babies need be given infant formula, and 27.3% said they need be given fluids in their first six months of age.

In contrast, a statistically significant increase in mothers' knowledge of not giving an artificial formula and/or fluids on the post-test (z = -4.004, p value < 0.001, table 5:3) were noted, where 98.2% and 92.9% said: babies in their first 6 months of age need not be given neither infant formula nor fluids, with an improvement in mothers' knowledge of 21.7% and 20.2% respectively. When asked about the age at which to give exclusive breastfeeding, 94.6% in the post-test compared to 71.2% in the pretest, said six months. And 5.4% in the post-test next to 22.0% in the pretest said 4 – 5 months, indicating an improvement in mothers' knowledge of the period of exclusive breastfeeding and it was statistically significant (p value = 0.001) table 5:3.

Table 5.3: Mothers' knowledge about breastfeeding; significance of differences between pretest and posttest findings

Item	Z value	P value
• Knowledge of breastfeeding initiation time.	-1.945	.002
• Times to breastfeed day and night.	-1.216	.224
• Time to breastfeed in a single sitting.	-3.246	.001
• If there is a need to give a baby AF in his 1st 6 months of age.	-4.914	.001
• If there is a need to give a baby fluids in his 1st 6 months of age.	-4.004	.001
• Period of giving baby exclusive breastfeeding.	-3.322	.001

Wilcoxon Signed Ranks test.
Based on negative ranks.

Overall, mothers' knowledge has been improved by 14.9% (knowing the correct answers) 63.9% pretest compared to 78.8% post intervention. This is remarkably

different from that found by Khassawneh et al in North of Jordan (2006) where women's knowledge on a scale of 100 "breastfeeding for three months were considered long enough" scored 37.

Table 5.4: Distribution of mothers by their knowledge about benefits of colostrum to baby

	Pretest (n=132)						Posttest (n= 112)					
	No		Yes prompted		Yes not prompted		No		Yes prompted		Yes not prompted	
	n	%	n	%	n	%	n	%	n	%	n	%
• Gives immunity against diseases.	0	0	34	25.8	98	74.2	0	0.0	8	7.1	104	92.9
• Protects against allergy.	11	8.3	105	79.5	16	12.1	0	0.0	67	59.8	45	40.2
• Provocative (speeds the passage of meconium)	3	2.3	117	88.6	12	9.1	0	0.0	42	37.5	70	62.5
• Helps relieve physiologic jaundice	5	3.8	119	90.2	8	6.1	1	0.9	37	33.0	74	66.1

In table 5:4, the distribution of the mothers by their knowledge of colostrum benefits to baby shows that in the pretest, 74.2% of the subjects recalled that colostrum gives newborns immunity against diseases and 25.8% said so when it was prompted compared to 92.9% and 7.1% in the post-test.

At the same time, 79.5% in the pretest said that colostrum protects newborns against allergy when it was prompted and only 12.1% recalled this benefit to colostrums. In the post-test, 40.2% were able to recall the immunological protective benefit of colostrum and 59.8% said yes when it was prompted. When the provocative (speeding the passage of meconium) and helping to relieve physiologic jaundice benefits of colostrums were prompted, 88.6% and 90.2% of the respondents said yes, where few of the respondents were able to recall these benefits, 9.1% and 6.1% respectively at the baseline reading. In contrast, 62.5% and 66.1% recalled the provocative effect of colostrum on the passage

of meconium and the relief of physiologic jaundice in the post-test, while 37.5% and 33.0% said yes when it was prompted.

Table 5.5: Knowledge of colostrums benefits to baby: significance of differences between pretest and posttest findings

Item	Z value	P value
• Gives the baby immunity against disease.	-3.667	.000
• Protects baby against allergy.	-5.332	.000
• Provocative (speeds the passage of meconium).	-7.272	.000
• Helps relieve physiologic jaundice.	-7.350	.000

Wilcoxon Signed Ranks test.

From the above findings, it is evident that the participant mothers' knowledge about the benefits of colostrums to babies in the post-test has significantly increased from that in the pretest (p value < 0.001) table 5:5.

In total, the benefits of colostrums to baby were recalled by 65.4% of participant mothers post intervention compared to 25.4% of what was true at the baseline.

Table 5.6: Distribution of mother's by their knowledge about breastfeeding benefits to baby

	Pretest (n=132)						Posttest (n= 112)					
	No		Yes prompted		Yes not prompted		No		Yes prompted		Yes not prompted	
	n	%	n	%	n	%	n	%	n	%	n	%
• Provides all nutrients needed for growth	1	0.8	81	61.4	50	37.9	0	0.0	19	17.0	93	83.0
• Gives immunity against diseases.	0	0	41	31.1	91	68.9	0	0.0	7	6.3	105	93.8
• Protects against diarrhea	0	0	104	78.8	28	21.2	0	0.0	45	40.2	67	59.8
• Protects against respiratory tract infections	3	2.3	118	89.4	11	8.3	0	0.0	73	65.2	39	34.8
• Speeds the growth of the brain and GI cells	7	3.5	101	76.5	24	18.8	0	0.0	68	60.7	44	39.3

Table 5:6 shows that of the respondents, 68.9% and 37.9% at the pretest were able to recall the immunological and the nutritional value of BF to babies (gives babies immunity against disease, provides babies with all nutrients needed for growth), where 31.1% and 61.4 said yes to these two benefits when it was prompted.

At the same time, 21.2%, 18.8% and 8.3% respectively recalled the benefits of breastfeeding (protects babies against diarrhea, speeds the growth of the brain and gastrointestinal cells and protects babies against respiratory tract infections). But, the majority of the respondents said yes to the aforementioned benefits when it was prompted, 78.8%, 76.5% and 89.4% respectively. At the opposite, in the post-test 93.8%, 83.0% of the respondent mothers recalled the benefits of giving immunity against disease, provides the baby with needed nutrients for growth, with a remarkable increase in their knowledge compared to the pretest. Additionally, 59.8%, 39.3% and 34.8% of the participants respectively were able to recall the benefits of protecting the baby against diarrhea, speeding the growth of the brain cells and protecting baby against respiratory tract infections, from it has been true at the baseline reading. When was prompted, 6.3%, 17.0%, 40.2%, 60.7%, and 65.2% of the respondents respectively said yes to these benefits, table (5:6).

Table 5.7: Knowledge about breastfeeding benefits to baby: significance of differences between pretest and posttest

Item	Z value	P value
• Provides all nutrients needed for growth.	-6.250	.001
• Gives immunity against disease.	-4.700	.001
• Protects against diarrhea.	-5.695	.001
• Protects against respiratory tract infections.	-4.718	.001
• Speeds the growth of brain and gastrointestinal tract cells.	-3.968	.001

Wilcoxon Signed Ranks test.

By adjustment 62.1% of the participant subjects in the posttest were able to recall the benefits of breastfeeding to baby compared to 31.02% in the pretest. However, table 5:7 shows a statistically significant increase (p value < 0.001) in the mothers' knowledge about the benefits of breastfeeding to the baby in the post-test indicating a positive impact of the interventions made by the program BF counselors on the mothers' knowledge.

Table 5.8: Distribution of mothers' by their knowledge about breastfeeding benefits to mother

	Pretest (n=132)						Posttest (n= 112)					
	No		Yes prompted		Yes not prompted		No		Yes prompted		Yes not prompted	
	n	%	n	%	n	%	n	%	n	%	n	%
• Helps the quick return of uterus to its normal shape	3	2.3	89	67.4	40	30.3	2	1.8	28	25.0	82	73.2
• Decreases the risk of bleeding post delivery	7	5.3	120	90.9	5	3.8	1	0.9	61	54.5	50	44.6
• Helps delay conception	19	14.4	97	73.5	16	12.1	1	0.9	49	43.8	62	55.4
• Decreases the risk of breast cancer	6	4.5	58	43.9	68	51.5	0	0.0	21	18.8	91	81.3
Decreases the risk of ovarian cancer	25	18.9	106	80.3	1	0.8	0	0.0	97	86.6	15	13.4

The above table shows that of the breastfeeding benefits to mothers 30.3% in the pretest recalled that breastfeeding helps the quick return of uterus to its normal size preconception, and 51.5% recalled that breastfeeding decreases the risk of breast cancer compared to 73.2% and 81.3% in the post-test respectively. Few of the respondents recalled decreasing the risk of bleeding post delivery (3.8%) and help delay conception (12.1%) in the pretest. In contrast, 44.6% and 13.4% recalled these two benefits post intervention.

These results are congruent with the findings of the study conducted in Diyarbaker-Turkey on the Kurdish mothers' breastfeeding patterns, beliefs and attitudes (Saka et al, 2005).

But when the benefits of BF to mother were prompted, 90.9% said yes to the statement, it decreases the risk of bleeding after delivery, 80.3% said yes to the statement decreasing the risk of ovarian cancer, 73.5% to helps delay conception, 67.4% to helps the quick return of uterus to its normal size, and 43.9% to the statement decrease the risk of breast cancer at the baseline reading.

Post intervention, 86.6% said yes to decreases the risk of ovarian cancer, 54.5% to decreases the risk of bleeding after delivery, 43.8% to helps delay conception, 25.0% to helps the quick return of uterus to its normal shape, and 18.8% to decreases the risk of breast cancer when it was prompted. This decrease of percents were in favor of mothers' ability to recall these benefits of breastfeeding to mother.

Table 5.9: Mothers' knowledge about breastfeeding benefits to mother: significance of differences between pretest and posttest

Item	Z value	P value
• Helps the quick return of uterus to its normal shape.	-5.504	.001
• Decreases the risk of bleeding after delivery.	-6.039	.001
• Helps delay conception.	-6.332	.001
• Decreases the risk of breast cancer.	-5.014	.001
• Decreases the risk of ovarian cancer.	-5.692	.001

Wilcoxon Signed Ranks test.

Overall, 53.6% of the participant mothers recalled the benefits of BF to mother post intervention compared to 19.7% per intervention in total.

From the aforementioned results it is evident that mothers' knowledge about the benefits of breastfeeding to mother has a statistically significant improvement from what has been true at the baseline readings (p value < 0.001) see table 5:9.

Table 5.10: Distribution of mothers' by their knowledge about scanty milk complaint management

	Pretest (n=132)						Posttest (n= 112)					
	No		Yes prompted		Yes not prompted		No		Yes prompted		Yes not prompted	
	n	%	n	%	n	%	n	%	n	%	n	%
• Keeps continued breastfeeding	1	0.8	54	40.9	77	58.5	0	0.0	16	14.3	96	85.7
• *Give the baby AF by bottle*	106	80.3	12	9.1	14	10.6	112	100	0	0.0	0	0.0
• Increase the time of a single breastfeeding	11	8.3	101	76.5	20	15.2	1	0.9	53	47.3	58	51.8
• Increase breastfeeding frequency day and night	5	3.8	110	83.3	17	12.9	0	0.0	60	53.6	52	46.6
• Increase the mother's food and fluid intake	8	6.1	58	43.9	66	50.0	0	0.0	9	8.0	103	92.0
• *Give the baby fluids (tea, herbals) by bottle*	114	86.4	15	11.4	3	2.3	112	100	0	0.0	0	0.0

The complaint of insufficient milk or low milk supply is one of the most frequently encountered problem (Kong & Lee, 2004), and the knowledge of how to manage this problem is of great importance. Table 5:10 emphasizes that of the interviewed subjects 85.7% in the posttest compared 58.5% in the pretest recalled that a mother should keep continued breastfeeding if the complaint of scanty milk exists. When it was prompted, 40.9% of the mothers in the pretest said that a mother is to continue BF if a problem of low milk supply exists. This percent has decreased to 14.3% post intervention in favor of recalling this management.

Of the total respondents 10.6% and 2.3% recalled giving a baby artificial formula (AF) and fluids respectively, to compensate the reduced amounts of excreted breast milk which are not recommended as part of the proper management, where 9.1% and 11.4% said to give AF and fluids (tea, herbals, etc) when it was prompted.

At the same time, 80.3% and 86.4% won't give any AF and/or fluids respectively to solve low milk supply problem. In the posttest, all the participants (100%) would give neither AF nor fluids if the problem exists.

Increasing the time of a single breastfeed, increasing the frequency of breastfeeding and increasing the mother food and fluid intake were recalled, 15.2%, 12.9% and 50.0% in the pretest respectively compared to 51.8%, 46.6%, and 92.0% in the posttest. But when prompted, 76.5%, 83.3%, and 43.9% of the mothers said yes to the increase of a single breastfeeding time and frequency and the increase of mother food intake, at the baseline next to 47.3%, 53.6% and 8.0% respectively post-intervention.

Table 5.11: Mothers' knowledge about the management of scanty milk problem: significance of differences between pretest and posttest

Item	Z value	P value
• Give the baby artificial formula by bottle.	-4.231	.001
• Increase the time of a single breastfeeding.	-5.645	.001
• Increase breastfeeding frequency day and night.	-5.335	.001
• Increase the mother's food and fluid intake.	-6.166	.001
• Give a baby fluid (tea, herbals by bottle).	-3.626	.001

Wilcoxon Signed Ranks test.

Adjusting the correct answers results; post intervention 55.2% of mothers recalled the true management of low milk supply compared to 27.3% before the intervention with a difference of 27.9% in favor of the true management which comprises a 100% increase.

In average, there is a statistically significant improvement in the mothers' knowledge of insufficient milk management at 95 confidence interval (p value = 0.01 & p value < 0.001) that is attributable to one to one counseling (p value < 0.001) table (5:11).

Thus, post intervention, mothers are more likely able to manage problems of scanty milk than they used to be before intervention.

Table 5.12: Distribution of mothers' by their knowledge about the management breast engorgement

	Pretest (n=132)						Posttest (n= 112)					
	No		Yes prompted		Yes not prompted		No		Yes prompted		Yes not prompted	
	n	%	n	%	n	%	n	%	n	%	n	%
• *Stop breastfeeding during engorgement*	120	90.9	10	7.6	2	1.5	110	98.2	2	1.8	0	0.0
• Increase times of breastfeeding	7	5.3	69	52.3	56	42.4	0	0.0	50	44.6	62	55.4
• Express the breast and give the milk to the baby	27	20.5	56	42.4	49	37.1	3	2.7	38	33.9	71	63.4
• Put cold compresses on breast between feeds	45	34.1	73	55.3	14	10.6	0	0.0	50	44.6	62	55.4
• Massage of the areola	19	14.4	101	76.5	12	9.1	1	0.9	45	40.2	66	58.9
• Put warm compresses on breast before breastfeeding	13	9.8	77	58.3	42	31.8	5	4.5	15	13.4	92	82.1
Massage the whole breast	55	41.7	68	51.5	9	6.8	102	91.1	7	6.3	3	2.7

Breast engorgement is one of the common complaints mothers report when attending at AEI breastfeeding promotion program. Table 5:12 shows that when prompted, 90.9% in the pretest compared to 98.2% in the post-test of the respondents said that a mother need not stop breastfeeding if experiencing breast engorgement.

At the baseline reading 42.4% and 37.1% of the participant subjects recalled increasing the time of breastfeeding and expressing the breast and give the expressed milk to the

baby next to 55.4% and 63.4% in the post intervention. But when prompted, 52.3% and 42.4% of the interviewed mothers in the pretest compared to 44.6% and 33.9% in the post test said yes to increasing the time of BF and expressing the breast and give the milk to the baby respectively.

Meanwhile, few of the respondents recalled putting cold compresses on the breast between feeds (10.6%), worm compresses before feedings (31.8%) and massaging the areola (9.1%) in the pretest compared to 55.4%, 82.1% and 58.9% in the posttest respectively.

On the other hand, 55.3%, 58.3% and 76.5% of the subjects in the pretest said yes to, putting cold compresses on the breast between feeds, worm compresses before feeding and massaging the areola when it was prompted next to 44.6%, 13.4% and 40.2% in the post-test.

Table 5.13: Mothers' knowledge about breast engorgement management: significance of differences between pretest and posttest

Item	Z value	P value
• Stop breastfeeding during engorgement.	-2.352	.019
• Increase time of breastfeeding.	-2.350	.019
• Express the breast and give milk to baby.	-4.691	.001
• Put cold compresses on breast between feeds.	-7.253	.001
• Massage the areola.	-7.239	.001
• Put worm compresses on breast before breastfeeding.	-6.215	.001
• Massage the whole breast.	-6.178	.001

Wilcoxon Signed Ranks test.

Early detection and or education about potential breastfeeding problems were found to have positive influences on feeding outcomes (Wallace, 1992). The knowledge of breast engorgement management accounted for 63.04% of the participants who were

able to recall the true answers in the posttest compared to 26.2% in the pretest. This indicates a remarkable improvement in the mothers' knowledge and an increase in the proportion of participant mothers who knew the true answers of engorged breast management which could positively influence mothers' practice of breastfeeding. This difference in the knowledge of breast engorgement has been statistically significant at confidence interval (CI) 95% (p value < 0.001) table (5:13).

Table 5.14: Change in mothers' knowledge about the causes of nipple soreness and laceration

	Pretest (n=132)						Posttest (n= 112)					
	No		Yes prompted		Yes not prompted		No		Yes prompted		Yes not prompted	
	n	%	n	%	n	%	n	%	n	%	n	%
• Poor positioning	15	11.4	81	61.4	36	27.3	2	1.8	36	32.1	74	66.1
• The baby suckles for long time	96	72.7	33	25.0	3	2.3	90	80.4	14	12.5	8	7.1
• *The baby suckles the nipples and the areola**	114	86.4	17	12.9	1	0.8	102	91.1	6	5.4	4	3.6
• The baby suckles the nipples only	35	26.5	78	59.1	19	14.4	7	6.3	28	25.0	77	68.8

* Incorrect answer.

Table 5:14 emphasizes that 27.3% of the respondents in the pretest compared to 66.1% in the post-test recalled poor positioning for causes of nipple lacerations and soreness, where 61.4% next to 32.1% pre and post test respectively said so when it was prompted. Moreover, 11.4% of the participants said no for poor positioning as a cause of nipple soreness in the pretest compared to 1.8% in the post-test.

Of the subjects 14.4% knew that nipple laceration is caused by a baby suckling the nipple only, and 59.1% said yes when it was prompted, where 26.5% said no in the pretest compared to 68.8%, 25.0% and 6.3% post intervention.

However, when prompted 25.0% and 12.9% of the participating mothers in the pretest said yes for baby suckles for long time and baby suckles the nipples and areola as causes of nipple lacerations compared to 12.5% and 5.4% in the post-test when it is not. Meanwhile, 72.7% and 86.4% of the mothers at the baseline said no for baby suckles for long time and baby suckles the nipples and areola as causes of nipple lacerations compared to 80.4% and 91.1% respectively in the post intervention.

Table 5.15: Mothers' knowledge about causes of nipple soreness: significance of differences between pretest and posttest

Item	Z value	P value
• Poor positioning.	-5.267	.001
• Baby suckles for long time.	-0.006	.995
• Baby suckles the nipple and areola.	-0.039	.969
• Baby suckles the nipples only.	-6.687	.001

Wilcoxon Signed Ranks test.

A statistically significant differences has been noticed in the knowledge of poor positioning and baby suckling only the nipples as the causes of nipple soreness at CI 95% (p value < 0.001) (table 5:15) indicating an improvement in participants' knowledge after the intervention. There was no statistically significant difference (p value = 0.995) on the participants' knowledge of suckling for a long time as a cause of nipple soreness between baseline and post intervention (table 5:15).

In average, the enacted activities of AEI breastfeeding promotion program tripled the proportion of participant mothers who knew the true causes of nipple soreness (67.4% post intervention compared to 20.8% at the baseline).

Attitudes towards BF

Table 5.16: Distribution of mothers' by their attitudes toward breastfeeding

	Pretest (n=132)		Posttest (n= 112)	
	n	%	n	%
Breast milk alone is enough to a baby in his 1st 6 months:				
no	14	10.6	0	0.0
yes	118	89.4	112	100
Encouraging breastfeeding day and night:				
Yes	132	100	112	100
Giving a baby AF beside BF:				
Absolutely not	99	75	104	92.9
Sometimes	28	21.2	8	7.1
Always	5	3.8	0	0.0
If a breastfeeding mother gets pregnant; what has she to do?				
Stop breastfeeding immediately	13	9.8	6	5.4
Continue BF until delivery	3	2.3	20	17.9
Continue BF for some time	116	87.9	86	76.8
Months continue BF if pregnant:				
4 months & less	62	47.0	29	25.9
5-6 months	42	31.8	26	23.2
7 months & above	16	9.1	35	31.3
Encourage giving babies less than 6 months complementary food:				
No	112	84.8	111	99.1
Yes	20	15.2	1	0.9
Age at which to give complementary food:				
3 months	1	0.8	0	0.0
4 months	13	9.8	0	0.0
5 months	6	4.5	1	0.9
Time at which to complete BF (weaning):				
12 months & less	10	7.6	2	1.8
13-18 months	45	34.1	23	20.5
19-23 months	0	0	2	1.8
24 & beyond	77	58.3	85	75.9

Surprisingly, all participant subjects encourage breastfeeding day and night table (5:16). And almost all of them post intervention would not introduce complementary food

before the age of six month, even though few of them (15.3%) at the baseline believed that babies need be given complementary food at 4 and/or 5 months of age. However, 89.4% in the pretest believed that breast milk is enough to a baby in his 1st six months of age compared to 100% in the post-test, with a 10.6% difference in favor of breast milk.

Meanwhile, in the pretest 75.9% of the participants indicated that a baby should absolutely not be given artificial formula, and 21.2% indicated that a baby can sometimes be given infant formula, where only 3.8% of the participants said that a baby needs always be given a supportive infant formula. In the contrast, 92.9% in the post-test said that infant formula should absolutely not be given to infants. Post intervention, only 7.1% said that babies can sometimes be given artificial formula.

Pre-intervention the vast majority of the participants (87.9%) agreed that a lactating mother is to continue breastfeeding for sometime if she gets pregnant with a mean of 4.89 months. This percent has decreased post-intervention to 76.8% with a mean of 6 months. At enrollment, 2.3% of the participants compared to 17.9% in the post-test said to continue breastfeeding until delivery indicating a positive change in the mothers' attitude towards breastfeeding.

Table 5.17: Measures of association between knowledge of breastfeeding and attitudes towards breastfeeding

Variables	Chi-square Value	df	Asymp. Sig. (2-tailed)
• Is there a need to give the baby AF in his first six months? * Is it necessary to give the baby AF beside BF?	34.571	2	0.001
• For how long can a baby be given exclusive breastfeeding? (months) * Do you encourage giving babies less than 6 months old complementary food?	22.371	6	0.001
• Times of breast feeding day and night * Do you encourage breastfeeding day and night?	constant		

Of the subjects, 15.2% encouraged giving babies less than 6 months complementary food, and 9.8% of the total subjects would encourage giving complementary food at the age of 4 months pre-intervention (WHO old recommendations before adopting the new strategy, 1998). In contrast, only 0.9% would encourage giving complementary feeding for babies less than 6 months of age in the post-test.

More than half of the subjects (58.3%) in the pretest would complete breastfeeding (wean) on 24 months age or beyond with a mean of 21 and SD of 5 compared to 75.9% with a mean of 22.5 and SD of 3.9 in the posttest. Moreover, 34.1% of the participants would wean their babies between the ages 13-18 months at the baseline compared to 20.5% in the posttest. Only 1.8% post intervention would complete breastfeeding (wean) at the age of 12 months and below, where 7.6% said they would do so in the baseline.

Table 5.18: Mothers attitude towards breastfeeding: significance of differences between baseline & post intervention

Domain	Z value	P value
• Is breastfeeding from mother alone enough to baby in his 1st 6 months.	-3.464[a]	.001
• Encouraging breastfeeding day and night.	-3.464[b]	1.000
• Is it necessary to give a baby artificial formula beside breast milk.	-3.778[c]	.001
• If a breastfeeding mother gets pregnant, what has she to do?	-.629[c]	.529
• Encourage giving babies less than 6 months complementary food.	-3.900[c]	.001
• Time plan to finish breastfeeding (wean).	-2.903[a]	.004

Wilcoxon Signed Ranks test.
[a] Based on negative ranks.

Table 5:18 shows a statistically significant difference between the pretest and the posttest readings in the mothers' attitude towards BF (p value $\leq$ 0.004). This positive attitude towards exclusive breastfeeding is reflected in mothers' thinking that breast

milk is enough to baby in his first six months, encouraging breastfeeding day and night, babies need not be given any artificial formula and continue breastfeed for sometime if mother gets pregnant. This is consistent with what had been found by a study conducted in Irbed Governorate north of Jordan, a neighboring country (Khassawneh et al, 2006).

In this study, it is also found that there is a statistically significant association relationship at 0.05 confidence interval (CI) p value < 0.001 (table 5:17) between the knowledge of breastfeeding and the attitudes towards it. Meaning that; knowledge gained through AEI breastfeeding promotion program has positively affected the participant mothers' attitudes towards exclusive breastfeeding.

Practice of BF

Table 5.19: Distribution of mothers by their practice of breastfeeding

Variable	Pretest (n=132)		Posttest (n= 112)	
	n	%	n	%
Giving breastfeeding now:				
Yes	132	100	112	100
Planning to exclusively breastfeed up 6 months:				
No	18	13.6	0	0.0
Yes	114	86.4	112	100
Giving artificial formula:				
No	85	64.4	107	95.5
Yes	47	35.6	5	4.5
Giving fluids (herbals, tea, water, etc.)				
No	80	60.6	111	99.1
Yes	52	39.4	1	0.9
Giving a baby enough time to breastfeed in a single sitting:				
No	17	12.9	5	4.5
Yes	115	87.1	107	95.5
Time given to breastfeed in a single sitting:				
Less than 20 minutes	35	26.5	7	6.3
20 – 30 minutes	85	64.1	95	84.8
Over 30 minutes	12	9.1	10	8.9

Table 5.19: Distribution of mothers by their practice of breastfeeding (continued)

	Pretest (n=132)		Posttest (n= 112)	
	n	%	n	%
Times to breastfeed day and night:				
Less than 10 times	66	50.0	36	32.1
10 times & over	66	50.0	76	67.9
Giving exclusive breastfeeding:				
No	48	36.4	4	3.6
Yes	84	63.6	108	96.4
Given exclusive breastfeeding in the past 24 hours:				
No	44	33.3	4	3.6
Yes	88	66.7	108	96.4
If any complementary food is given beside breastfeeding:				
No	129	97.7	106	94.6
Yes	3	2.3	6	5.4
Planning to give fluids or complementary food beside breastfeeding before 6 months:				
No	107	81.1	105	93.8
Yes	25	18.9	7	6.3
Age at which to introduce fluids or complementary food:				
1 – 2 months	2	1.5	0	0.0
3 – 4 months	18	13.6	1	0.9
5 – 6 months	5	3.8	6	5.4
Experiencing difficulties breastfeeding a baby:				
No	55	41.7	97	86.6
Yes	77	58.3	15	13.4
Able to overcome difficulties to breastfeed:				
No	11	8.3	0	0.0
Yes	66	50.0	15	13.4

Table 5:19 shows that all the participating subjects experienced breastfeeding when recruited. The majority of them (86.4%) plan to exclusively breastfeed their babies, where all respondent mothers (100%) in the post intervention readings reported that they plan to do so.

Of the participating mothers in the study, 35.6% gave their babies artificial formula prior to intervention, and 39.4% gave fluids (herbals, tea, water, etc). Post intervention, 4.5% of the respondents gave AF and only 0.9% of them gave fluids.

However, 96.4% of the respondents in the post-test compared to 63.6%, and 66.7% at the baseline reading, exclusively breastfeed their babies and exclusively breastfed in the past 24 hours respectively, which is far higher from that of the national exclusive breastfeeding rates (25.5%) and (23.5%), Gaza exclusive breastfeeding rates (MOH, 2004) (figure 5:3 and 5:4).

Oliveira et al (2003) found that the prevalence of exclusive breastfeeding was less than 40% in all poor performance units and in almost half of those with fair performance, which is far less than what has been found in this study.

A statistically significant increase has been observed post intervention in the exclusivity of breastfeeding and exclusively breastfeeding in the past 24 hours (z -5.729, - 5.246, p value < 0.001, table 5:23) the program target goal. This is an evident indicator that the program is achieving its pre set goal.

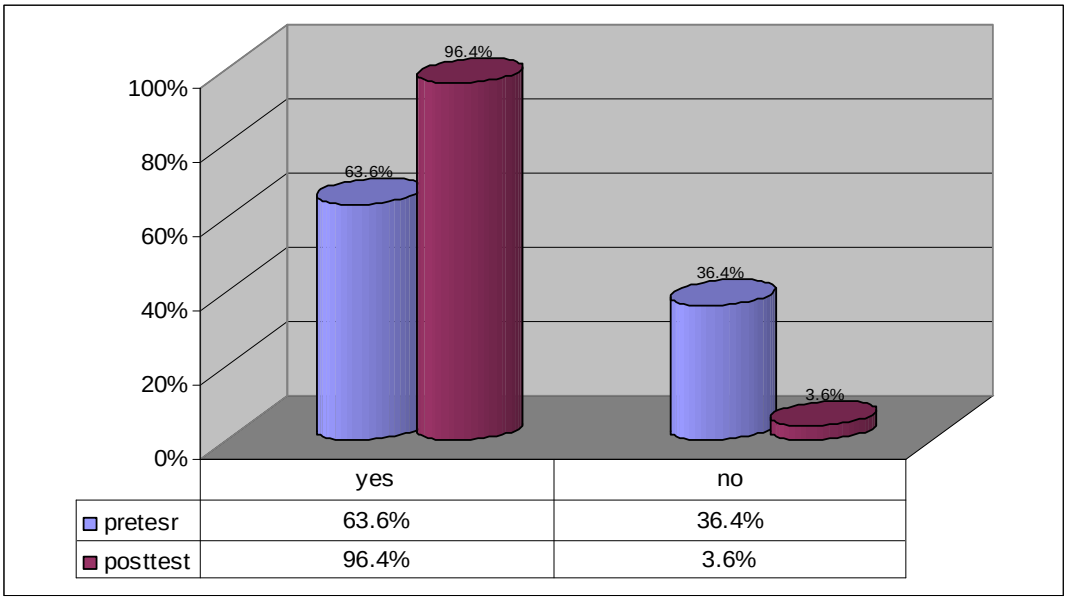

Figure 5.3: Exclusive Breastfeeding Rates Pre and Post Intervention

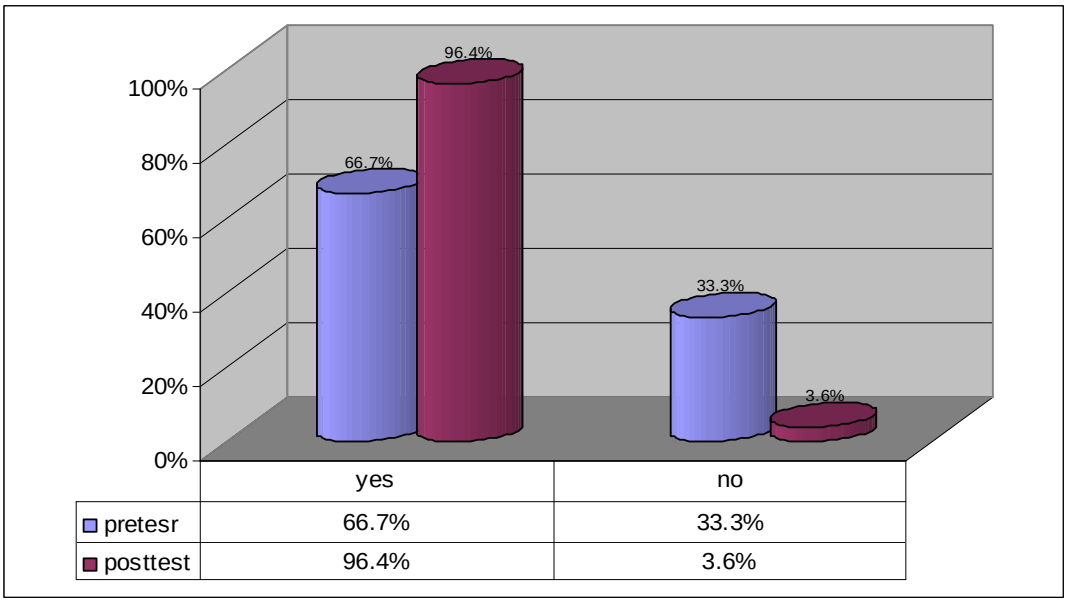

Figure 5.4: Exclusively breastfed in the last 24 hours pre and post intervention

In this study, most of participating mothers stated that they are giving their babies enough time to breastfeed in a single sitting in the pretest (87.1%), with a mean of 26.3 minutes per sitting. This percent has significantly (p=0.003, table 5:23) increased after intervention to 95.5% with a mean of 29.8 minutes per sitting which is consistent with AEI recommendations. Of the participant mothers 50% said that they are breastfeeding their babies over 10 times day and night in the baseline compared to 67.9% post intervention as recommended by WHO with an increase of 17.9%. WHO recommends that lactating mothers breastfeed on demand and not less than 10 times a day.

Table 5.20: Cross tabulation of mothers' knowledge of times to BF day & night & the times they are breastfeeding their babies day & night

Mothers' knowledge about the times to breastfeed day & night	**Times breastfeeding day & night (practice)**		Total
	Less than 10 times	10 times & over	
On demand	28	58	85
Less than 10 times	7	1	8
10 times & over	1	18	19
Total	36	76	112

Chi-square 17.559, df 2, p = 0.000

A statistically significant relationship (table 5:20) is found between the mothers' knowledge of times to breastfeed a baby day and night and their practice post intervention (chi-square 17.559, p value < 0.001). Also a statistically significant relationship is found also between mothers' knowledge of time to give and the times they are giving their babies to breastfeed in a single sitting (table 5:21). The 20-30 minutes time is of prominence (84.8%) as AEI recommends. These relationships indicate that participants had positively changed their behaviors regarding exclusive breastfeeding.

Table 5.21: Cross tabulation of mothers' knowledge about the time to BF in a single sitting & the time they are giving their babies to BF in a single sitting

Knowledge of time to breastfeed in a single sitting "minutes" (post-test)	**Time given to breastfeed in a single sitting "minutes" (post-test)**			Total
	Less than 20 minutes	20 - 30 minutes	Over 30 minutes	
Less than 20 minutes	6.3%	-	-	6.3%
20 - 30 minutes	-	84.8%	-	84.8%
Over 30 minutes	-	-	8.9%	8.9%
Total	6.3%	84.8	8.9%	100%

Chi-square 224, df 10, p = 0 .000

Almost all participating mothers did not give any complementary feedings to their babies (97.7%). In contrast 18.9% plan to give complementary food to the babies before six months of age. However, those who plan to give complementary food before six months who comprises a 13.6% of the total participating mothers plan to give complementary food at the age of 4 months, which is consistent with the WHO recommendations before adopting the six months exclusive breastfeeding new strategy on 2002 (Global Strategy of Infant & Young Child Nutrition, 2002). This suggests that AEI should focus a little more on this area of breastfeeding counseling regarding the timely introduction of complementary food to change old concepts.

In the pretest, 58.3% of the study subjects said that they experiencing difficulties breastfeeding their babies, where 50.0% said they were able to overcome these difficulties. In the post intervention 13.4% of the respondent mothers reported that they experienced difficulties breastfeeding their babies and were able to combat these difficulties.

Table 5.22: cross tabulation of experiencing difficulties breastfeeding & the ability to overcome these difficulties

Are you experiencing any difficulties breastfeeding your baby?(post-test)	**If yes; are you able to overcome these difficulties?(post-test)**		Total
	yes	Missing value	
No	-	86.6%	86.6%
Yes	13.4%	-	13.4%
Total	13.4%	86.6%	100%

Chi-square 112, df 1, p = 0 .000

Table 5:22 above shows a statistically significant relationship (chi square 112.0, df 1, p value < 0.001) between the mothers experiencing difficulties to breastfeed and their ability to solve these difficulties. This suggests a higher level in the participants' knowledge of breastfeeding problems, causes and management.

Table 5.23: Mothers' practice of breastfeeding: significance of differences between pretest and posttest:

Domain	**Z value**	**P value**
• Giving baby supportive formula.	-5.754	.001
• Giving baby any fluids.	-6.481	.001
• Giving baby enough time to breastfeed in a single sitting.	-2.524	.012
• Time given to breastfeed in a single sitting.	-2.948	.003
• Times breastfeeding day and night.	-4.596	.001
• Giving exclusive breastfeeding.	-5.729	.001
• Has exclusively breastfed in a past 24 hours.	-5.246	.001

Approaches of BF Promotion:

Table 5.24: Distribution of mothers' exposure to breastfeeding counseling and/or assistance prior to intervention

	Pretest (n=132)	
	n	%
Counseled by a family and/or friends on breastfeeding:		
No	63	47.7
Yes	69	52.3
Assisted by a family and/or friends to breastfeed:		
No	85	64.4
Yes	47	35.6
Received one to one counseling on breastfeeding from HP:		
No	82	62.1
Yes	50	37.9
Attended group counseling on breastfeeding:		
No	71	53.8
Yes	61	46.2
Watched TV film about breastfeeding:		
No	90	68.2
Yes	42	31.8
Read educational material about breastfeeding:		
No	35	26.5
Yes	97	73.5

The table above shows that 52.3% of the subjects have been counseled on breastfeeding by a family and/or a friend in the baseline reading, and 35.6% assisted to breastfeed by a family and/or a friend. 37.9% of the subjects received one to one counseling, 46.2% attended group counseling, 31.8% watched TV film, and 73.5% read an educational material on breastfeeding. This shows that 46.21 percent of the participants (calculated average) have been subjected to any breastfeeding counseling and/or education prior to the intervention (figure 5:5).

However, it seams that this previous exposure to breastfeeding education and counseling did add to mothers' knowledge, but obviously was not enough to

satisfactorily change their behaviors. Hence, failed to promote and support mothers to exclusively breastfeed their babies.

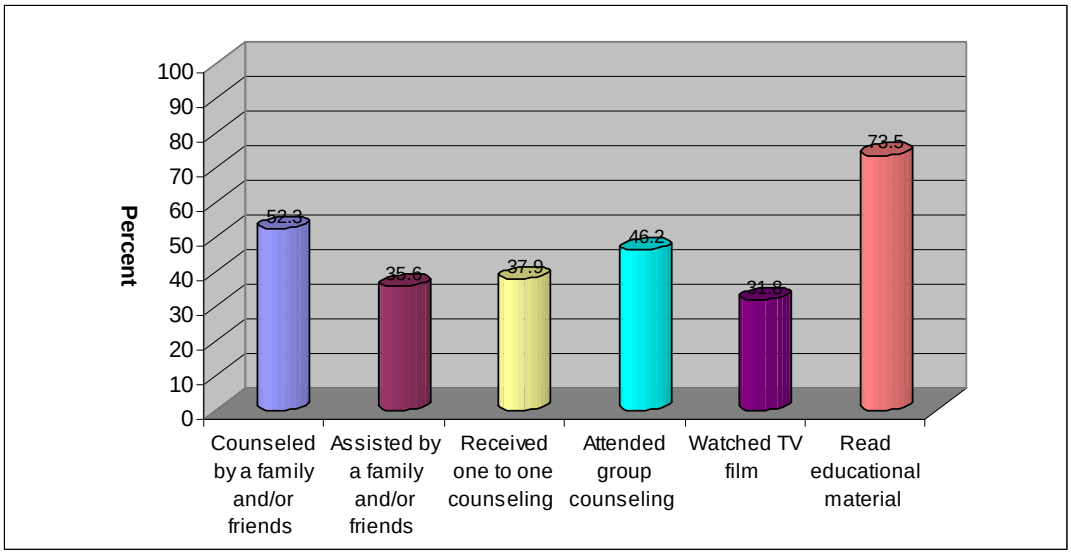

Figure 5.5: Distribution of mothers by exposure to any breastfeeding counseling/education prior to intervention

Table 5.25: Distribution of mothers by methods of exposure to promote breastfeeding

	(n=112)					
	No		Yes		Total	
Promotion & support method	n	%	n	%	n	%
• One to one counseling	0	0.0	112	100	112	100
• Group counseling	7	6.3	105	93.8	112	100
• Watched TV film on BF	31	27.7	81	72.3	112	100
• Handed an pamphlet on BF	3	2.7	109	97.3	112	100
• Peer counseling	20	17.9	92	82.1	112	100

Table 5:25 shows that all participants (100%) received one to one counseling, and almost all of them received group counseling and given an educational material on breastfeeding promotion and support (93.8% and 97.3%) respectively.

Moreover 82.1% of the participants received peer counseling and 72.3% have watched TV film. From the aforementioned percentages; it is evident that AEI adopts a combination of methods with the one to one counseling, group counseling and educational materials are of the most frequently used methods to promote exclusive breastfeeding for six months and a continued breastfeeding for two year.

Table 5.26: Breastfeeding promotion approaches impact on 24 hours exclusivity: significance of differences between methods:

Method	Have you exclusively breasted in last 24hrs	N	Mean rank	Chi-square	df	P value
• One to one counseling. (constant)	No	4	56.50	.000	1	1.000
	Yes	108	56.50			
• Group counseling	No	4	58.00	.274	1	.601
	Yes	108	56.44			
• TV film.	No	4	69.50	1.504	1	.220
	Yes	108	56.02			
• Educational material.	No	4	58.00	.113	1	.737
	Yes	108	56.44			
• Peer counseling.	No	4	52.13	.143	1	.75
	Yes	108	56.66			

Kruskal Wallis Test.
Grouping variable: Have you exclusively breastfed your baby in the last 24 hours.

Ard El Insan Association follows a combination of approaches to promote and support breastfeeding. Results of this study found no statistical significant difference (p value > 0.05) between the methods used to promote and support breastfeeding of its effect on exclusive breastfeeding in a past twenty four hours. Hence; from this results, it can be inferred that no method can be appraised on the others, table (5:26). Though, the approaches utilized have been found effective in improving the rates of exclusive breastfeeding of that at the baseline.

The USPSTF found fair evidence that programs combining breastfeeding education with behaviorally oriented counseling are associated with increased rates. Notably,

mothers in contact with AEI Breastfeeding Promotion and Support Program exclusively breastfeed (100%) while in contact with AEI which is more than of those who were in touch with La Leach League Guatemala (LLLG) breastfeeding promotion program (Dearden et al, 2002). Nevertheless; continuation after discharge for up to six months are uncertain.

Table 5.27: Distribution of mothers by their satisfaction with the methodologies used to promote BF:

	Posttest (n=112)					
	Not satisfied		Don't know		Satisfied	
Promotion & support method	n	%	n	%	n	%
• One to one counseling	0	0.0	2	1.8	110	98.2
• Group counseling	0	0.0	0	0.0	105	100
• Watched TV film on BF	0	0.0	1	1.2	82	98.8
• Handed a pamphlet on BF	0	0.0	0	0.0	109	100
• Peer counseling	0	0.0	2	2.2	90	97.8

Few studies in the field of breastfeeding addressed mothers' satisfaction. This issue is important, because mothers' satisfaction relates not only with general wellbeing, but also with compliance with a programs recommendations (Coreil,1995; WHO/UNCIEF, 1989).

In this study, (figure 5:6) it is found that all (100%) participants were satisfied with the methodologies used to support and promote them to exclusively breastfeed their babies. This is higher than that found by Olivera et al, (2003) in Rio de Janeiro, Brazil. Only 2 in the one to one counseling group and 1 in the group who watched TV film on breastfeeding who said they don't know.

This indicates that approaches used to encourage and support mothers to exclusively breastfeed at AEI breastfeeding promotion program are positively perceived. This is reflected in the gain of knowledge, the positive improvement in attitudes towards breastfeeding and in mothers' behavior practicing exclusive BF.

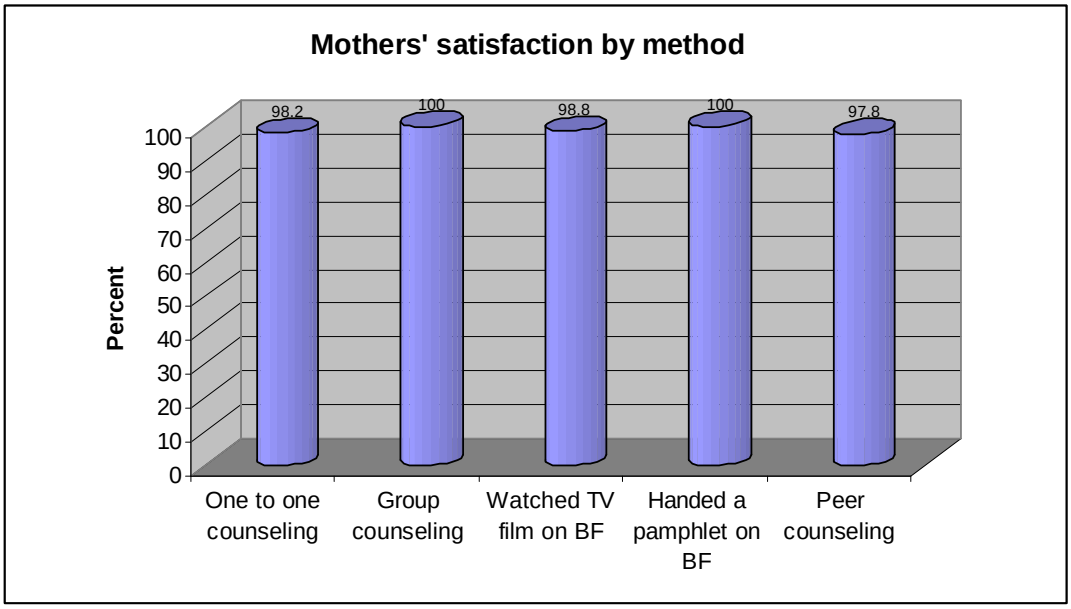

Figure 5.6: Mothers' satisfaction with the methods used to promote breastfeeding:

Table 5.28: Distribution of respondents by method contribution to their knowledge about breastfeeding:

Did BF promotion and support methods used add to your knowledge?	**Posttest (n=112)**					
	No		**Yes**		**Total**	
	n	%	n	%	n	%
• One to one counseling	0	0.0	112	100	112	100
• Group counseling	0	0.0	105	100	105	100
• Watched TV film on BF	1	1.2	82	98.8	83	100
• Handed a pamphlet on BF	2	1.8	107	98.2	109	100
• Peer counseling	0	0.0	92	100	92	100

Of the used methods to support and promote breastfeeding, all participants (100%) who received one to one counseling, group counseling and peer counseling reported that it added to their knowledge (figure 5:7).

Of those who watched TV films on BF, 98.8% said that it contributed to their knowledge, where of those who received printed educational material (pamphlets and/or paper folds) on breastfeeding, 98.2% said that it added to their knowledge (table 5:28).

On average, 99.4% of the respondents said that the methodologies used by AEI contributed to their knowledge about BF. This may indicate that the approached adopted by Ard El Insan Association Breastfeeding Promotion and Support Program are effective in delivering the health promotion messages.

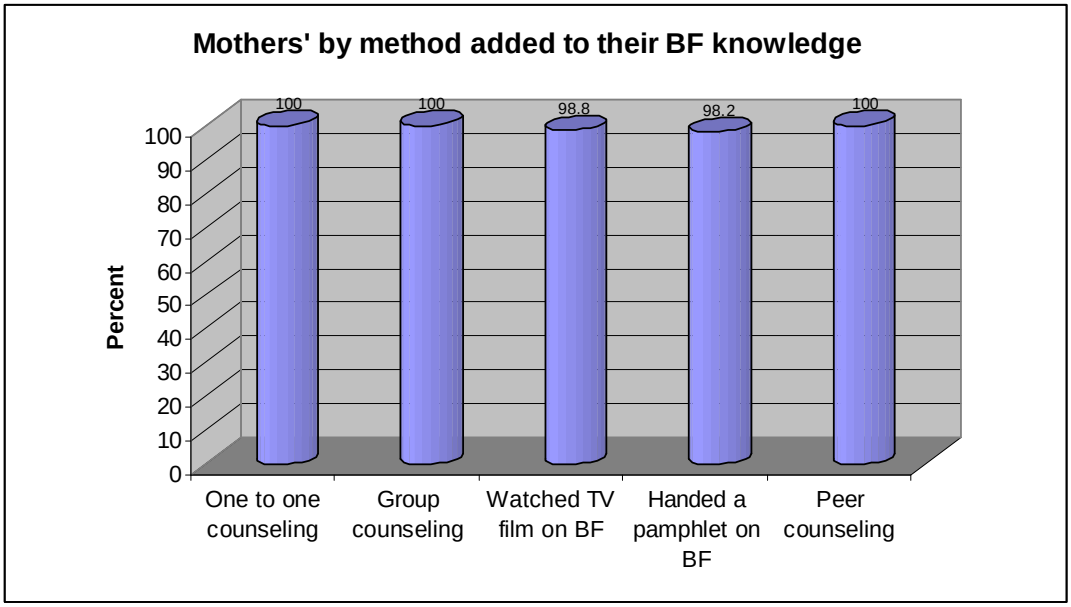

Figure 5.7: Mothers that BF methods used added to their knowledge by method

Table 5.29: Distribution of respondents by method contribution to support mother practice of BF:

Did BF promotion and support methods used have positively affected your practice?	Posttest (n=112)					
	No		Yes		Total	
	n	%	n	%	n	%
• One to one counseling	0	0.0	112	100	112	100
• Group counseling	0	0.0	105	100	105	100
• Watched TV film on BF	1	1.2	82	98.8	83	100
• Handed a pamphlet on BF	0	0.0	109	100	109	100
• Peer counseling	0	0.0	92	100	92	100

Table 5:29 shows that almost all participant mothers (an average of 99.8%) who received one to one counseling, group counseling, watched TV film, given an educational pamphlet and/or received peer counseling on exclusive breastfeeding had their behaviors been positively affected.

Only a negligible number in the group who watched TV film on breastfeeding (1.2%) said it did not affect their practice. This suggests that the approaches used by AEI are acceptable methods to promote and support mothers to breastfeed, and are effective in convincing mothers to positively change their behaviors of breastfeeding. These results are contrasting with Wong et al (2007) in there study in Hong Kong evaluating a peer counseling program, where they found no differences between the intervention group who received additional peer counseling and the control group who received regular support.

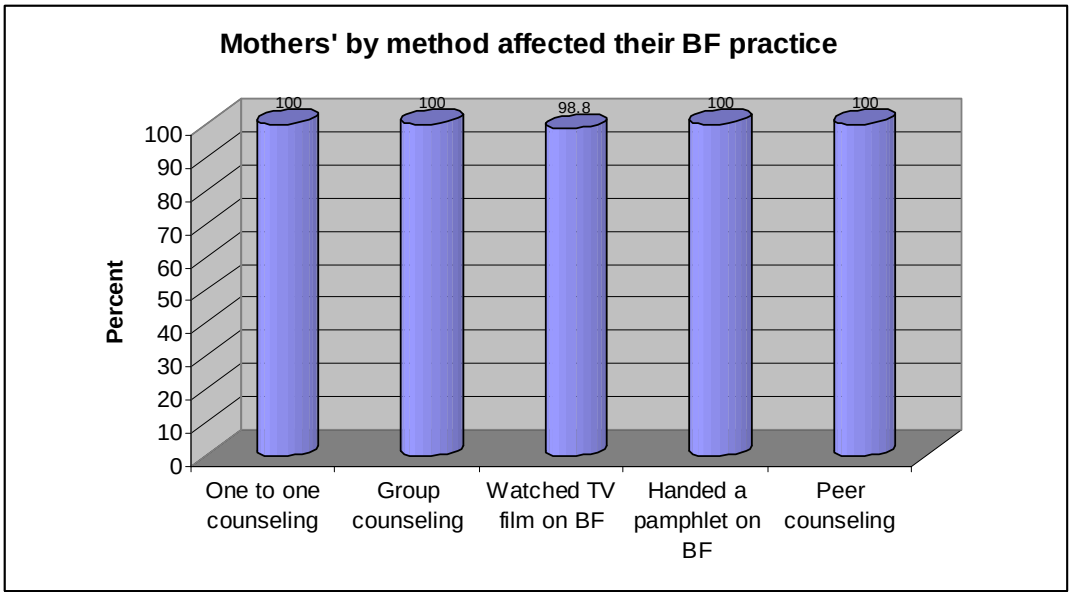

Figure 5.8: Distribution of mothers by BF methods used that affected their BF practice

Table 5.30: Cross-tabulation of participants' number of visits and visit interval:

	Frequency of visits followed at the program						
Visits interval	4	5	6	7	8	9	Total
Visit every 1 week	23	20	18	6	4	1	72
Visit every 2 weeks	21	15	3	0	1	0	40
Total	44	35	21	6	5	1	112

Mean 5.07, Median 5, P value = 0.033

Table 5:30 shows that all of respondents (100%) have received at least 4 visits according to the inclusion criteria with a mean of 5.07 and median of 5 visits. Of the respondents, 64.3% have received visits at one week interval, and the other 35.7% have received visits at two weeks interval. Four visits at one week interval were of the most prominent. One week interval visit aggregated around 4, 5 and 6 visits (23, 20, and 18 respectively). Almost all respondents (98.2%) said that the number of visits they have

made to the program and its frequency interval were enough to support them breastfeed. Only 1.8% of the respondents, said that it was not enough (table 5:30).

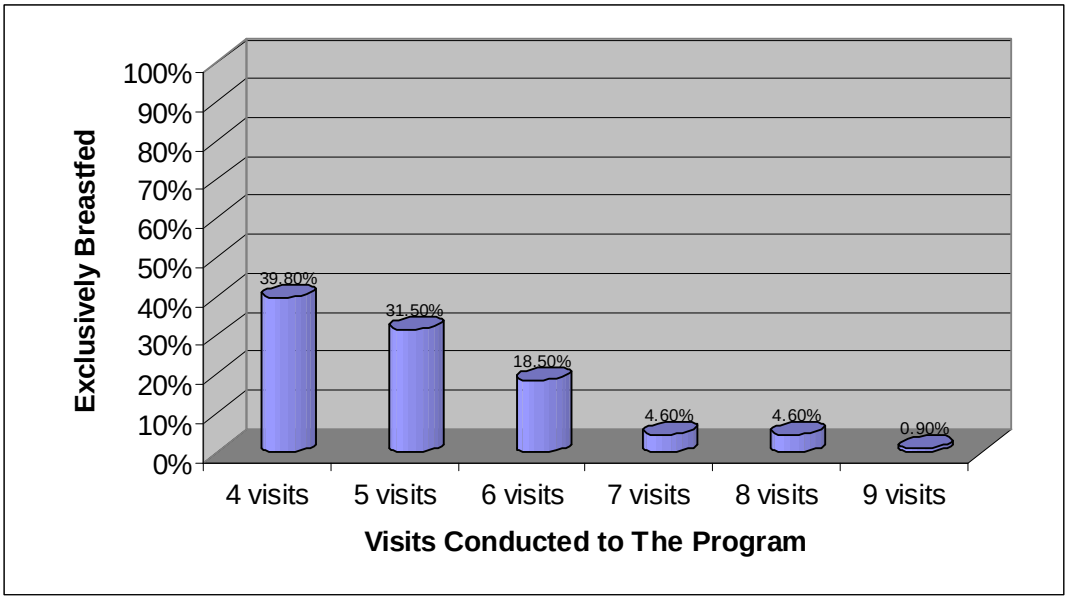

Figure 5.9: Exclusively Breastfed Mothers by Number of Visits Conducted

Figure 5.9: shows that of the participating mothers who exclusively breastfed their babies post intervention, 39.8% made 4 visits to the program, 31.5% made 5 visits and 18.5% made 6 visits. In other words, about 90% of the participants made 4-6 visits to the program. This means that 4-6 visits are enough time to convince mothers to practice exclusively breastfeeding.

However, statistics revealed that there is no association between number of visits and its frequency and if it was enough to promote and support mothers to exclusively breastfeed (chi square 3.147, df 5, p = 0.677, and chi 3.665, df 1, p = 0.056) respectively. This suggests that the contents of the counseling sessions may highly affect the mothers' learning and behavior. This is congruent with what Robin N. stated in his editorial: "*Simply the Best* "(1993).

Chapter Six

Conclusion:

This is the first quasi experimental study on the evaluation of breastfeeding promotion and support programs to be published in Gaza. New 132 admitted mothers with their infants pairs were recruited to participate in the study. Of them, 84.8% participated in the posttest. A baseline reading was conducted on admission, and a post intervention reading was conducted on discharge and/or where a mother made at least 4 visits to the program.

The study aimed to assess the impact of breast feeding promotion program enacted activities on mother's knowledge of breastfeeding, and how this knowledge would affected the mothers who attend AEI BFPP attitudes and behavior towards breastfeeding. It also intended to find out if the program is achieving its preset goal of contributing to the increase of exclusive breastfeeding rate.

Study results may contributes to the growing body of literature on the impact of a community based breastfeeding promotion and support.

Results of the study suggest that, over the course of five months period, the independent breastfeeding promotion and support activities enacted by AEI did positively impact exclusive breastfeeding practices amongst the participant mothers.

The study found statistically significant differences in the study group regarding their knowledge, attitudes and practices of breastfeeding between baseline and post intervention readings.

AEI achieved its goal of exclusivity by scoring 32.8% increase in exclusivity rate, which is more than that of the baseline amongst AEI attendants. This percent exceeded the

exclusive breastfeeding goal set by WHO, which is to improve countries current exclusive breastfeeding rates by 30% worldwide (WHO, 2002).

Ard El Insan enacted activities contributed significantly (p value < 0.001) to the improvement of the participants' knowledge of breastfeeding. Participant mothers were more aware to the benefits breastfeeding induces on baby and mother. The benefits of colostrum to baby were recalled by 65.4% of mothers post intervention compared to 25.4% at baseline. 62.1% of the participant subjects in the posttest recalled the benefits of breastfeeding to baby compared to 31.02% in the pretest, and 53.6% recalled the benefits of breastfeeding to mother post intervention next 19.7% per intervention in total.

True management of low milk supply recalled by 55.2% of mothers post intervention compared to 27.3% before intervention with a difference of 27.9%. Knowledge of the true breast engorgement management recall posttest accounted for 63.04% of the participants compared to 26.2% in the pretest. AEI breastfeeding promotion program enacted activities has increased by three folds the proportion of knowledgeable participant mothers of the causes of nipple soreness (67.4% post intervention compared to 20.8% at the baseline).

It is evident that knowledge gained has positively affected participants' attitudes towards breastfeeding. Post intervention mothers would encourage exclusive breastfeeding, and they more believe that breast milk alone is enough to a baby in his first six months of age. Attitudes towards exclusive breastfeeding for 6 months of age have been found to be significantly associated with knowledge of breastfeeding at 99% significance level (CI) and p value < 0.001.

In addition, results suggest that AEI was more successful at convincing women to exclusively breastfeed by the end of the follow-up period (96.4%) than had been true at the baseline (63.6%).

Methods used by AEI Breastfeeding Promotion and Support Program were found to have no significant difference ($p > 0.05$) of its effect on the 24 hours exclusivity from each other. Thus, no approach can be spoken to be the best or the most influential method of the others. However, approaches used by AEI to promote and support breastfeeding were found to be acceptable methods which helped mothers acquire knowledge and positively change their behaviors.

No relationship has been found between the number of visits received and its frequency and wither it was enough to promote and support mothers to exclusively breastfeed. This finding raises the issue of the counseling sessions contents which may positively contributed to the positive impact induced on the mothers' KAP and the program exclusivity goal; an area where AEI has an opportunity to invest in.

All participants expressed their satisfaction with the interventions made and the approaches used to promote and support them to exclusively breastfeed their babies and they would recommend AEI services in breastfeeding promotion and support to a friend and/or a relative.

Recommendations

- AEI BFP program is effective and it is achieving its intended goal in improving BF practices in the community.
- Using a combination of BF promotion and support methods proved to be an effective approach which can be built upon.
- The experience of AEI in promoting and supporting breastfeeding could be a model that can be adopted by other organizations.
- AEI experience in breastfeeding promotion and support can be expanded to include other Gaza community classes and more contribute to the increase in the national EBF rates.

- Mothers' knowledge about BF is fair enough which requires AEI concentrates on providing practical solution to assist in combating encountered BF problems.
- An important component that AEI can introduce to the program is, having mothers set goals which may in it-self motivate mothers and lead to a higher rates of exclusive breastfeeding that sustains up to six months.
- Since no relationship has been found between the number of visits and its frequency and being enough to promote and support mothers to exclusively breastfeed; it is recommended that AEI concentrates on the counseling sessions contents which require continuous staff development.

Recommendations for Future Studies

- Conducting a study to find out barriers to BF amongst AEI attendants.
- Exclusive breastfeeding rates are high while in contact with AEI, though, exclusivity beyond discharge is uncertain. So, it is suggested that AEI conducts a study to find out if exclusive breastfeeding continues up to six months age among its beneficiaries whose babies are still less than 6 months old after discharge.
- The literature review reveals that low milk supply, nipple soreness and latching are perceived of the most prominent barriers to reaching exclusivity goal (Betzold & Laughlin, 2007). So, it is recommended that AEI conducts a study to find out the most encountered barriers to exclusive breast feeding among its beneficiaries and the program impact in solving these problems.
- Findings of this study did not reveal any difference between the methods used to promote and support exclusive breastfeeding. Thus it is suggested that AEI conducts a study to find out which of the approaches it follows would be of value of the others.

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Annexes

Annex (1): Gaza Map with AEI Centers Plotted on:

Annex (2): Ethical Approval:

Ard Al Insan Palestinian Benevolent Association – Gaza Programmes

جمعية أرض الإنسان الفلسطينية الخيرية
برامج غـــزة

٢٠٠٧٨٤

جمعية أرض الإنسان الفلسطينية الخيرية
صادر
الرقم /
التاريخ /
التوقيع /

إلى: إدارة كلية الصحة العامة – جامعة القدس – كلية الصحة العامة – فرع غزة

من: إدارة جمعية ارض الإنسان الفلسطينية الخيرية بغزة

بخصوص: إجراء بحث في جمعية أرض الإنسان كمتطلب للدراسات العليا لطالب ماجستير قيد الدراسة بجامعة القدس بعنوان:

Evaluation of Ard El-Insan Breast feeding promotion program: Effect on the mothers' KAP.

تحية طيبة وبعد

بناء على الطلب المقدم إلينا من الطالب: "خضر محمد عبدالله أبو حسن" شعبة الدراسات العليا قسم الماجستير في الصحة العامة بجامعة القدس – فرع غزة – تخصص إدارة صحية وذلك بهدف إجراء بحث أكاديمي ضمن متطلبات حصوله على درجة الماجستير في الصحة العامة، فإن إدارة جمعية أرض الإنسان تؤكد قبولها لهذا الإجراء وتضع إمكاناتها الأكاديمية والعملية في خدمة الطالب بما يضمن تحقيقه لأفضل ظروف الأداء المبتغى لهذه الخطوة. ومع تمنياتنا للطالب بالتوفيق وللجامعة بالتقدم والازدهار في خدمة الوطن وأبنائه.

لكم منا خالص التقدير والاحترام

د. عدنان الوحيدي

المديرة التنفيذية – المدير الطبي

Administrative Gaza office: P.O. Box ١٠٩٩, Tel: + ٩٧٢ ٨ ٢٨٦٨١٣٨ Fax + ٩٧٢ ٨ ٢٨٤٢٥١٦
E-Mail: aci-pal@hally.net

Annex (3): Consent Form:

	1.1.1.1 **1.1.1.2 كليــة الصحــة العامــة** **School of Public Health** **القدس - فلسطين**	 **جامعة القدس**

نموذج موافقة على اشتراك في بحث:

الأم المحترمة:

ضمن متطلبات التخرج لبرنامج الماجستير في كلية الصحة العامة بجامعة القدس أقوم ب (تقويم برنامج دعم و تشجيع الرضاعة الطبيعية في جمعية أرض الإنسان :أثره في معرفة , توجهات و ممارسات الأمهات).

في هذا البحث لن يتم التطرق إلى أسماء المشاركات , و ستخضع المعلومات الخاصة بكم للسرية التامةو حسب قواعد البحث العلمي ستحول جميع البيانات إلى أرقام عند تحليلها . مشاركتك في هذا البحث طوعية, و لك الحق في التوقف و الانسحاب من المشاركة في أي وقت تشعرين فيه بعدم الرغبة في الاستمرار دون أن تتأثر الخدمة المقدمة إليك.

مشاركتك في هذا البحث و تعاونك سيكون له بالغ الأهمية في انجا ز هذا العمل و أثره في تطوير الخدمات المقدمة للمنتفعين من هذا البرنامج.

شكرا لحسن تعاونكم

الباحث

خضر أبو حسن

جوال: 0599993135

Annex (4): Data collection Instrument (English):

1. **What is the best time to initiate breastfeeding after delivery? ----------hr/day**			
2. **How many times should a baby breastfeed day and night? ---------- times/** **On demand** ☐			
3. **How much time should a baby breastfeed in a single sitting ---------- minutes.**			
4. **Is there a need to give a baby in his 1st 6 months artificial formula? yes** ☐ **no** ☐			
5. **Is there a need to give a baby in his 1st 6 months fluids (herbals, tea, etc) yes** ☐ **no** ☐			
6. **What is the time that a baby can be given breast milk only? ---------- moths**			
7. **What are the benefits of colostrums to newborn?**	**No**	**Yes prompted**	**Yes not prompted**
• **Gives baby immunity against disease.**	☐	☐	☐
• **Protects baby from allergy.**	☐	☐	☐
• **Provocative (speeds the passage of micomium)**	☐	☐	☐
• **Helps relieve physiologic jaundice.**	☐	☐	☐
8. **What are the benefits of breastfeeding to baby?**	**No**	**Yes prompted**	**Yes not prompted**
• **Gives baby all nutrients needed for growth.**	☐	☐	☐
• **Gives baby immunity against disease.**	☐	☐	☐
• **Protects baby from diarrhea.**	☐	☐	☐
• **Protects baby from respiratory tract infection.**	☐	☐	☐
• **Speeds the growth of brain and GI cells.**	☐	☐	☐
9. **What is the benefits of breastfeeding to mother?**	**No**	**Yes prompted**	**Yes not prompted**
• **Speeds the quick return of uterus to its normal shape.**	☐	☐	☐
• **Reduces the risk of bleeding after delivery.**	☐	☐	☐
• **Helps delay conception.**	☐	☐	☐
• **Reduces the risk of breast cancer.**	☐	☐	☐
• **Reduces the risk of ovarian cancer.**	☐	☐	☐
10. **A mother complaining of scanty milk, what should she do?**	**No**	**Yes prompted**	**Yes not prompted**
• **Continue breastfeeding.**	☐	☐	☐
• **Give a baby artificial formula by bottle.**	☐	☐	☐
• **Increase the time of a single feeding.**	☐	☐	☐
• **Increase times of breastfeeding day and night.**	☐	☐	☐

• **Increase her food and fluid intake.**	☐	☐	☐
• **Give fluids (tea, herbals, etc) by bottle.**	☐	☐	☐
11. **What a mother can do if she complains of breast engorgement?**	**No**	**Yes prompted**	**Yes not prompted**
• **Stop breastfeeding during breast engorgement.**	☐	☐	☐
• **Increase times of breastfeeding.**	☐	☐	☐
• **Express the breast and give milk to baby.**	☐	☐	☐
• **Put cold compresses on breast between feeds.**	☐	☐	☐
• **Massage the areola.**	☐	☐	☐
• **Put warm compresses before feedings.**	☐	☐	☐
• **Massage the whole breast.**	☐	☐	☐
12. **What are the causes of nipple soreness & lacerations?**	**No**	**Yes prompted**	**Yes not prompted**
• **Poor positioning.**	☐	☐	☐
• **Baby suckles for long time.**	☐	☐	☐
• **Baby suckles the nipples and areola together.**	☐	☐	☐
• **Baby suckles nipples only.**	☐	☐	☐

13. **Is breast milk alone from mother enough to baby in his 1st 6 months?**	**yes** ☐	**no** ☐
14. **Do you encourage breastfeeding day and night?**	**yes** ☐	**no** ☐
15. **Is it necessary to give babies artificial formula beside breastfeeding?**		
• **Absolutly not** ☐ • **Sometimes** ☐ • **Always** ☐		
16. **If a breastfeeding mother gets pregnant, what might she do?**		
• **Continue breastfeeding until delivery** ☐ • **Stop breastfeeding soon** ☐		
• **Keep breastfeeding for sometime** ☐ **Spacify ---------- Months**		
17. **Do you encourage giving babies less than 6 months age complementary food?**		
• **yes** ☐ • **No** ☐ • **If yes; what age ---------- months**		
18. **when do you plan to wean your baby? Specify ---------- Months**		

19.	**Are you breastfeeding your baby?**	**yes** ☐	**no** ☐
20.	**Do you pan to exclusively breastfeed your baby up to 6 months?**	**yes** ☐	**no** ☐
21.	**After delivery, when did you start breastfeeding? ---------- hour/day**		
22.	**Are you giving your baby artificial formula?**	**yes** ☐	**no** ☐
23.	**Are you giving your baby any fluids?**	**yes** ☐	**no** ☐
24.	**Are you giving your baby enough time to breastfeed?**	**yes** ☐	**no** ☐
25.	**How much time do you breastfeed your baby in a single sitting? ----------(minutes)**		
26.	**How many times do you breastfeed your baby day and night? ---------- (times)**		
27.	**Do you exclusively breastfeed your baby?**	**yes** ☐	**no** ☐
28.	**Have you exclusively breastfed your baby in the last 24 hours?**	**yes** ☐	**no** ☐
29.	**Are you giving any complementary food beside breast-milk?**	**yes** ☐	**no** ☐
30.	**Do you plan to introduce food and/or fluid beside breastfeeding?**	**yes** ☐	**no** ☐
31.	**If yes specify / ---------- (month)**		
32.	**Are you facing difficulties breastfeeding your baby?**	**yes** ☐	**no** ☐
33.	**If yes, are you able to solve these problems?**	**yes** ☐	**no** ☐

34.	**Have you been counseled on breastfeeding by a family or a friend?**	**yes** ☐	**no** ☐
35.	**Have you been assisted to breastfeed by a family or a friend?**	**yes** ☐	**no** ☐
36.	**Have you been counseled by health providers on breastfeeding?**	**yes** ☐	**no** ☐
37.	**Have you attended group discussion sessions on breastfeeding?**	**yes** ☐	**no** ☐
38.	**Have you watched a TV film on breastfeeding?**	**yes** ☐	**no** ☐
39.	**Have you read any educational materials on breastfeeding?**	**yes** ☐	**no** ☐

40. **Methods used to promote you breastfeed**	**Method used**		**Level of satisfaction**			**Did it add to your knowledge**		**Did it affect your behavior**	
	Yes	**no**	**S**	**DN**	**NS**	**Yes**	**no**	**Yes**	**no**
1. One to one counseling									
2. Group discussion									
3. TV film									
4. Educational pamphlets									
5. Peer counseling									

41. **How many times did you follow in the program? -------- (times)**	☐	☐
42. **How frequent were you following in the program? ----------(days)**	☐	☐
43. **Was that enough to encourage you breastfeed?**	**yes** ☐	**no** ☐
44. **Are you satisfied with the counselor's attitude towards you?**	**yes**	**no**
45. **Would you advise a relative and/or a friend of you to join the program?**	**yes**	**no**

• **Mother age ---------- (years)**		**Child age ---------- (months)**	
• **Family type**	• **Nuclear** ☐	• **Extended** ☐	
• **Family members ----------**	• **Live children under five other than the baby beeing followed ----------**		
• **Mother level of education**			
• **Ignorant** ☐	• **Can read and write** ☐	• **Elementary school** ☐	
• **Preparatory school** ☐	• **Secondary school** ☐	• **University & above** ☐	
• **Father level of education**			
• **Ignorant** ☐	• **Can read and write** ☐	• **Elementary school** ☐	
• **Preparatory school** ☐	• **Secondary school** ☐	• **University & above** ☐	
• **Are you reciveing any social assistance?**	• **yes** ☐	• **no** ☐	
• **Monthlly income ---------- (NIS)**	• **refused** ☐	• **don't know** ☐	

Instrument code: ----------

Date : ----------

Data collector : ----------

Annex (5) Data Collection Instrument (Arabic):

1. ما هو أفضل وقت للبدء بالرضاعة الطبيعية بعد الولادة؟ : ---------- ساعة / يوم			
2. كم مرة يجب أن يرضع الطفل بالنهار و الليل ؟ مرة/ ---------- كلما احتاج. ☐			
3. كم من الوقت يجب أن يرضع الطفل في الجلسة الواحدة؟ ---------- دقيقة			
4. هل هناك حاجة لإعطاء الطفل في أشهره الستة الأول رضعات اصطناعية مساعدة؟ نعم ☐ لا ☐			
5. هل هناك حاجة لإعطاء الطفل في أشهره الستة الأول سوائل (ماء شاي, ينسون, حلبة) ؟ نعم ☐ لا ☐			
6. ما هي المدة التي يمكن أن يعطى الطفل فيها حليب الأم فقط (رضاعة طبيعية بحتة)؟ أشهر/ ----------			
7. ما هي أهمية حليب اللبأ للوليد؟	نعم غير منطوق	نعم منطوق	لا
• يمنح الطفل مناعة ضد الأمراض.	☐	☐	☐
• يحمي الطفل من الحساسية	☐	☐	☐
• يعمل كمسهل (يسرع إخراج العقي)	☐	☐	☐
• يساعد على اختفاء الاصفرار الطبيعي لدى الوليد.	☐	☐	☐
8. ما هي فوائد الرضاعة الطبيعية للطفل؟	نعم غير منطوق	نعم منطوق	لا
• تعطي الطفل جميع العناصر الغذائية اللازمة للنمو.	☐	☐	☐
• تمنح الطفل مناعة ضد الأمراض.	☐	☐	☐
• تحمي الطفل من الإسهال.	☐	☐	☐
• تحمي الطفل من أمراض الجهاز التنفسي.	☐	☐	☐
• تسرع نمو خلايا المخ و الجهاز الهضمي.	☐	☐	☐
9. كيف تؤثر الرضاعة الطبيعية في صحة الأم؟	نعم غير منطوق	نعم منطوق	لا
• تساعد في سرعة عودة الرحم إلى وضعه ما قبل الحمل.	☐	☐	☐
• تقلل من مخاطر النزيف بعد الولادة.	☐	☐	☐
• تساعد في تأخير حدوث الحمل.	☐	☐	☐
• تقلل من مخاطر الإصابة بسرطان الثدي.	☐	☐	☐
• تقلل من مخاطر الإصابة بسرطان المبيض.	☐	☐	☐
10. أمّ تشكو قلة الحليب, ماذا يمكنها أن تفعل؟	نعم غير منطوق	نعم منطوق	لا
• المحافظة على استمرار الرضاعة.	☐	☐	☐
• اعطاء الطفل رضعات اصطناعية مساعدة بالزجاجة.	☐	☐	☐
• زيادة مدة الرضعة الواحدة.	☐	☐	☐
• زيادة عدد مرات الرضاعة في النهار و الليل.	☐	☐	☐

• زيادة كميات الغذاء و السوائل التي تتناولها الأم.	☐	☐	☐
• إعطاء السوائل (شاي, حلبة, ينسون, أعشاب) بالزجاجة.	☐	☐	☐
11. إذا عانت الأم من احتقان في الثدي, ماذا يمكنها أن تفعل؟	نعم غير منطوق	نعم منطوق	لا
• التوقف عن الرضاعة أثناء فترة الاحتقان.	☐	☐	☐
• زيادة عدد مرات الرضاعة.	☐	☐	☐
• عصر الثدي و من ثم إعطاؤه للطفل ليرضعه.	☐	☐	☐
• وضع كمادات ماء بارد على الثدي بين الرضعات لتخفيف الاحتقان.	☐	☐	☐
• تدليك هالة الثدي (الدائرة الغامقة) .	☐	☐	☐
• وضع كمادات ماء دافئ على الثدي قبيل الرضاعة.	☐	☐	☐
• تدليك كامل الثدي.	☐	☐	☐
12. ما هي أسباب تشقق و التهاب حلمتي الثديين؟	نعم غير منطوق	نعم منطوق	لا
• وضع الطفل عند الرضاعة غير صحيح.	☐	☐	☐
• الطفل يرضع لفترات طويلة(طول مدة المص).	☐	☐	☐
• الطفل يمص الحلمة و الهالة معاً.	☐	☐	☐
• الطفل يمص الحلمة فقط.	☐	☐	☐

13. هل الرضاعة من الأم وحدها تكفي الطفل الرضيع في أشهره الستة الأول؟	• نعم ☐	• لا ☐
14. هل تشجعين الرضاعة الطبيعية في الليل و النهار؟	• نعم ☐	• لا ☐
15. هل من الضروري إعطاء الطفل الرضيع رضاعة اصطناعية إلى جانب الرضاعة الطبيعية؟		
• دائما ☐ • أحياناً ☐ • إطلاقا لا ☐		
16. إذا حملت الأم المرضعة ماذا يجب عليها أن تفعل؟		
• إيقاف الرضاعة حالا. ☐ • الاستمرار بالرضاعة حتى موعد الولادة. ☐		
• الاستمرار بالرضاعة لفترة ما ☐ حددي: ---------- أشهر.		
17. هل تشجعين إعطاء الأطفال الأقل من 6 أشهر أغذية إضافية؟		
• نعم ☐ • لا ☐ • إذا كان الجواب بنعم, في أي عمر ----------		
18. ما هي المدة التي تخططين إتمام الرضاعة فيها؟ حددي / عمر الطفل بالأشهر: ----------		

19. هل ترضعين طفلك/طفلتك هذا؟	• نعم ☐	• لا ☐
20. هل تنوين إرضاعه/ا رضاعة طبيعية بحتة (دون إضافات) لنهاية شهره السادس؟	• نعم ☐	• لا ☐
21. بعد الولادة متى بدأت بإرضاع طفلك؟: ---------- ساعة / يوم		
22. هل تعطين طفلك/طفلتك رضعات اصطناعية مساعدة؟	• نعم ☐	• لا ☐

23. هل تعطين طفلك/طفلتك أية سوائل (الأعشاب, الشاي أو الماء)؟	• نعم ☐ • لا ☐
24. هل تعطين طفلك وقتاً كافيا للرضاعة في الجلسة الواحدة ؟	• نعم ☐ • لا ☐
25. كم من الوقت ترضعين طفلك في الجلسة الواحدة؟ ----------/ دقائق	
26. كم مرة ترضعين طفلك في النهار و الليل؟ ----------/ مرة	
27. هل ترضعين طفلك رضاعة طبيعية بحتة (دون أية إضافات)؟	• نعم ☐ • لا ☐
28. هل أرضعت طفلك رضاعة طبيعية بحتة (دون إضافات) في ال24 ساعة الماضية؟	• نعم ☐ • لا ☐
29. هل تعطين طفلك أية أغذية إلى جانب الرضاعة الطبيعية الآن؟	• نعم ☐ • لا ☐
30. هل تنوين إدخال مشروبات أو أطعمة إلى جانب الحليب الطبيعي؟	• نعم ☐ • لا ☐
31. إذا كان الجواب بنعم, في أي عمر / حددي (أشهر) ----------	
32. هل تعانين من صعوبات في إرضاع طفلك؟	• نعم ☐ • لا ☐
33. إذا كان الجواب نعم, هل أنت قادرة على حل هذه الصعوبات؟	• نعم ☐ • لا ☐

34. هل سبق أن أسدى لك أحد من الأهل أو الأصدقاء بمشورة حول الرضاعة الطبيعية ؟	نعم ☐ لا ☐
35. هل سبق أن ساعدك أحد من الأهل أو الأصدقاء في إرضاع طفلك ؟	نعم ☐ لا ☐
36. هل أسدى لك أحد ممن يعملون في القطاع الصحي بمشورة حول الرضاعة الطبيعية بمفردك؟	نعم ☐ لا ☐
37. هل سبق لك أن حضرت جلسات إرشاد و نقاش جماعي حول الرضاعة الطبيعية؟	نعم ☐ لا ☐
38. هل سبق و أن شاهدت فيلمًا تلفزيونياً عن الرضاعة الطبيعية؟	نعم ☐ لا ☐
39. هل سبق و أن قرأت نشرات تثقيفية عن الرضاعة الطبيعية؟	نعم ☐ لا ☐

40. ما هي الطريقة التي تم استخدامها من قبل البرنامج لدعمك وتشجيعك على الرضاعة الطبيعية؟	الطريقة		مستوى الرضي عن الطريقة المتبعة			هل أضافت إلى معلوماتك		هل أثرت في ممارساتك	
	نعم	لا	راضية	لا أدري	غير راضية	نعم	لا	نعم	لا
1. إرشاد و دعم من فرد إلى فرد من قبل المرشدة									
2. جلسات إرشاد و نقاش جماعي حول الرضاعة الطبيعية.									
3. مشاهدة فيلم تلفيزيوني عن دعم و تشجيع الرضاعة الطبيعية.									
4. نشرات تثقيفية حول دعم و تشجيع الرضاعة الطبيعية									
5. المشورة عن طريق الند أو النظير.									

41.	كم زيارة تابعت في البرنامج؟ ---------- مرة				
42.	ما الفارق الزمني بين كل زيارة و الأخرى؟ ---------- أيام				
43.	هل كان هذا كافيا لدعمك و تشجيعك على الرضاعة؟	• نعم ☐	• لا ☐		
44.	هل أنت راضية عن تعامل المرشدة معك؟	راضية ☐	لا أدري ☐	غير راضية ☐	
45.	هل تنصحين أن تلتحق قريبة أو صديقة لك بالبرنامج لتلقي الخدمة؟	• نعم ☐	• لا ☐		

- عمرالأم بالسنوات ---------- عمر الطفل بالأشهر ----------
- نوع العائلة: • نووية ☐ • ممتدة ☐
- عدد الأطفال الأحياء دون 5 سنوات فيما عدا الطفل الحالي: ------- • عدد أفراد العائلة: ---------- ----------
- مستوى تعليم الأم:
  - أميِّة ☐ • تستطيع الكتابة و القراءة ☐ • ابتدائي ☐
  - إعدادي ☐ • ثانوي ☐ • جامعية فما فوق ☐
- مستوى تعليم الأب:
  - أمي ☐ • يستطيع الكتابة و القراءة ☐ • ابتدائي ☐
  - إعدادي ☐ • ثانوي ☐ • جامعي فما فوق ☐
- هل تتلقين أية مساعدات أياً كان نوعها؟ • نعم ☐ • لا ☐
- الدخل الشهري؟(شيقل تقريباً)- ---------- لا أعرف ☐ أرفض الإجابة ☐

رقم الإستبانة : ----------

التاريخ :----------

جامع البيانات :----------

Annex (6): List of Arbitrators:

No.	Name	Place of work
1	Dr. Bassam Abu Hamad	School of Public Health – Gaza Al-Quda University
2	Dr. Adnan Al Wahaidi	Ard El Insan Association
3	Dr. Hiam Nusair	UNRWA – Gaza
4	Mrs. Amani Jouda	WHO – Gaza Office
5	Mr. Jasim Humaid	Hanan Project – Gaza
6	Mrs. Sara Bsaiso	Ard El Insan Association
7	Mr. Mue'n Al Kariri	MOH – Health Education

Annex (7): Instrument reliability Coefficient:

Reliability Coefficients

N of Cases = 30.0 N of Items = 89

Alpha = .7660

	Domain	Average Alpha
1	Mothers' knowledge of breastfeeding (Q1 – Q 12)	.7661
2	Mothers' attitude towards breastfeeding (Q 13 – Q 18)	.7699
3	Mothers' practice of breastfeeding (Q 19 – Q 33)	.7675
4	Mothers' exposure to breastfeeding counseling (Q 34 – Q 40)	.7548
5	Mothers' socio-demographic status (Q 43 – Q 53)	.7648