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Knowledge, Attitudes and Practice of Exclusive Breast-Feeding of infants aged 0-6months by Urban Refugee Women in Kigali

A Dissertation presented for the Award of Master's Degree in Public Health

By

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DEDICATION

Humbly I dedicate this effort to
My Beloved Family:
my dear wife, Francine PACHU,
my lovely sons, Daniel BYARUHANGA and Steven KUGONZA,
my tender daughters, Syntyche MBABAZI and Joy KANSIME;
to my Widowed Mother;
and to Uncle Ruhigwa Mastaki Fanuel
with Gratitude, Respect and
Love.

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BAHEMUKA Jino Gédéon

EXECUTIVE SUMMARY

Exclusive breastfeeding has tremendous benefits for a wholistic development of children. It is ranked among the most effective interventions to improve children's health and recommendable in both high and low income communities. Nevertheless, its practice worldwide is very unsatisfactory.

The objective of this study was to determine the level of knowledge, attitudes and practice of EBF among the urban refugee women who have children aged between 6 months and 2 years and who live in Kigali in order to promote the EBF and increase the number of women who adherence to it.

This descriptive cross-sectional study was conducted between January 2011 and mid-February of the same year. The data for the study were collected thanks to a questionnaire completed during interviews with the participants. These data were then entered and analysed using Microsoft Excel 2007 and SPSS 17.0, respectively. Microsoft Word 2007 was finally used to write the report.

To select participants for the study, the exhaustive sampling technique was used due to small size of the study population; there were only 90 urban refugee women who had children aged 6 months to 2 years during the period of the study.

For the analysis of the data, frequencies were used to describe the independent variables and to determine the level of knowledge, attitude and practice among the participants. The statistical test Chi-Square was used to determine the association between the dependent and independent variables.

Among the 90 women involved in the study, 59% are below 30 years old, 70 % have at least secondary education, 51% have no profession, and 84.4% live with partners. 67% of the partners are at least 30 years old, about 99% have at least secondary education, and 96 % are employed. Nearly 53% of these women have 3 children at maximum, and about 78% live on a monthly income greater than RWF 30,000.

The study has revealed that 74.4% of the urban refugee mothers have correct knowledge about the EBF; and health facilities were reported at about 90% to be their main source of the

information. As for the attitude, 71.1% of the mothers in the study have positive attitude towards EBF. But its practice is very low; only 34.4 % of the participants practised EBF to 6 months. There is no significant correlation between the dependant and the independent variables ($p > 0.05$).

Although the majority of the urban refugee women who live in Kigali are well aware of the EBF and its advantages in infants and have positive attitude towards it, the proportion of the mothers who practised it up to 6 months is very small. Therefore, there is a need of sensitising the urban refugee women for EBF trough more education sections emphasising the benefits it provides for infants.

RESUME

L'allaitement maternel exclusif procure d'énormes avantages dans le développement global de l'enfant. Il se situe parmi les interventions les plus efficaces dans l'amélioration de la santé des enfants et est à recommander tant dans les communautés à haute revenu que dans celles à faible revenu. Néanmoins, sa pratique au niveau mondial demeure très faible.

La présente étude a pour objectif de déterminer le niveau de connaissance, attitude et pratique de l'allaitement maternel exclusif parmi les femmes réfugiées urbaines qui ont les enfants âgés de 6 mois à 2 ans et qui vivent à Kigali dans le but de le promouvoir et accroître le nombre des femmes qui y adhèrent.

Cette étude dite transversale à visée descriptive a été menée entre janvier 2011 et mi-février de la même année. Les données ont été collectées sur base d'un questionnaire complété pendant les interviews individuelles avec les participantes. Ces données ont été saisies au moyen du logiciel *Microsoft Excel 2007* et analysées à l'aide de logiciel *SPSS 17.0*. Le logiciel *Microsoft Word 2007* a en fin servi pour rédiger le rapport final.

Les participantes ont été sélectionnées au moyen de la méthode d'échantillonnage exhaustif seules 90 femmes réfugiée urbaines avaient les enfants âgés de 6 mois à 2 ans pendant la période de l'étude.

Pour analyser les données, nous avons utilisé les fréquences afin de décrire les variables indépendantes et de déterminer le niveau de connaissance, d'attitude et de pratique de l'allaitement maternel exclusif parmi les participantes. Le test statistique Chi-carré a été enfin utilisé pour vérifier s'il y avait une association entre les variables dépendantes et les variables indépendantes.

Parmi les 90 femmes enquêtées, 59% sont âgées de moins de 30 ans, 70 % ont un niveau d'éducation secondaire ou plus, 51% ont des occupations professionnelles et 84.4% vivent avec des partenaires. Parmi ces partenaires, 67% sont âgés de 30 ans ou plus, 99% ont au moins un niveau d'études secondaires et 96 % ont des occupations professionnelles. 53% de ces femmes ont au maximum 3 enfants, et presque 78% ont un revenu mensuel de plus de FRW 30,000.

La présente étude montre que 74.4 % de mamans refugiées urbaines ont une bonne connaissance concernant l'allaitement maternel exclusif ; et les formations sanitaires ont été citées à 90% comme leur principale source d'information. S'agissant de leur attitude, 71.1% de répondantes ont une attitude positive vis-à-vis de l'allaitement maternel exclusif. Mais sa pratique reste faible; seules 34.4% de participantes ont pratiqué l'allaitement maternel exclusif à 6 mois. En outre, aucune corrélation significative n'a été établie entre les variables dépendantes et indépendantes ($p > 0.05$).

Malgré un bon niveau de connaissance et d'une attitude positive des femmes réfugiées urbaines envers l'allaitement maternel exclusif, la proportion des femmes qui le pratiquent jusqu'à 6 mois est très faible. Il est donc nécessaire de sensibiliser les mamans réfugiées à travers les séances d'éducation pour adhérer à la pratique de l'allaitement maternel exclusif, en insistant sur les avantages qu'il offre aux nourrissons.

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ACRONYMS AND ABBREVIATIONS

AHA : African Humanitarian Action

BF : Breastfeeding

CELPAR/ FES : Communauté des Eglises Libres Pentecôtistes en Afrique au Rwanda/French-English Service.

DAFI : *Deutsche Akademische Flüchtlings Initiative Albert Einstein* (The Albert Einstein German Academic Refugee Initiative Fund)

DRC : Democratic Republic of Congo, the

EBF : Exclusive Breastfeeding

KATC : Kigali Anglican Theological College

MDGs : Millennium Development Goals

MIDIMAR : Ministry of Disaster Management and Refugee Affairs

MINISANTE : *Ministère de la Santé* (Ministry of Health)

NISR : National Institute of Statistics of Rwanda

NUR : National University of Rwanda

OAU : Organisation of African Union

SPH : School of Public Health

SPSS : Statistical Package for Social Science Software

UNHCR : United Nations High Commission for Refugees

UNICEF : United Nations Children Funds

UNRWA : United Nations Relief and Work Agency for Palestine Refugees

WFP : World Food Programme

WHO : World Health Organisation

1. INTRODUCTION

1.1. Definition of the key concepts

1.1.1. Attitude

Attitude can be understood as ‘a mental and neutral state of readiness, organized through experience, exerting a directive or dynamic influence upon the individual’s responsive to all objects and situations with which it relates’[1]. In simpler words, attitude may be defined as ‘the way a person views something or tends to behave towards it [2].

1.1.2. Breastfeeding (BF)

Breastfeeding is a practice which requires the mother to give her infant the milk of her breasts to assure the infant’s optimal growth and development [3]. It is a natural and widespread infant feeding practice with tremendous advantages such as nutritional, immunological, psychological and economic benefits [4, 5].

1.1.3. Exclusive breastfeeding (EBF)

The EBF may be defined as feeding an infant with no other food or drink – not even water – except breast milk, vitamins and minerals [1]. It is a feeding practice considered as one of the most effective interventions to achieve MDG-4, i.e. reducing the under-5 mortality rates by two thirds between 1990 and 2015 [6].

1.1.4. Knowledge

Oxford Dictionary of English defines knowledge as a set of facts, information and skills acquired through experience or education [2].

1.1.5. Practice

Practice can be understood as the actual application or use of an idea, belief or method. It requires prior learning of theories related to it [2].

1.1.6. Refugee

A refugee is a person who – 'owing to well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion – is outside the country of his nationality and is unable or, owing to such fear, is unwilling to avail himself of the protection of that country; or who, not having a nationality and being outside the country of his former habitual residence as a result of such events, is unable or, owing to such fear, is unwilling to return to it' [7].

1.1.7. Urban refugee

An urban refugee is defined as 'an individual living in an urban area outside of his/her country of origin who meets the criteria put forth in the Refugee Convention or OAU Convention, even if the person has not been recognized by a host government' [8].

1.2. Problem statement

Child's nutrition in general, breastfeeding in particular, is an undeniable public health goal and one of the major strategies which help improve infants' survival, for at least half of the almost 10 million deaths of children younger than 5 years old every year are a direct or indirect consequence of malnutrition [5]. Many of these deaths occur in the first year of life and are associated with lack of appropriate feeding practices, such as breastfeeding – which has been reported the safest and most natural form of feeding in infancy [3]. This is the reason why, WHO and UNICEF, searching for strategies to improve infant's life, have formulated global recommendations for optimal infant feeding: *exclusive breastfeeding for 6 months (180 days) and breastfeeding up to 2 years of age or beyond* [9].

Unfortunately, although EBF during the first 6 months is optimal for achieving the range of benefits associated with it for infant's health [10], less than 35% of infants younger than 6 months old are exclusively breastfed worldwide [5].

In developed countries, around 2005, less than 25% were exclusively breastfed up to 6 months from their birth [5]. In Norway, Sweden and the United State of America, for example, the rate of EBF ranged from 7% to 13.8% only [3, 11].

Breastfeeding is a very common practice in the developing world. It has even been considered as the cultural norm; but there exist serious obstacles to practicing it until 6 months from the infant birth [10, 12]. Consequently, its prevalence in many of those countries is very low [12]. As an illustration, two separate studies showed that the prevalence of EBF to 6 months in Brazil and Bangladesh were respectively 4 % and 16% [13, 14].

The EBF prevalence in Rwanda is not encouraging either. According to the 2009 Comprehensive Food Security and Vulnerability Assessment and Nutrition Survey, EBF rate for the first 6 months after birth was 38% [15].

Considering the prevalence of EBF during the 1st six months of the infants' life in the world, and particularly in Rwanda, one wonders if mothers, particularly urban refugee women living in Kigali, are well informed about it and the benefits it provides in the infants' live. Thus, this research intends to answer the following question:

- What are the knowledge, attitudes and practice of the urban refugee women living in Kigali regarding EBF?

1.3. Interests of the topic

1.3.1. Personal interest

In most cases, breastfeeding appears an automatic practice among women in developing countries. But, exclusive breastfeeding until 6 months still sounds new and hard to achieve. This is to say, not every woman is ready to practice it. They introduce complementary food in their infants' diet before the infants are 6 months old. So it is worth investigating whether refugee women who live in Rwanda, particularly in Kigali, know about and practice EBF.

1.3.2. Scientific interest

It is scientifically proven that breast milk, in addition to being natural and the safest food for infants, contains almost all nutrients that infants need for their healthy development and protection against morbidity and mortality due to respiratory infections, diarrheic diseases and some other pathologies [3, 4]. It is also proven that children exclusively breastfed for the first 6 months of their life develop more immunity than those who are not [5]. Moreover, EBF is much

more advisable in developing world where resources, safe water, hygiene and sanitation are a serious problem; it is advisable even to HIV positive mothers [16]. Thus in undertaking this study, which seeks to determine the knowledge, attitudes and practice of urban refugee women regarding EBF, I shall contribute to child's health improvement, particularly among the refugees in Rwanda.

1.4. Summary of literature review

Exclusive breastfeeding, though better than other forms of infant feeding and associated with improved child survival, still remains uncommon [16]. Mothers, in general, do not feel enthusiastic to exclusively breastfeed their infants [5]. This is why the global prevalence of EBF is still 34.8% [17]

In high income countries around 2005, less than 25% of children were exclusively breastfed. For instance, in Norway and Canada the rates of the EBF to 6 months are 7% and 13.8% [3] respectively.

Low income countries do not have an interesting EBF rate, either, except in a few countries like Ghana, where EBF rate was 62.8% in 2010 [18]. For example in the Democratic Republic of the Congo, the EBF rate was 36.1 % [19] in 2007.

Likewise in Rwanda, although not many research works about EBF are available, the prevalence of EBF up to 6 months is not satisfactory; the rate was 38 % [15] as mentioned above. This infers that about 62 % of children are not exclusively breastfed until they are 6 months old. As a consequence there is likely an increase of their exposure to different infections. This situation might also be possible in urban refugee women living in Kigali. The current study will clarify the matter.

1.5. Objectives of the study

1.5.1. General objective

The current study intends to determine the knowledge, attitudes and practice of EBF among refugee women living in Kigali in order to promote it and increase these women's adherence to that infant feeding method.

1.5.2. Specific objectives

- To determine the urban refugee women's knowledge regarding EBF;
- To determine how these women were informed about EBF;
- To determine the attitudes of these women regarding EBF;
- To determine these women's practice regarding EBF.
-

2. MATERIALS AND METHODS

2.1. Study design

This is a quantitative cross-sectional study with descriptive design; it involves some components of analysis.

2.2. Methodology

2.2.1. Specific objectives attainment

In order to attain the specific objectives, the urban refugee women, who had children aged between 6 months and 2 years and lived in Kigali, were asked some specific questions as explained below.

- To determine the level of urban refugee women's knowledge regarding EBF, they were requested to tell whether they had heard of it, to say how long an infant should be exclusively breastfed and to state at least one of the benefits EBF offers. Therefore, a woman was considered to have appropriate knowledge about EBF when she reported that she was informed about it, stated that the ideal duration of EBF was 6 months and gave at

least one of the EBF benefits in infant (viz. protection from various infections, good growth, immune system development, brain and intelligence development, and birth spacing, etc.).

- To know the source of information of these women about EBF, they were asked to tell how they were informed about the feeding method.

- In order to determine the participants' attitudes towards EBF, they were asked whether they were favourable to EBF, if they could encourage other women to adhere to the practice and whether they could practice it next time they have a child. A woman's attitude was judged positive towards EBF when she answered that she was favourable to it, admitted to encourage other women to adhere to it and agreed that she could practice it when she next got a child.

- To identify the practice of EBF, the mothers in the study were asked when they initiated the BF and how many months they exclusively breastfed their infants before introducing any sorts of drink, such as water, and any kinds of food in the child diet. A woman was said to have a good practice of EBF if she reported that she initiated BF during the 1st hour of her child's life and did not feed the child with any other drink or food until he/she was 6 months old.

2.2.2. Study variables

The main variables of this study are:

Dependent variables:

- Knowledge of urban refugee women regarding EBF;
- Attitudes of urban refugee women towards EBF;
- Practice of EBF by the urban refugee women.

Independent variables:

1) age of the urban refugee women,
2) education level of the urban refugee women
3) marital status of the urban refugee women,

4) Profession of the urban refugee women,
5) Their partners' age
6) Their partners' education level.
7) Their partners' profession
8) Number of children in their family
9) The level of their household monthly income

2.2.3. Analysis Plan

The database for analysis proceeded from the survey conducted between 1 January and 15 February 2011 on urban refugee women with children aged between six months and 2 years old thanks to a questionnaire.

2.3. Population of the study

The population of the study is constituted by refugee women who lived in Kigali and who had 6 months to 2 years old children during the study period; this is to say, those who got their babies during the period between January 2008 and June 2010. The number of such women amount to ninety people according to the UNHCR statistics[1]. The choice of refugee women for the study was motivated by the fact that refugees in general are considered as vulnerable people [20]; such a consideration might hinder them to profit from some interventions as fully as the citizens of the country that hosts them do. And children born in the period of January 2008 and June 2010 were chosen for two reasons:

- the women included in this research must have a child who is between 6 months and 2 years old;
- the women must be able to recall her breastfeeding practices and their duration.

2.3.1. Sample size

Considering the fact that the number of targeted population of this study was small (ninety women only), all urban refugee women who had 6 months to 2 years old children were involved in the study.

[1] Source: the UNHCR IT department, 2010 statistics

2.3.2. Sampling techniques

With reference to the above, the exhaustive sampling technique was used to select the women included in this study. The concerned women were reached at African Humanitarian Action (AHA) where they receive different kinds of assistance, including food and healthcare.

2.4. Materials

A structured questionnaire, with 24 questions, was used to collect data for the study. Questions were divided into 6 sections. Section one contained questions regarding socio-demographic and economic information about the respondents (age, marital status, level of education ...). Section two was intended to identify what the respondents knew about EBF. Section three helped identify the respondent's source of information about EBF, especially those who had had such information before the interview for this study. Section four was used to assess the attitude of all the women in the study towards EBF. Questions under section five were designed to identify whether the women in the study practised EBF or not. The final section helped discover whether these women were influenced in favour of or against EBF.

In addition, the questionnaire was translated into French because according to the UNHCR statistics, the majority of the urban refugees in Kigali come from the DRC[2], where French is the official language. However, some women were not comfortable with French; therefore they had their questions interpreted into Kiswahili.

Microsoft Office Excel 2007, SPSS (version 17.0) and Microsoft Office Word 2007 were respectively used for data processing, data analysis and report writing. For the statistical test, Chi Square was used to determine whether there was association between variables of the study.

2.5. Ethical consideration

Ethical principles were observed during the whole process of the study. After the approval of this research protocol by School of Public Health, I requested for permission from MIDIMAR to collect data from refugee women in Kigali. I also asked AHA for

[2] Source: the UNHCR Statistics Department

permission to collect data from the mothers who seek health services and other assistance from the organisation.

Moreover, the administration of the questionnaire was preceded by orally informing the respondents about the study and its purpose. The respondents were also made aware that they were free to participate or not; no coercive measures of any kind were put in place to compel the women to participate. Furthermore, commitment to confidentiality was guaranteed.

2.6. Study limitations

A limitation of this work was its cross sectional design; the research was conducted in a specific period of time, January and the first half of February 2011. Another limitation is that the study is solely based on the opinion of the urban refugee women. Maybe the opinion of rural refugee women, living in refugee camps and totally dependent of the UNHRC's care, would be different.

3. RESULTS

3.1. Socio-demographic and economic features of the participants

Table 1 presents the socio-demographic and economic characteristics of the participants as follows:

Age

A good percentage of the mothers involved in this study (59%) below 30 years old and 41% are 30 years old or beyond.

Education level

Seventy percent of the participants have at least secondary education level and 30 % of them include women without education or with at most primary education.

Profession

Almost a half of the respondents (51.1 %) do not hold any income generating job and 48.9 % are either self-employed or have salary providing jobs.

Marital status

The larger proportion of the women in this study (84.4 %) lives with a partner (whether legally or illegally); the other proportion is composed of widows, the divorced and single mothers.

Age of the partners

A large number of the participants' partners (67.1%) are beyond the age of 30 and the remaining group (32.9%) live either alone, of course with their children, or with their parents.

Partners' education level

Almost all (98.7 %) of these men had got at least a secondary education level, only one man did not study.

Partners' profession

The majority of the partners (96.1%) have some profession and only 3.9% were jobless.

Number of children

More than a half of the women (53.3%) reported to have got 3 children at maximum; about 47 % have more than 3 children.

Monthly income level

Monthly total income of about 76.7% of the women is greater than RWF 30, 000; 23.3 % live on an income equal to or less than RWF 30, 000.

Table 1: Socio-demographic and economic characteristics of the study population

Variables	**Frequency**	**Percent**
Age (in years)		
< 30	53	59
≥30	37	41
Total	**90**	**100.0**
Education level		
No or primary education	27	30.0
Secondary or university education	63	70.0
Total	**90**	**100.0**
Profession		
Women without profession	46	51.1
Women with profession	44	48.9
Total	**90**	**100.0**
Marital status		
Women with a partner	76	84.4
Women without a partner	14	15.6
Total	**90**	**100.0**
Partners' age (in years)		
< 30	25	32.9
≥30	51	67.1
Total	**76**	**100.0**
Partners' education level		
No or primary education	1	1.3
Secondary or university education	75	98.7
Total	**76**	**100.0**

Partners' profession		
Partners without profession	3	3.9
Partners with profession	73	96.1
Total	**76**	**100.0**
Number of children		
≤3	48	53.3
>3	42	46.7
Total	**90**	**100.0**
Household monthly income (in RWF)		
≤ 30, 000	21	23.3
> 30, 000	69	76.7
Total	**90**	**100.0**

3.2. Actual results

3.2.1. Urban refugee women's knowledge regarding EBF

3.2.1.1. Information about EBF

Most of the mothers in the study (80%) received some information about the exclusive breastfeeding of infant up to 6 months. Only 20 % of them had never heard of it as displayed in the table 2.

Table 2: Information regarding EBF

Have you ever been informed about EBF?	Frequency	Percent
Yes	72	80.0
No	18	20.0
Total	**90**	**100.**

3.2.1.2. Knowledge about the ideal duration of the EBF

As can be seen in the table 3, almost all the women (91.7%) who had been informed about EBF knew that the recommended duration for exclusive breastfeeding an infant is six months.

Table 3: Knowledge about the ideal duration of the EBF

Initial duration of EBF (in months)	Frequency	Percent
6	66	91.7
Other than 6	6	8.3
Total	**72**	**100.0**

3.2.1.3. Knowledge on EBF benefits in infants

As an evidence of their knowledge of EBF, the women who had been informed about it before the interview gave several benefits it offers to children. A half (50 %) of them reported that EBF during the first 6 months of life is useful in protecting the new born against diarrheal, gastro-intestinal and other infections. A few women (2.8 %) said that EBF helped in developing the child's strength, and another 2.8 % gave an advantage different from the listed ones; they said EBF helped build the infant's body.

The details are displayed in the table 4.

Table 4: Knowledge of EBF benefits in infants

EBF benefits in infants?	**Frequency**	**Percent**
Protection against diarrheal, gastro-intestinal & other infections	36	50.0
Immune system development	21	29.2
Strength	2	2.8
Brain (and intelligence) development	11	15.3
Others	2	2.8
Total	**72**	**100.0**

3.2.1.4. Actual knowledge of EBF

The summary of the information contained in table 2, 3 and 4 gives the level of the participants' actual knowledge regarding EBF. It has been made vivid, as mentioned in the table 5, that 74.4 % of the women had correct knowledge of EBF; that is to say, the women who had heard about EBF, who knew that the ideal duration of EBF is 6 months and who gave at least one of its benefits in infants.

Table 5: Actual knowledge of urban refugee women regarding EBF

Actual knowledge of urban refugee women regarding EBF	Frequency	Percent
Women with knowledge about EBF	67	74.4
Women without knowledge about EBF	23	25.6
Total	**90**	**100.0**

3.2.2. Analysis of the EBF knowledge of the women in the study

Age

Among the women with adequate knowledge about EBF, 43.3 % are younger than 30 years old and 31.1 % are 30 or older.

There is no statistic correlation between the age of the women in the study and their knowledge regarding EBF ($p = 0.823$).

Education level

The majority of the women among the ones with adequate knowledge about EBF (53.3 %) have secondary or university education level, and 21.1% have no or primary education level. Nevertheless, the education level of the participants does not influence their knowledge regarding EBF ($p = 0.562$).

Profession

Forty percent of the women who adequately knew about EBF hold some profession, and 34.4 % do not.

There is no correlation between women's profession and the knowledge ($p = 0.117$).

Marital status

Many among the women with correct knowledge regarding EBF (63.3 %) live with a partner, and 11.1% of them do not.

The knowledge of EBF does not depend upon the marital status ($p = 0.778$).

Partner's age

Among the women who have correct knowledge regarding EBF and who live with partners, 48.7 % have partners aged 30 or older; and 26.3 % live with partners younger than 30 years old.

The age of the partners does not influence the knowledge regarding EBF ($p = 0.481$).

Partners' education

Almost all of the partners (73.7%) have secondary or university education level, and 1.3% have no or primary education level.

No statistic correlation is found between knowledge regarding EBF and partner's education level ($p = 0.561$).

Partners' profession

The great majority of these partners (73.7 %) hold some jobs, and only one, representing 1.3 % of the partners, is jobless.

The women's knowledge does not depend upon their partners' profession. ($p = 0.089$).

Number of children

Among the women who know about EBF correctly, 35.5 % have 3 or less than 3 children and 38.9% have more than 3 children.

The number of the children does not influence the participants' knowledge regarding EBF. ($p = 0.071$).

Household monthly income

The larger proportion (60 %) of the participants who had appropriate knowledge about EBF have monthly income greater than RWF 30, 000, and a small percentage (14.4%) live on a monthly income equal to or less than RWF 30, 000.

The knowledge of the participants does not statistically depend upon the household monthly income ($p = 0.132$).

Table 6 contains the details.

Table 6: Analysis of the EBF knowledge of the women in the study

Variables	Number	Urban refugee Women's EBF knowledge				χ^2	P	Decision
		with knowledge		without knowledge				
		Frequency	%	Frequency	%			
Age (in years)								
< 30	53	39	43.3	14	15.6			
≥ 30	37	28	31.1	9	10.0	0.050	0.823	NS
Total	**90**	**67**	**74.4**	**23**	**25.6**			
Education								
No or primary	27	19	21.1	8	8.9			
Second. / univer.	63	48	53.3	15	16.7	0.337	0.562	NS
Total	**90**	**67**	**74.4**	**23**	**25.6**			

Profession								
Without profession	46	31	34.4	15	16.7			
With profession	44	36	40.0	8	8.9	2.460	0.117	NS
Total	**90**	**67**	**74.4**	**36**	**25.6**			
Marital status								
With a partner	76	57	63.3	19	21.1			
Without a partner	14	10	11.1	4	4.4	0.79	0.778	NS
Total	**90**	**67**	**74.4**	**23**	**25.6**			
Partners' age (in years)								
< 30	25	20	26.3	5	6.6			
≥ 30	51	37	48.7	14	18.4	0.497	0.481	NS
Total	**76**	**57**	**75.0**	**19**	**25.0**			
Partner's education								
No or primary educ.	1	1	1.3	0	0.0			
Second. / univ. educ.	75	56	73.7	19	25.0	0.338	0.561	NS
Total	**76**	**57**	**75.0**	**19**	**25.0**			
Partners' profession								
Without profession	3	1	1.3	2	2.6	2.892	0.089	NS
With profession	73	56	73.7	17	22.4			
Total	**76**	**57**	**75.0**	**19**	**25.0**			
Number of children								
≤ 3	48	32	35.5	16	17.8			
> 3	42	35	38.9	7	7.8	3.271	0.071	NS
Total	**90**	**67**	**74.4**	**23**	**25.6**			
Income (in RWF)								
≤ 30, 000	21	13	14.4	8	8.9			
> 30, 000	69	54	60.0	15	16.7	2.264	0.132	NS
Total	**90**	**67**	**74.4**	**23**	**25.6**			

3.2.3. Source of information

Relying on the information released by 90.3 % of the mothers in this study, who had been informed about EBF before the interview, health facilities were the major source of information about EBF. Other sources, as detailed in table 7, consisted of school, training programme and Community Health Workers with 4%.

Table 7: Source of information about EBF

Source of information	Frequency	Percent
Health facility	65	90.3
Media	2	2.8
Husband	1	1.4
Friend	1	1.4
Other sources	3	4.2
Total	**72**	**100.0**

3.2.4. Urban refugee women's attitudes towards EBF

3.2.4.1. Favourable or against the EBF

Almost all the mothers in the study (95.6 %), as summarised in table 8, answered that they were favourable to EBF, no matter whether they had been informed before or were just informed during the interview.

Table 8: Favourable or against EBF

Are you favourable to EBF for 6 months?	Frequency	Percent
Yes	86	95.6
No	4	4.4
Total	**90**	**100.0**

3.2.4.2. Encouraging other women to adhere to EBF

According to table 9, the women in the study confirmed their attitudes towards EBF by accepting or rejecting the idea of encouraging other women to adhere to EBF until 6 months from the infant's birth. Still 95.6 % agreed to encourage other mothers to practise EBF**.**

Table 9: Encouraging other women for EBF

Can you encourage other women to adhere to EBF for 6 months?	Frequency	Percent
Yes	86	95.6
No	4	4.4
Total	**90**	**100.0**

3.2.4.3. Future EBF practice

As can be read in table 10, a good proportion of the participants (72.2 %) expressed their desire to practising EBF in case they happened to have other children in future; this confirmation enhanced their attitude to the practice.

Table 10: Future practice of the EBF

Future of EBF practice	Frequency	Percent
Yes	65	72.2
No	25	27.8
Total	**90**	**100**

3.2.4.4. Overall attitudes of the participants towards EBF

From tables 8, 9 and 10, it may be seen that a lot of the mothers in this study (71.1%) have positive attitude towards EBF, despite the time when they were informed, whether prior to or during the interview.

Table 11 summarises the overall attitudes of the participants.

Table 11: Overall attitudes of the participants towards EBF

Attitudes of urban refugee women towards EBF	Frequency	Percent
Positive attitudes	64	71.1
Negative attitudes	26	28.9
Total	**90**	**100.0**

3.2.5. EBF practice by the urban refugee women

3.2.5.1. Initiation BF by the women

As shown by table 12, although the time of BF initiation differed, almost every mother in the study initiated it, and approximately 81% of the mothers reported that they first breastfed their children within the first hour following the birth of their children; and one mother, who represents 1.1 %, never breastfed her child.

Table 12: BF initiation

BF initiation	Frequency	Percent
Never	1	1.1
Within an hour	73	81.1
After an hour	16	17.8
Total	**90**	**100.0**

3.2.5.2. EBF duration actually used by the women

As can be seen in table 13, 34.4 % of the mothers, who participated in this study, had succeeded to exclusively breastfeed their children during the first 6 months of their life, although they might have not initiated BF within the first hour following the child's birth.

Table 13: Actual EBF practice by the mothers in the study

EBF duration	Frequency	Percent
6 months	31	34.4
Other than 6 months	59	65.6
Total	**90**	**100.0**

3.2.5.3. Analysis of actual practice of the EBF

Age

Among the women who succeeded to practice EBF up to 6 months, 21.1 % are younger than 30 years old and 13.3 % are 30 or older.

The EBF practice is not influenced by the age of the mothers ($p = 0.689$).

Education level

Considering the education level of the participants, 23.3 % of the mothers who successfully practised EBF to 6 months have secondary or university education, and 11.1 % have no or primary education.

The EBF practice is not correlated with the education level of the respondents ($p = 0.644$).

Profession

About 19 % of the women who succeeded to practise EBF have some profession, and nearly 16 % of them have no profession.

The profession does not influence the EBF practice ($p = 0.456$).

Marital status

Among the women who practised EBF to 6 months, 31.1% live with a partner, and 3.3% did not.

The mothers' marital status has no influence on the EBF practice ($p = 0.336$).

Partners' age

Among the women who practised EBF to 6 months and who live with partners, 25% have partners below the age of 30, and almost 12 % live with partners aged 30 or greater.

The age of the partners does not influence the EBF practice ($p = 0.915$).

Partners' education

Almost 37% of the women have partners with secondary or university education. The only woman whose partner has no or primary education level did not practice EBF.

The education level of the women's partners does not influence the EBF practice ($p = 0.442$).

Partners' profession

Nearly 37% among the women who practised EBF successfully and who lived with partners are composed of those whose partners have a job.

The partners' profession does not have any influence on the EBF practice by these women ($p = 0.177$).

Number of children

Among the women who practised EBF up to 6 months, 20% have more than 3 children, and 14.4 % have 3 or less than 3 children.

The EBF practice is independent of the number of children the respondents have ($p = 0.133$).

Household monthly income

The majority (28.9 %) of the women who practised EBF successfully have an income greater than RWF 30,000, and the minority (5.5 %) live on an income less than or equal to RWF 30,000. The monthly income of the participants' households is not associated with the EBF practice (p = 0.295).

Table 14 displays the details.

Table 14: Analysis of actual practice of the EBF

Variables	Number	Urban refugee Women's EBF practice				χ^2	p	Decision
		6 months		Other than 6 months				
		Frequency	%	Frequency	%			
Age (in years)								
< 30	53	19	21.1	34	37.8			
≥ 30	37	12	13.3	25	27.8	0.161	0.689	NS
Total	**90**	**31**	**34.4**	**59**	**65.6**			
Education level								
No or primary	27	10	11.1	17	18.9			
Sec. /univer.	63	21	23.3	42	46.7	0.213	0.644	NS
Total	**90**	**31**	**34.4**	**59**	**65.6**			
Profession								
Without profession	46	14	15.5	32	35.6			
With profession	44	17	18.9	27	30.0	0.555	0.456	NS
Total	**90**	**31**	**34.4**	**59**	**65.6**			
Marital status								
With a partner	76	28	31.1	48	53.3			
Without a partner	14	3	3.3	11	12.3	0.927	0.336	NS
Total	**90**	**31**	**34.4**	**59**	**65.6**			
Partners' age (in years)								
< 30	25	9	11.8	16	21.1	0.011	0.915	NS
≥ 30	51	19	25.0	32	42.1			
Total	**76**	**28**	**36.8**	**48**	**63.2**			
Partner's educ.								
No or primary	28	0	0.0	1	1.3			
Second. / univers.	48	28	36.8	47	61.8	0.591	0.442	NS
Total	**76**	**28**	**36.8**	**48**	**63.2**			

Partners' prof.								
Without profession	3	0	0.0	3	3.9			
With profession	73	28	36.8	45	59.3	1.822	0.177	NS
Total	**76**	**28**	**36.8**	**48**	**63.2**			
Numb. of children								
≤ 3	48	13	14.4	35	38.9			
> 3	42	18	20.0	24	26.7	2.257	0.133	NS
Total	90	**31**	34.4	**59**	.65.6			
Income (in RWF)								
≤ 30, 000	21	5	5.5	16	17.8			
> 30, 000	69	26	28.9	43	47.8	1.098	0.295	NS
Total	**90**	**31**	**34.4**	**59**	**65.6**			

4. DISCUSSION

4.1. Knowledge about EBF

Knowledge is paramount for the success of any intervention. Therefore, people concerned by the interventions must first of all be given some knowledge regarding the benefits that the interventions may offer.

In the scope of this study, an adequate knowledge regarding EBF in urban refugee women – normally considered as vulnerable groups and having reduced economic advantages [20] – would tremendously help promote EBF practice in that community, which in turn would reduce malnutrition cases among under-5 children and child mortality due to infections, and it would guarantee the optimal growth of the children in the community.

The current study has revealed that the majority of the urban refugee women involved in the study have correct knowledge about EBF. Among the 80 % of the women who reported that they were well informed about EBF and gave each at least one EBF advantage in infant as an evidence of their knowledge, 91.7% knew that the ideal EBF duration is 6 months. But the overall proportion of the women with suitable knowledge about EBF has fallen to 74.4 %. This knowledge, according to the majority of the respondents (90.3%), is mainly acquired from the health facilities.

The statistical analysis of the data has shown that there is no significant correlation between the women's knowledge regarding EBF and all the independent variables ($p > 0.05$); yet education level, profession and level of household income would normally have influence on the knowledge. Therefore the current situation may be explained by the fact that both educated and uneducated people have easy access to health care services thanks to AHA, which cares for the refugees' health, in partnership with the UNCHR.

However, this level of EBF knowledge, in comparison with same knowledge revealed by some studies conducted in different communities in the world may be considered satisfactory. As an illustration, a study conducted in Mbarara Hospital, in the Republic of Uganda in 2003,

showed that EBF knowledge level among the women was 73.8%, which is closer to the current study findings [21]. One of the poorest levels of knowledge regarding EBF (3.2 %) was revealed by a study conducted on Pakistani women [22].

4.2. Attitudes of the urban refugee women towards EBF

The majority of the participants have a positive attitude towards EBF to 6 months. Almost all of them (95.6 %) are favourable to EBF; this is why the same proportion of the mothers (95.6 %) have agreed that they will encourage other women to practise EBF up to 6 months. Nevertheless, a smaller number, 72.2 %, of the participants admit to practise it in future. This brings the overall positive attitudes of the participants towards EBF to 71.1%.

4.3. Practice of EBF among the urban refugee women

Effective implementation of EBF to 6 months is the ultimate goal of disseminating appropriate knowledge and promoting positive attitude regarding EBF. But, although the participants in this study have enough knowledge about and good attitudes towards EBF, their practice of it is very low: only 34.4% of the women involved in this study practised EBF to 6 months. This prevalence is not satisfactory because about 66 % of urban refugee children were not exclusively breastfed up to 6 months. In addition, the EBF practice rate displayed by this study may be considered as a relapse considering the rate in Rwanda (38%), the country in which these women live, and the rate in the DRC (36.1%), the country where the great majority of the participants come from, as herein mentioned.

A similar situation was portrayed by a study conducted on the topic in the University of Nigeria Teaching Hospital, where more than 90% of participants in a research had adequate knowledge of EBF, but only 21.2% of them reported to have practised it [23]. Another study conducted among Rural Jamaican Mothers concluded that the prevalence of EBF to 6 months among these women was only 22.2 % [24]. In Iran and in Malaysia, the rates were respectively 27.7% and 32.8% [25, 26].

Comparing the current results with the results of a similar study conducted on a similar group, Palestinian refugee women living in Jordan, it may be concluded that the urban refugee women living in Kigali have got an acceptable EBF rate for only 24.6% of the Palestinian women practised EBF up to 6 months [27].

The reason for such low practice of EBF regardless of the fact that the participants have a satisfactory level of knowledge and favourable attitudes towards EBF might be rooted in the cultural issues; which issues could better be dug out by a qualitative research. Nevertheless, some women in general believe that they have not enough milk to quench their infants' hunger and thirst [13]. That is why they give their children some liquid food and/or water before they are 6 months old.

Moreover, there is no significant statistical correlation between the EBF practice and all the independent variables ($p > 0.05$). This emphasises the fact that these mothers' failure to practise EBF up to 6 months would be due to phenomena different from the independent variables herein analysed. A study conducted in Kivu, in the DRC, for example, revealed that mothers initiated their infants with food principally at the age of 3 weeks in order to prepare the infants to stay at home, with baby-sitters, when the mothers resumed their duties (e.g. farming and businesses) [28]. This practice might have become a cultural norm among the Congolese women. And yet the urban refugee women concerned by the current study, who have some occupations, reported that they are involved in private activities (48%), mainly some small scale businesses.

Such shortage in EBF practice may bring about an increased risk of the disorders and illnesses such as lower and upper respiratory tract infections (including acute otitis media); atopic dermatitis and asthma in young children; overweight and obesity in older children and adults; high blood pressure; diarrhoea and so on, in childhood and even through adult life [29].

Therefore, since lack of EBF practice can expose children to fatalities, it constitutes a serious public health problem in both high and low income countries; but it is much more significant in low income countries, where it is estimated that increasing the rate of exclusive breastfeeding at six months to 90% could prevent 1.3 million childhood deaths per year [30].

CONCLUSION AND RECOMMENDATIONS

Conclusion

According to the findings of our study, the adequate knowledge level of the urban refugee women regarding EBF is evaluated at 74.4%. This proportion is made of the participants who have good information about EBF, know that the correct EBF duration is 6 months and can state the benefits EBF offers to the infant. However, this level of knowledge does not have any significant correlation with all of the independent variables ($p = > 0.05$).

The main source of information of the participants about EBF has been reported at 90.3% to be the health facilities. This is justifiable by the fact that all the pregnant women among the urban refugees have easy access to health services thanks to the health care support that AHA offers to the refugees in Rwanda.

The attitude of the participants towards EBF has been evaluated positive at 71.1%; the proportion which comprises women who are favourable to EBF, who agree to encourage other women for the practice and who are willing to practise EBF when they happen to have another baby. The attitude of the mothers involved in the study is not influenced by any of the independent variables either ($p > 0.05$).

Speaking of the EBF practice among the urban refugee women herein concerned, it is appalling to realise that in spite of the satisfactory knowledge level and the positive attitude that these mothers have regarding EBF, its level is still as low as 34.4%. And yet, the study displays no significant correlation between the level of EBF practice and all the independent variables although the education level, profession and the household income level would normally have an impact on the practice. Therefore, the causes of such considerable failure in practising EBF are likely to be hiding in the phenomenon such as cultural habits that are not tackled in the current study.

Thus, the positive points revealed by the study are:

- the urban refugee women have good knowledge regarding the exclusive breastfeeding to 6 months;
- the urban refugee women have also a positive attitude towards EBF to 6 months.

However, the weak point displayed by the study is a low level of the EBF practice among the urban refugee women.

Recommendations

In view of the above findings, we would recommend that AHA and UNHCR should organise a sensitisation campaign in order to increase the EBF practice among the urban refugee women, emphasising the importance and the duration of the EBF practice for 6 months.

Considering the relevance of qualitative approach in determining issues regarding cultural norms, beliefs and practices, it may be recommended that a qualitative study be conducted in order that reasons of the low level of the exclusive breastfeeding to 6 months among the urban refugee women may be discovered.

REFERENCES

1. Horne D. M. Attitudes towards handicapped Students: Professional, Peer, and Parent Reactions [on line]. 2010 [Accessed 20 January 2011]; Available at URL: http://books.google.rw/books?id=GKaG5JJZdW8C&pg=PA2&dq=Definition:+attitude&hl=en&ei=VwuKTY7MN4b6sAO36JCIDA&sa=X&oi=book_result&ct=re233333wgfsult&resnum=3&ved=0CC4Q6AEwAg#v=onepage&q=Definition%3A%20attitude&f=false

2. Soanes C. & Steveson A. Oxford Dictionary of English. 2nd Ed. Oxford: Oxford University Press; 2005

3. Al-Sahab B, Lanes A, Feldman M and Tamim H. Prevalence and Predictors of 6-Month Exclusive Breastfeeding among Canadian Women: a National Survey. BMC Pediatrics [on line]. 2010 April [Accessed 6 August 2010]; 10(20). Available at URL: http://www.biomedcentral.com/1471-2431/10/20 - 84k

4. Kent G. Child feeding and human rights. International Breastfeeding Journal [online]. 2006 December [Accessed August 29]; 1(27). Available at URL: http://www.internationalbreastfeedingjournal.com/content/1/1/27

5. Nascimento M B R, Reis MAM, Franco SC, Hugo I, Ferraro AA, and Grisi S J F E. Exclusive Breastfeeding in Southern Brazil: Prevalence and Associated Factors. BREASTFEEDING MEDICINE [on line]. 2010 April. [Accessed 6 August 2010]; 5(2): [79 – 85 pages]. Available at URL: http://www.liebertonline.com/doi/abs/10.1089/bfm.2009.0008

6. Engebretsen I M S, Wamani H, Karamagi C, Nulu Semiyaga, Tumwine J and Tylleskär T. Low adherence to exclusive breastfeeding in Eastern Uganda: A community-based cross-sectional study comparing dietary recall since birth with 24-hour recall. BMC Pediatrics [on line]. 2007 March. [Accessed on 4 September 2010]; 7(10): [12]. Available at URL: http://www.biomedcentral.com/1471-2431/7/10

7. UNHCR. Convention and protocol relating to the status of refugees [online]. 2010. Accessed 5 April 2011]. Geneva. Available at URL: http://www.unhcr.org

8. Sarah Bailey. IS LEGAL STATUS ENOUGH? L EGAL ST ATU S AND L IV E L IHOOD OBST ACL ESFOR U RBAN R E FUGE ES [online] 2004. [Accessed 5 April 2011]. Available at URL: http://repository01.lib.tufts.edu:8080/fedora/get/tufts:UA015.012.DO.00055/bdef:TuftsPDF/getPDF

9. WHO/UNICEF. Global strategy for infant and young child feeding [online]. 2003. Available at URL: www.who.int/nutrition/topics/global_strategy/en/index.html

10. Petrova A, Ayers C, Stechna S, Gerling J. A, and Mehta R. Effectiveness of Exclusive Breastfeeding Promotion in Low-Income Mothers: A Randomized Controlled Study. BREASTFEEDING MEDICINE [on line]. 2009 [accessed 6 August 2010]; 4(2). Available at URL: http://www.liebertonline.com/doi/abs/10.1089/bfm.2008.0126.

11. CDC. Breastfeeding among U.S. Children Born 1999—2007, CDC National Immunization Survey. [On line]. 2010 July [accessed 26 August 2010].Available at URL: http://www.cdc.gov/breastfeeding/data/NIS_data/

12. Alemayehu T, Haidar J and Habte D. Determinants of exclusive breastfeeding practices in Ethiopia. Ethiop.J.Health Dev [on line]. 2009 [accessed 26 August 2010]; 23(1). Available at URL: http://ejhd.uib.no/ejhd%20v23n1/12%20%20Determinants%20of%20exclusive%20breastfeeding%20practices%20in%20Eth.pdf

13. Singh, B. Knowledge, Attitude and Practice of Breastfeeding - A Case Study. Euro.J. Scientific Research [on line]. 2010 February [accessed 5 April 2011]; 40(3): [404 - 422]. Available at URL: http:// www.eurojournals.com/ejsr.htm

14. Mihrshahi S et al. Prevalence of EBF in Bangladesh and its Association with Diarrhoea and Acute Respiratory Infection: Result of the Multiple Indicator Clustor Surveil 2003. J HEALTH POP NUT [on line]. 2007 June [accessed 4 September 2010]; 25(2): [195-204]. Available at URL: http://www.docstoc.com/docs/8939487/Prevalence-of-Exclusive-Breastfeeding-in-Bangladesh-and-Its

15. NISR, FWP, UNICEF & World Relief Rwanda Comprehensive Food Security and Vulnerability Analysis and Nutrition Survey. [On line]. 2009 July [accessed 20 January 2011]. Available at URL: http://home.wfp.org/stellent/groups/public/documents/ena/wfp210888.pdf

16. Fewtrell S M, Morgan B J, Duggan C, Gunnlaugsson G, Hibberd L P, Lucas A and Kleinman E R. Maternal Nutrition and Optimal Infant Feeding Practices; Optimal duration of exclusive breastfeeding: what is the evidence to support current recommendations? American Journal of Clinical Nutrition [on line]. February 2007[Accessed 6 August 2010]; 85(2). Available at URL: http://www.ajcn.org/cgi/content/full/85/2/635S;consulted on 22 September 2010

17. WHO. Infant and Young child feeding practice. Accessed 20 April 2011. Available at URL: http://www.waba.org.my/pdf/Infant-n-Young-Feeding.pdf

18. Exclusive breastfeeding (% of children under 6 months) in Ghana [online]. 2010. [Accessed 5 April 2011]. Available at URL: http://www.tradingeconomics.com/ghana/exclusive-breastfeeding-percent-of-children-under-6-months-wb-data.html

19. Ministère du Plan et Macro International. Enquête Démographique et de Santé, République Démocratique du Congo 2007 [Demographic and Health Survey 2007]. Calverton, Maryland, U.S.A.: Ministère du Plan et Macro International.

20. EL-BUSHRA J, and FISH K. Refugees and Internally Displaced Persons. In : Hunt Alternatives Fund and International Alert. Inclusive Security, Sustainable Peace: A Toolkit for Advocacy and Action [on line]. London: Jason Print and Design; 2004 [accessed 22 September 2010]. Available at URL: http://www.huntalternatives.org/download/44_section5.pdf

21. Ampeire Isaac Petit. Perception and knowledge on exclusive breastfeeding among women attending antenatal and postnatal clinics. A study from Mbarara hospital – Uganda, august 2008.

22. Naheed Parveen, Rehana Majeed, Mansoor Ali Khawaja. Evaluation of breast feeding practices. Gomal journal of medical sciences [online]. 2009 January-June; 1(7). Accessed 13 april 2011. Available at url: http://www.gjms.com.pk/files/gjms%20vol-7-1%20(3).pdf

23. U O Uchendu, A N Ikefuna, I J Emodi. Factors associated with exclusive breastfeeding among mothers seen at the University of Nigeria Teaching Hospital. SAJCH [online]. Accessed 9 April 2011. 1(3); 2009 may. Available at URL: http://www.sajch.org.za/index.php/SAJCH/article/viewFile/163/106

24. Chatman LM, Salihu HM, Roofe ME, Wheatle P, Henry D & Jolly PE. Influence of Knowledge Attitudes Exclusive Breastfeeding Practice among Rural Jamaican Mothers. PubMed [On line]. 2004 December [Accessed 8 April 2011]; 31(4): [6 pages]. Available at URL: http://www.ncbi.nlm.nih.gov/pubmed/15566338

25. Beheshteh Olang, Khalil Farivar, Abtin Heidarzadeh, Birgitta Strandvik, Agneta Yngve. Breastfeeding in Iran: prevalence, duration and current recommendations. International Breastfeeding Journal [online]. 200 January [Accessed 13 April 2011]. Available at URL: http://www.researchgate.net/publication/26846044_Breastfeeding_in_Iran_prevalence_duration_and_current_recommendations

26. Tan KL. Knowledge, attitude and practice on breastfeeding in Klang, Malaysia. IMJ [on line].18(1); June 2009.

27. UNRWA. Assessment of breast feeding practices among mothers of infants utilizing UNRWA clinics. [Online]. 2001 October. Available at URP: http://www.emro.who.int/rhrn/pdf/Assessment%20of%20breast%20feeding%20practices%20among%20mothers%20of%20inf.pdf

28. Vis H. L, Hennart P. and Rucababisha M. Allaitement Maternal en Zone Rurale Pauvre. L'Alimentation Maternel et l'Allaitement au Kivu, Zaïre. CarnEnf. 1981;55(56) :171-189

29. Cattaneo A. Breastfeeding - Consequences for individual and society. EUPHIX [online]. 2009 January [Accessed 22 April 2011]. Available at URL: http://www.euphix.org.

30. Jones G, Steketee R. W, Black R. E, Bhutta Z. A, Morris S.S, and the Bellagio Child Survival Study Group. How many child deaths can we prevent this year? *The Lancet [on line]*. July 2003 [Accessed 27 April 2011]; 362 (9377): [6 pages]. Available at URL: http://linkinghub.elsevier.com/retrieve/pii/s0140-6736%2803%2913811-1

APPENDIX

Appendix 1: QUESTIONNAIRE

Number of the questionnaire: _____

Date of the survey: _____

Place of the survey: _____

No	Questions	Codes for answers
Section 1	**Questions regarding socio-demographic information**	
1	How old are you?	1 = 15 – 19 2 = 20 – 24 3 = 25 – 29 4 = 30 – 34 5 = 35 – 39 6 = 40 - 44 7 = 45 – 49 8 = ≥ 50
2	What's your education level?	1 = None 2 = Primary 3 = Secondary 4 = Tertiary
3	What's your profession?	1 = none 2 = private 3 = public
4	What's your marital status?	1 = Single (mother) 2 = Married 3= cohabitating with a man 4 = Divorced 5 = Widow 6 = other (to be specified)
5	If married, what's your husband's age?	1 = 15 – 19 2 = 20 – 24 3 = 25 – 29 4 = 30 – 34 5 = 35 – 39 6 = 40 - 44 7 = 45 – 49 8 = ≥ 50
6	What's your husband's education level?	1 = None 2 = Primary 3 = Secondary 4 = Tertiary
7	What's your husband's profession	1 = none 2 = private 3 = public
8	How many children do you have?	1 = one 2 = Two 3 = Three 4 = More than tree
9	What's your monthly income (in Rwanda franks)?	1 = 0 – 30,000 2 = 30,100 – 100,000 3 = > 100,000

Section 2	**Questions concerning knowledge of EBF**	
1	Have you ever been informed about EBF?	1 = Yes 2 = No/never
2	(If yes) How long should an infant be breastfed before it is given additional food or liquid?	1 = 0 – <2 2 = 2 – 3 3 = 4 – 5 4 = 6 4 = > 6
3	What are the benefits gained from EBF in the infant?	1 = Protection from various infections 2 = Good growth 3 = Immune system development 4= Strength 5 = Brain and intelligence development 6 = Others (specify)
Section 3	**Question about source of information about EBF**	
1	How did you get information about EBF	1 = Health Facility 2 = Media 3 = Husband 4 = Friend 5 = relatives 6 = neighbours 7 = Other sources (specify)
Section 4	**Questions concerning attitude towards EBF**	
1	Are you for the EBF for 6 months?	1 = Yes 2 = No
2	If no, what's the reason?	1 = an infant needs water 2 = I produce little milk 3 = in our custom or habit children eat before they are 6 months old 4 = no more child expected 5 = health problem 6 = other reasons (specify)
3	Can you encourage other women to adhere to EBF for 6 months?	1 = Yes 2 = No
Section 5	**EBF Questions concerning practice of EBF**	
1	When did you first breastfeed your child?	1 = never 2 = Within the 1st 30 minutes 3 = Between 30 minutes & 1 hour 4 = after an hour
2	How long did you breastfeed your child without additional food or liquid including water?	1 = < 2 months 2 = 2 – 3 months 3 = 4 – 5 months 4 = 6 months 4 = > 6 months
3	Do you wish to practice EBF next time you have a child?	1 = yes 2 = no
4	If no or I don't know, could you tell why?	1 = an infant needs water 2 = I have not enough milk 3 = no more chid expected

		4 = in our custom or habit,children eat before 6 months of age 5 = health problem 6= other reasons (specify)
Section 6	**Other questions**	
1	Have ever been negatively influenced toward EBF?	1 = yes 2 = no
2	If yes, who influenced you?	1 = my husband 2 = a friend 3 = husband's relatives 4 = my relatives 5 = neighbours 6 = others
3	Have ever been negatively influenced toward EBF?	1 = yes 2 = no
4	If yes, who influenced you?	1 = my husband 2 = a friend 3 = husband's relatives 4 = my relatives 5 = neighbours 6 = others

QUESTIONNAIRE (en français)
Numéro du questionnaire: _____
Date de l'enquête: _____
Lieu de l'enquête: _____
INSTRUCTION : cochez une des réponses proposées pour chaque question ou donnez votre propre réponse là où c'est nécessaire.

No	Questions	Codes de Réponses
Section 1	**Questions relatives aux informations socio-démographiques**	
1	Quel est votre âge?	1 = 15 – 19 2 = 20 – 24 3 = 25 – 29 4 = 30 – 34 5 = 35 – 39 6 = 40 - 44 7 = 45 – 49 8 = ≥ 50
2	Quel est votre niveau d'éducation?	1 = sans 2 = Primaire 3 = Secondaire 4 = universitaire
3	Quelle est votre profession?	1 = sans 2 = privé 3 = publique
4	Quel est votre statut matrimonial?	1 = fille mère 2 = Mariée 3 = union libre 4 = Divorcée 5 = veuve 6 = autre (a specifier)
5	Si vous êtes mariée ou vivez en union libre, quel est l'âge de votre conjoint?	1 = 15 – 19 2 = 20 – 24 3 = 25 – 29 4 = 30 – 34 5 = 35 – 39 6 = 40 - 44 7 = 45 – 49 8 = ≥ 50
6	Quel est le niveau d'éducation de votre conjoint ?	1 = sans 2 = Primaire 3 = Secondaire 4 = universitaire
7	Quel est la profession de votre conjoint?	1 = sans 2 = privé 3 = publique
8	Combien d'enfants avez-vous?	1 = un 2 = deux 3 = trois 4 = plus de trois

9	Quel est le revenu mensuel de votre foyer (en francs rwandais)?	1 = 0 – 30,000 2 = 30,100 – 100,000 3 = > 100,000
Section 2	**Questions relatives à la connaissance sur l'allaitement maternel exclusive**	
1.	Avez-vous déjà entendu parler de l'allaitement maternel exclusif ?	1 = oui 2 = non/jamais
2	Si oui, combien de mois faut-il allaiter un bébé avant de lui donner des aliments liquides et solides ?	1 = 0 – < 2 2 = 2 – 3 3 = 4 – 5 4 = 6 5 = > 6
3	(Si oui) quels sont les avantages que l'allaitement maternel exclusif offre à l'enfant?	1 = Protection contre les infections diverses 2 = bonne croissance 3 = développement du système immunitaire 4= force 5= développement du cerveau et d'intelligence 6 = autres (a spécifier)
Section 3	**Question relative aux sources d'information sur l'allaitement maternel exclusive**	
1	Comment (ou par quelle voie) avez-vous été informée sur l'allaitement maternel exclusif ?	1 = Formation sanitaire 2 = Media 3 = mon mari 4 = un(e) ami(e) 5 = membre de famille 6 = voisin 7 = autres (a spécifier)
Section 4	**Questions relatives à l'attitude envers l'allaitement maternel**	
1	Etes-vous pour l'allaitement maternel exclusif?	1 = oui 2 = Non
2	Si non (ou je ne sais pas), pour quoi ?	1 = l'enfant a besoin de l'eau 2 = je n'ai pas assez de lait 3 = c'est notre habitude de faire manger les enfants avant 6 mois d'âge 4 = je n'aurais plus d'autres enfants 5 = problème de santé(VIH, ...) 6 = autres (a spécifier)
3	Pouvez-vous encourager d'autres femmes à adhérer à l'allaitement maternel exclusive?	1 = oui 2 = Non
Section 5	**Questions relatives aux pratiques de l'allaitement maternel exclusive**	
1	Quand avez-vous mis votre bébé aux seins pour la toute première fois après sa naissance?	1 = jamais 2 = au courant de premières 30 minutes 3 = entre 30 minutes & 1 heure

		4 = après une heure
2	Pendant combien de mois avez-vous allaité votre enfant avant de lui donner toute autre chose (de l'eau, du lait ...)?	1 = < 2 mois 2 = 2 – 3 mois 3 = 4 – 5 mois 4 = 6 mois 5 = > 6 mois
3	Comptez-vous pratiquer EBF prochainement si vous avez un autre enfant ?	1 = oui 2 = non
4	Si non (ou je ne sais pas), pour quoi?	1 = l'enfant a besoin de l'eau 2 = je n'ai pas assez de lait 3 = c'est notre habitude de faire manger les enfants avant 6 mois d'âge 4 = je n'aurais plus d'autres enfants 5 = problème de santé 6= autres (a spécifier)
Section 6	**Autres questions**	
1	Avez-vous déjà eu de l'influence négative concernant l'allaitement maternel exclusif ?	1 = oui 2 = non
2	Si oui, qui vous a influencée?	1 = mon mari 2 = un(e) ami(e) 3 = membre de famille (mari) 4 = membre de la famille (femme) 5 = voisin (e) 6 = autres (a spécifier
3	Avez-vous déjà eu de l'influence positive concernant l'allaitement maternel exclusif ?	1 = oui 2 = non
4	Si oui, qui vous a influencée?	1 = mon mari 2 = un(e) ami(e) 3 = membre de famille (mari) 4 = membre de la famille (femme) 5 = voisin (e) 6 = autres (a spécifier)

Appendix 2

CONSENT FORM

Hello. My name is **Bahemuka Jino Gédéon**; I am a student at the National University of Rwanda/School of Public Health. I am conducting a survey on exclusive breastfeeding to 6 months. I have some questions to ask refugee mothers who have children aged between 6 months and 2 years about their knowledge, attitude and practice regarding that kind of breastfeeding.

The information you will give me will remain very confidential; besides you are not asked to tell your name. You are very free to participate to this study or not; but I hope that you will help for your point of view is paramount for this research; moreover, I can ensure you that this study will not jeopardise your life. However, if you feel like not answering a question, please let me know so that we may move to the following one. The interview will not exceed 15 minutes.

Should you have a question, you are free to ask it.

May we proceed?

FORMULAIRE DE CONSENTEMENT

Bonjour madame. Je m'appelle **Bahemuka Jino Gédéon** ; j'étudie à l'Ecole de Santé Publique de l'Université Nationale du Rwanda. J'effectue une enquête sur l'allaitement maternel exclusive jusqu'à 6 mois dans le cadre de mon mémoire. Ainsi, je pose des questions aux mamans refugiées urbaines qui ont des enfants âgés de 6 mois à deux ans concernant leur connaissance, attitude et pratique de cet allaitement.

Les informations que vous allez me fournir seront gardées strictement confidentielles ; pour ce faire, vous n'êtes pas tenue à me communiquer votre nom.

La participation à cette enquête est volontaire : vous êtes libre d'accepter ma demande ou non; mais j'espère que vous l'accepterez car votre opinion est particulièrement importante pour notre étude. Surtout, je vous garantie que cette étude n'aura aucun effet néfaste sur votre vie. Néanmoins s'il arrivait que vous ne souhaitiez pas répondre à une des questions, dites-le moi et je passerai à la question suivante. Vous pouvez aussi interrompre l'interview à n'importe quel moment. Cette interview durera 15 minutes au maximum. Avez-vous des questions à me poser concernant l'enquête?

Etes- vous d'accord qu'on commence l'entretien maintenant?