British Journal of Multidisciplinary and Advanced Studies:
Health and Medical Sciences 4 (1),149-165, 2023
Print ISSN: 2517-276X
Online ISSN: 2517-2778
Website: https://bjmas.org/index.php/bjmas/index
Published by European Centre for Research Training and Development UK

The Unfavoring Factors for Exclusive Breastfeeding in The Albert Bartel Health Area, Karisimbi Health Zone, Goma; Democratic Republic of the Congo

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DOI: https://doi.org/10.37745/bjmas.2022.0113 Published February 15, 2022

Citation: Abintegenke A.I. (2023) The Unfavoring factors for exclusive breastfeeding in the Albert Bartel health area, Karisimbi Health zone, Goma; Democratic Republic of the Congo, *British Journal of Multidisciplinary and Advanced Studies*: Health and Medical Sciences 4 (1),149-165

ABSTRACT: *Exclusive breastfeeding is one of strategies which promote growth of infants by preventing to them several health problems. Therefore, many factors may foster or hinder this measurement which is beneficial not only to the health of the infant but also to the health of the mother. So, the study aimed at identifying Unfavoring factors for Exclusive breastfeeding in the Albert Bartel health area, in Goma. A cross-sectional study was conducted on a sample of 259 breastfeeding women on whom the survey focused. After data collection, processing and analysis, the following factors were found significantly unfavorable for exclusive breastfeeding, namely: the illiteracy [P-value: 0.004; 95% CI: 0.01093385-0.05489074], the household size of 6 and more, [P-value: 0.047; 95% CI: 0.4203445 - 0.5453086], the refusal to breastfeed on the grounds of preventing breast deformation [P-value: <0.001; 95% CI: 0.1160577- 0.2085643], the parity. [P-value: 0.020; 95% CI: 0.4432101- 0.5682389], the breast diseases during breastfeeding [P-value: 0.022; 95% CI: 0.06344411-0.1391888] and Prenatal education. [P-value: 95% CI: <0.001; 0.2713317-0.3890251]. The study recommends that local leaders take into consideration these different factors concerning health education within health facilities and in the community.*

KEY WORDS*: Goma, Unfavoring, Factors, Exclusive, Breastfeeding.*

INTRODUCTION

In developing countries, breastfeeding remains an absolute imperative because of the security it provides in the prevention of digestive infections and its role in birth control. According to the World Health Organization (WHO), around 10.9 million children under the age of five die each year worldwide, with around 35% of them before the first year of life. Of these deaths, 60% are due to malnutrition and are preventable, as most often they are associated with incorrect feeding practices. It is estimated that the lives of 1.2 million children could be saved each year worldwide if this practice were generalized (Coulibaly et al., 2014).

It is in this context that WHO and UNICEF recommend breastfeeding initiation of the children within the first hour of birth and exclusively breastfeeding for the first 6 months of life – meaning no other foods or liquids are provided, including water. Infants should be breastfed on demand – that is as often as the child wants, day and night. No bottles, teats or pacifiers should be used. From the age of 6 months, children should begin eating safe and adequate complementary foods while continuing to breastfeed for up to 2 years and beyond.(World Health Organization, 2001).

The American Academy of Pediatrics also states that "exclusive breastfeeding for the first 6 months is so important and that there is no need to introduce infant formula or other sources of nutrition for most infants. Beyond 6 months, breastfeeding should be maintained along with nutritious complementary foods. There are continued benefits from breastfeeding beyond 1 year, and up to 2 years especially in the mother. Long-term breastfeeding is associated with protections against diabetes, high blood pressure, and cancers of the breast and ovaries" (AAP, 2022).

Breastfeeding is the nourishment designed by nature for the newborn and the infant; however, its prevalence is nowadays not optimal. Lactation can decrease the risk of sudden infant deaths syndrome by 36% and prevent 13% of infant mortality worldwide.(Brahm & Valdés, 2017).Overall, only 19% of children under 6 months were exclusively breastfed. In other words, the vast majority of young children (81%) are not breastfed as recommended by WHO and UNICEF. (Jean Pierre MASSAMBA & Monique BARRÈRE, 2005). According to the United Nations Children's Fund (UNICEF), less than half of all newborns around the world (44 percent) are exclusively breastfed during the first five months of their lives. However, despite the numerous health benefits for both babies and mothers, breastfeeding isn't always easy (Alia Chughtai, 2022).

For the united nations, "the worldwide rate of exclusive breastfeeding until august 2022 is only 41% and this rate is below the targets established by the WHO: 50% for 2025 and 70% for 2030. The United Nations (UN) report that "developed countries have the lowest rates of exclusive breastfeeding (23.9%). On the other hand, in less developed countries, the rate of exclusive breastfeeding in the first semester of life is above the global average, reaching 50.8%. The highest rates were found in Rwanda (86.9%), Burundi (82.3%), Sri Lanka (82%), Solomon Islands (76.2%) and Vanuatu (72.6%)." (Duarte Lopes et al., 2022)
The Democratic Republic of Congo is not spared from this situation. The Unicef DRC announcement of 17 August 2020 reports that "Five out of 10 infants in the Democratic Republic of Congo (DRC) receive liquids and foods in addition to breast milk during their first six months of life, which contributes to child malnutrition, illness and even death. It is horrible to see that the DRC is the first country in West and Central Africa where children do not grow up well according to the same report. In West and Central Africa, the number of children under five with stunting increased from 23 to 29 million between 2000 and 2018 and about 4.9 million children suffering from severe acute malnutrition against 8.5 million children under 5 affected by chronic malnutrition in the DRC (UNICEF_RDC, 2020).

An exclusively breastfed child during his first six months' benefits from good height and weight growth due to the fact that he is less exposed to diarrheal diseases and malnutrition, which is why the WHO and

UNICEF recommend the inhabitants of the world to do not give anything even water to the infant, but the situation is different than this in DRC.

For the WHO, if more than 20% of children are underweight, emphasis should be placed on breastfeeding (World Health Organization, 1995).Several studies have shown that exclusive breastfeeding is so important to guarantee the health status of the child as it is the case of the study made in Conakry entitled: effects of exclusive versus non-exclusive breastfeeding on specific infant morbidities by Diallo that states "exclusive breastfeeding significantly protected the infants against many of the studied morbidities […] and specifically against diarrhea […], respiratory infections […] and low growth rate […]" (Diallo et al., 2009). It is noted that the risk of death is up to three times higher than for exclusively breastfed infants. (UNICEF_RDC, 2020),

It is obvious that the literature is poor regarding the distribution of the phenomenon in all provinces of the DRC. Then, being ticked by the fact that the children of the DRC are the first who do not grow properly because of the unhealthy habits consisting in not exclusively breastfeeding and being driven by a desire to support the efforts of WHO and UNICEF, we initiated this study in the aim of identifying the Unfavoring factors for exclusive breastfeeding in the Albert Bartel health area, Karisimbi Health zone.

At the center of the study, a main question arises: what are the unfavorable factors for exclusive breastfeeding? From this main question arise secondary questions which are: - Socio-demographic factors such as the age of the breastfeeding woman, Multiparity and the education of the mother adversely influence exclusive breastfeeding? - Are organizational factors such as the absence of health education during the prenatal period unfavorable to exclusive breastfeeding? - Socio-sanitary and maternal factors such as insufficiency of breast milk, breast diseases are they unfavorable to exclusive breastfeeding? - Socio-cultural factors such as the refusal to breastfeed an infant on the grounds of avoiding breast deformation, Spousal support are unfavorable to exclusive breastfeeding?
Thus, the study aims to establish the significant link between these different variables above mentioned, considered to be explanatory (independent variables) and exclusive breastfeeding taken as a variable to be explained (dependent variable)

The scope of the work is such that the study took place in the Albert Bartel health area, health zone of Karisimbi in the city of Goma for a period of 6 months from June 01 to December 31, 2022

LITERATURE REVIEW

This part of the work first presents an overview of the theoretical literature review before empirically presenting the data from research related to this subject.

Theoretical review

There is an extensive literature in relation to breastfeeding. some focus on the anatomy of the breast and

the physiology of milk secretion but in this section we will focus on understanding exclusive breastfeeding and its benefits for the child, mother, family, and for the society.

Understanding breastfeeding:
Exclusive breastfeeding is the fact of feeding the child only with breast milk without adding water, decoction, fruit juice, milk, herbal tea or other foods except prescribed drugs. Water or other liquids and even less solid foods should not be given between birth and six months of age" (Coulibaly et al., 2014)

Benefits of breastfeeding:
Despite their nutritional qualities and diversity, the most effective artificial milks fail to reproduce certain properties of breast milk.

Nutritional and physiological aspects: Human milk is unquestionably the best food for the newborn. Its variable nutritional composition makes it possible to adapt to the needs of the baby and the bioavailability of the nutrients in this milk is also very high. The colostrum which is the first milk that comes out of the breast immediately after childbirth, it is a yellow and thick liquid It contains antibodies that protect against disease. The colostrum that comes out in small quantities also contains vitamins and nutrients that allow the baby to feed until the milk comes. It protects the digestive system, cleans the baby's stomach and increases its chances of survival. (F. SAVAGE, 1996) *Immunological aspects:* Babies fed with breast milk have less frequent diarrhea than babies fed with cow's milk or artificial milks. The reasons for this are as follows: - Breast milk is pure; it does not contain pathogenic germs. Breast milk shares antibodies from the mother with her baby. These antibodies help babies develop a strong immune system and protect them from illnesses.

Psychological aspects: Mother-child contact during breastfeeding promotes maximum sensory stimulation from a visual (child's gaze), tactile, auditory, gustatory and olfactory point of view. Nursing mothers are likely to cuddle, rock, touch and sleep with their baby.

Benefits for the child: Breast milk protects against diarrhea because it is clean; -There is no allergy to breast milk; It protects against constipation and colic; -It promotes brain development; - It establishes the bonds of affection between the mother and the child; -Exclusively breastfed children grow well and are not often at risk of being malnourished.

Benefits for the mother: Breastfeeding, in addition to the many benefits it brings to children, has many advantages for mothers: - It strengthens self-esteem and strengthens the feeling of pride linked to the fact of offering health and life to another human being. - During the postpartum phase, it helps to restore the uterus to its normal size. - Early breastfeeding is triggered by nipple sucking; - It reduces the risk of breast, ovarian and uterine cancer. Some cancers, type 2 diabetes, and high blood pressure are less common among women who breastfeed. - It helps to overcome the risks of postpartum depression. - Long-term breastfeeding contributes to the spacing of births. (CDC, 2021) /

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Benefits for the family: - Less expense (bottles, milk, water, wood etc.); - Baby is sick less often (less expenses); -Develops harmony in the family.

Benefits for society: -Reduction of the infant morbidity and mortality rate; -Reduction of expenses; - Creates a mother-child affection which reduces the risk of crime and violence in adults. -If the crack persists and breastfeeding is painful, express the breast manually or with a breast pump for a few feedings.

Empirical review

This study is not the first to deal with the factors that hinder exclusive breastfeeding. This part of the work aims to highlight the various works carried out on this research subject throughout the world.According to the systematic study conducted in Brazil, the exclusive breastfeeding in the first six months is associated with place of residence, maternal age and education, maternal labor, age of the child, use of a pacifier, and financing of primary health care. (Boccolini et al., 2015).A relationship between the multiparty and the exclusive breastfeeding was found by some researchers. Ferreira et al., (2018) found a significant association between multiparty and exclusive breastfeeding variables, showing up as a protective variable for this practice. However, there was not association between the fact of receiving guidance on breastfeeding during prenatal care and exclusive breastfeeding ". The external factors must be found elsewhere.

(Wallenborn et al., 2017) Overall, 91.7% of women did not exclusively breastfeed the recommended duration and one in five (21.4%) did not know current breastfeeding recommendations. Women without knowledge of exclusive breastfeeding recommendations had a lower probability of breastfeeding compared with women with knowledge of breastfeeding recommendations. Furthermore, after adjusting for confounders, women without knowledge of exclusive breastfeeding recommendations had 11% higher risk (HR = 1.11; 95% CL = 1.01–1.23) of ceasing breastfeeding at every point in time compared with women who reported knowledge of breastfeeding recommendations while exclusive breastfeeding was not significant.

According to the study conducted in CHP maternity: Princess Lalla Meryem de Larache (Maroc), "Exclusive breastfeeding in full-term newborns in the maternity ward: Incidence, associated factors, knowledge and practices" (KITANI, S., 2018), there is a closed relationship between the age of the mother, the education level of husbands and the early breastfeeding. The major results found are: "34 women received advice on breastfeeding during pregnancy monitoring, 40% of them had continued exclusive breastfeeding for the first 6 months of life, Half of the mothers (49%) had not encountered any problems and Continued to breastfeed until age 2, As for the others (51%), explained the cessation of breast-feeding by milk insufficiency (40%), maternal fatigue (35%), refusal to latch on by the baby (21%) and crevices (4%), the rate of early breastfeeding is associated significant at maternal age (p=0.02), women aged 30 and over are more likely to breastfeed in the first hour after childbirth than younger women, Breastfeeding initiation varied by level education of the mother without being significant (p=0.1), illiterate women are more likely to breastfeed than educated women, There is a significant relationship between the level of education of the father and the early breast (p=0.02), since Women whose illiterate husbands breastfeed

earlier than those with educated husbands. there is no significant relationship between the start of breastfeeding and Socio-economic level (p=0.1), yet mothers of average Socio-economic level are more likely to opt for early breastfeeding, Primiparous breastfeed less precociously than multiparous".

The early breastfeeding is also identified by another survey realized by Mazo-Tomé and Suarez-Rodriguez in Spanish. A part form this, having a vaginal birth, no complications giving birth and skin-to-skin contact in the delivery room are predisposing factors necessary to establish a good breastfeeding at hospital discharge. (Mazo-Tomé & Suárez-Rodríguez, 2018).

Wanting to promote the exclusive breastfeeding, a study was considered in order to provide strategies of overcoming the clinical barriers of breastfeeding. The results are as follow: "ensuring prenatal education, supportive maternity practices, timely follow-up, and management of lactation challenges. Among reasons of discontinuing breastfeeding for nursing mothers, include the perception of insufficient milk, misinterpretation of infant crying, returning to work or school, early introduction of solid foods, and lack of support"(Neifert & Bunik, 2013). The idea of ensuring prenatal education is supported by Feldman-Winter , who stated that "best methods of support during the preconception period are needed to prepare women to exclusively breastfeed as a cultural norm" (Feldman-Winter, 2013).For Sayres and Visentin, "The mode of delivery, mother's socioeconomic status, […] have been reported as factors that influence breastfeeding. According to their results, Family-centered models for breastfeeding, peer support groups, and technology have been studied as potential ways to help women meet their breastfeeding goals" (Sayres & Visentin, 2018),Exclusive breastfeeding (EBF) during the first 6 months of life is crucial for optimizing child growth, development and survival, as well as the mother's wellbeing. Mother's employment may hinder optimal breastfeeding, especially in the first 6 months. (Kimani-Murage et al., 2021)

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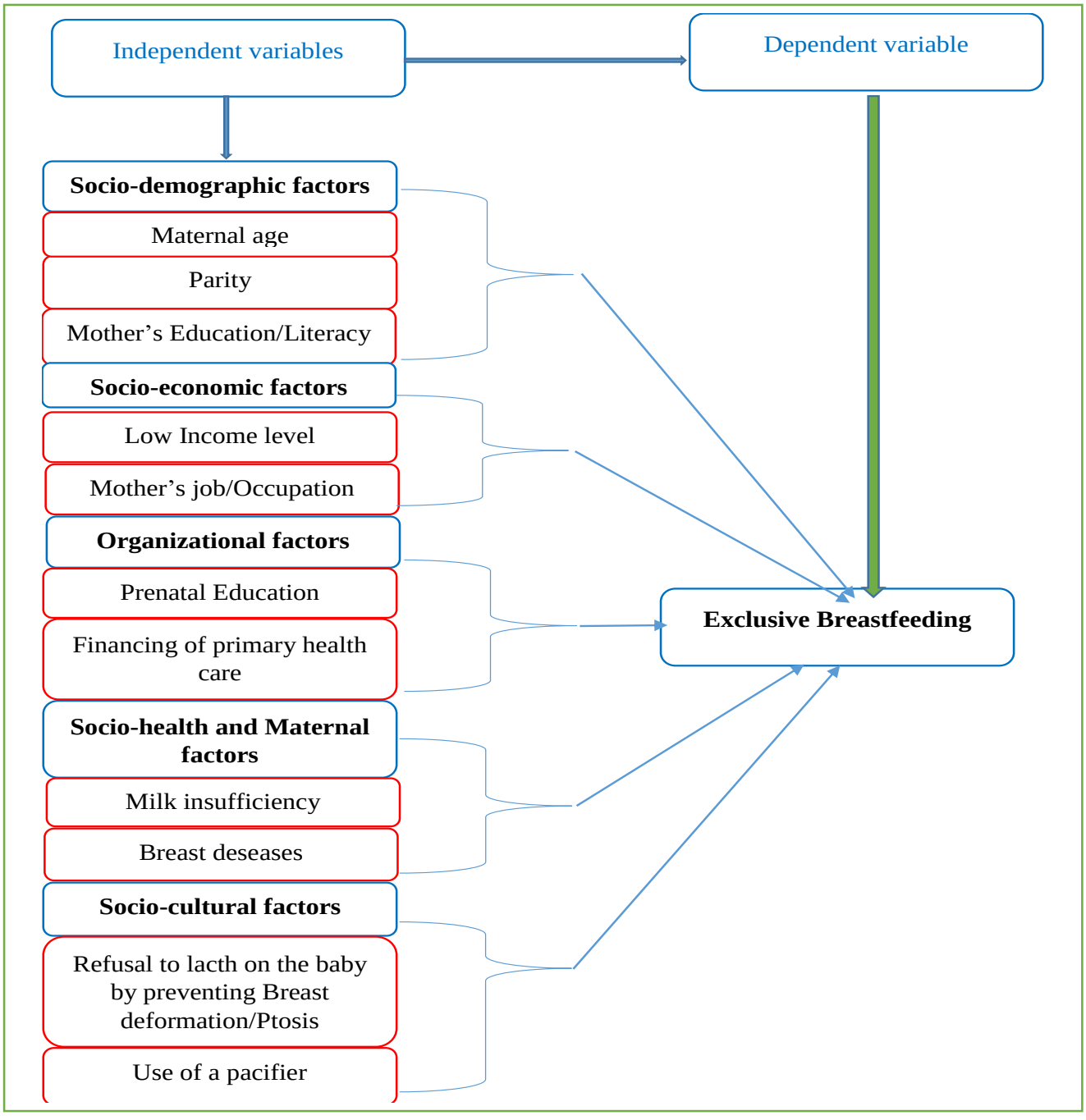
Figure 1. Conceptual and operational framework



Source: Author's self-conceptualization.

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MATERIAL AND METHODS

The study is cross-sectional with a descriptive and analytical aim relating to Unfavoring factors for exclusive breastfeeding in the Albert Bartel health area, Karisimbi Health zone, from January 1, 2022 to September 30, 2022. Based on the target population of breastfeeding women, the study population is made up of 4% of the total population of the health area. The total population being 39,763 inhabitants, 4% of this population are 1,590 breastfeeding women. The sample size is determined by the Lunch's formula as used by Kanambe JUAKALY MUSSA in his research (Kanambe MUSSA, 2012):

$$n = \frac{N(Z)^2xP(1-P)}{N(d)^2+(Z)^2xPx(1-P)} \text{ with:}$$

*P= Proportion of individuals who have the characteristic to be studied (As it is not known, the proportion to use is 50%= 0.5) *Q = Proportion of individuals who do not have the characteristic to be studied (as it is not known the proportion to be used is 50%=0.5); *Z = value of the confidence coefficient relating to the precision sought with the degree of error (α)=0.05, the z value is 1.96; *d = degree of precision in estimating the proposal of people with the characteristic, it is 0.05.

so, $n = \frac{1590(1.96)^2X0.5X0.5}{1590(0,05)^2+(1,96)^2X0.5X0.5} = 309\ breastfeeding\ women$

According to the author (Le Maux Bénoit, 2007), when the size of population is <100.000, it is necessary to use a correction factor that is: $nf = \frac{n}{1+(\frac{n}{N})} = \frac{309}{1+(\frac{309}{1590})} = 259\ breastfeeding\ women$

The study used the stratified random sampling. The strata are made up of the different avenues. To find the number of respondents per avenue, we calculated the proportion of each avenue at which we multiplied by the sample size.

Table 1. Stratification of the sample

N°	*Avenues*	*Number*	*Proportion*	*259*
1	Geometre	4824	0.12	31
2	Kilimandjaro	3632	0.09	24
3	Kasindi I	3776	0.09	25
4	Mulongwe	3214	0.08	21
5	Kasindi II	3045	0.08	20
6	Bilati	1654	0.04	11
7	Bukonde	4843	0.12	32
8	Kasindi III	2823	0.07	18
9	Kisibangi	3990	0.10	26
10	Bukowa	2028	0.05	13
11	Des plateaux	3756	0.09	24
12	Maendeleo	2178	0.05	14
	Total	39763	1.00	259

Are included in the study, any breastfeeding woman from the Albert Bartel health area who voluntarily agrees to take part in the study and who is mentally able to answer the questions but also available. Excluded from our work are all breastfeeding women who have not fulfilled the criteria mentioned above. Documentary technique allowed us to gather the necessary documentation related to our research subject while the interview guide allowed us to interview breastfeeding women and obtain information that would explain our research variables. Quantitative method with Statistical Approach was used in order to reach the results.

The study took into account the following variables:

Age: the study aimed at verifying if the exclusive breastfeeding varies according to the age. This variable was considered as continuous quantitative variable.

Marital status: it is the fact that the person lives in union with another. As the nominal qualitative variable, it took into account 2 modalities; to signify that all the supposed modalities were grouped into 2: married and unmarried.

Literacy: in this study, the literacy is the fact of having been at school regardless of study level. So, this variable took into account 2 modalities that are Literate illiterate.

Household size: the number of people under one roof. This variable was considered as qualitative one with two modalities which are: less than six per house or six and more household size per house.

Preventing breast ptosis: the study aimed at verifying whether the lactating women don't breastfeed exclusively their infants because of preventing deformations of their breasts. Two modalities were taken into consideration; namely: yes, or no.

Parity: is the number of births that the woman has already had. This variable has been considered as qualitative one with 2 modalities, which are: Three or less than three births, and more than three births.

Spousal support: is the husband's support for exclusive breastfeeding. 2 modalities interested the study: yes, or no. Insufficient milk: the fact of having insufficient maternal milk to give to the new born after delivery. The modalities were yes, or no. the study aimed at knowing if the insufficient milk after delivery is significantly unfavorable to exclusive breastfeeding.

Breast disease: is the fact of having had breast illness after delivery without specifying kinds of disease. It can be breast abscess or crevices in the nipples. The variable has 2 modalities, yes, or no.

Occupation: in this study, occupation is the fact of having job. It is a nominal qualitative variable with 2 modalities, yes, or no. The question here was to find out whether being employed or having an occupation would hinder exclusive breastfeeding.

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Prenatal education: it is the fact of having benefited advices related to breastfeeding during prenatal period. It is expected that the one who didn't get advices will no longer breastfeed in the same way as the one who got sufficiently advices. This variable took 2 modalities, namely: yes, or no.

Early pregnancy: Here, we made reference to the fact that a woman gets a pregnancy before 6 months. This is a nominal qualitative variable with 2 modalities which are yes, or no.

The data entry and analysis have been made possible by Microsoft Excel and R Software. For each variable, the crosstab relating the dependent and independent variables have been presented with p-value and Confident interval of 95%. In order to comply with the requirements of research ethics, we have omitted the respondents 'names and we reassured them that their answers will be kept confidential for scientific reasons.

RESEARCH FINDINGS

This part of the study deals with results presentation. In total, twelve tables are presented. Except the first table that presents the age of breastfeeding women by comparison of means with use of Wilcoxon test, we presented all tables in crosstabs that relate exclusive breastfeeding considered as dependent variable with various variables taken as independent. To establish relationship between them, the Pearson Chi-squire and Fisher's tests with calculation of P-value have been presented.

Table 2. Age and Excusive breastfeeding

. y.	group1	group2	p p.adj	p.format	p.signif	method
<chr>	<chr>	<chr>	<dbl>	<dbl>	<chr>	<chr>
Age	yes	No	0.123	0.12	ns	Wilcoxon

The Exclusive breastfeeding does not vary according to the age of the breastfeeding woman [P-value: 0.12; 95% CI: 31.52696- 33.33790].

Table 3. Marital status and Exclusive breastfeeding

Characteristic	Yes, N = 141[1]	No, N = 118[1]	Overall, N = 259[1]	p-value[2]
Marital status				0.14
Married	122 (56%)	94 (44%)	216 (100%)	
Unmarried	19 (44%)	24 (56%)	43 (100%)	

[1] n (%)
[2] Pearson's Chi-squared test

The exclusive breastfeeding does not vary according to the marital status of the lactating woman [P-value: 0.14; 95% CI: 0.7829562 - 0.8771667]

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Table 4 . Literacy and Exclusive breastfeeding

Characteristic	Yes, N = 141[1]	No, N = 118[1]	Overall, N = 259[1]	p-value[2]
Literacy of the mother				0.004
Illiterate	0 (0%)	7 (100%)	7 (100%)	
Literate	141 (56%)	111 (44%)	252 (100%)	

[1] n (%)
[2] Fisher's exact test

The illiteracy is significantly unfavorable to exclusive breastfeeding [P-value: 0.004; 95% CI: 0.01093385-0.05489074]

Table 5. Household size and breastfeeding

Characteristic	Yes, N = 141[1]	No, N = 118[1]	Overall, N = 259[1]	p-value[2]
Household size				0.047
Less than 6 per Household	76 (61%)	49 (39%)	125 (100%)	
Six and more	65 (49%)	69 (51%)	134 (100%)	

[1] n (%)
[2] Fisher's exact test

The exclusive breastfeeding varies according to the household size. The household size of 6 and more is revealed to be unfavorable to exclusive breastfeeding [P-value: 0.047; 95% CI: 0.4203445 - 0.5453086]

Table 6. Preventing breast ptosis and breastfeeding

Characteristic	Yes, N = 141[1]	No, N = 118[1]	Overall, N = 259[1]	p-value[2]
Preventing breast ptosis				<0.001
No	102 (47%)	116 (53%)	218 (100%)	
Yes	39 (95%)	2 (4.9%)	41 (100%)	

[1] n (%)
[2] Fisher's exact test

The refusal to breastfeed on the grounds of preventing breast ptosis is significantly unfavorable to exclusive breastfeeding [P-value: <0.001; 95% CI: 0.1160577- 0.2085643]

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Table 7. Parity and Exclusive breastfeeding

Characteristic	Yes, N = 141[1]	No, N = 118[1]	Overall, N = 259[1]	p-value[2]
Parity				0.020
More than Three births	79 (62%)	49 (38%)	128 (100%)	
Three or less than 3 births	62 (47%)	69 (53%)	131 (100%)	

[1] n (%)
[2] Pearson's Chi-squared test

The exclusive breastfeeding varies according to the parity. [P-value: 0.020; 95% CI: 0.4432101-0.5682389]

Table 8. Spousal support and exclusive breastfeeding

Characteristic	Yes, N = 141[1]	No, N = 118[1]	Overall, N = 259[1]	p-value[2]
Spousal support				0.3
No support	42 (50%)	42 (50%)	84 (100%)	
Support	99 (57%)	76 (43%)	175 (100%)	

[1] n (%)
[2] Pearson's Chi-squared test

The exclusive breastfeeding is not influenced by the spousal support [P-value: 0.3; 95% CI: 0.6149634 - 0.7323117]

Table 9. Insufficient milk and exclusive breastfeeding

Characteristic	No, N = 118[1]	yes, N = 141[1]	Overall, N = 259[1]	p-value[2]
Insufficient milk				0.9
No	92 (46%)	109 (54%)	201 (100%)	
Yes	26 (45%)	32 (55%)	58 (100%)	

[1] n (%)
[2] Pearson's Chi-squared test

The lack of breast milk is not significantly unfavorable to the exclusive breastfeeding [P-value: 0.9; 95% CI: 0.1746589-0.2796552]

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Table 10. Breast disease during breastfeeding and exclusive breastfeeding

Characteristic	No, N = 118[1]	yes, N = 141[1]	Overall, N = 259[1]	p-value[2]
Breast disease				0.022
No	101 (43%)	133 (57%)	234 (100%)	
Yes	17 (68%)	8 (32%)	25(100%)	

[1] n (%)
[2] Pearson's Chi-squared test

The breast diseases during breastfeeding are unfavorable to breastfeeding. [P-value: 0.022; 95% CI: 0.06344411-0.1391888]

Table 11. Prenatal education and exclusive breastfeeding

Characteristic	No, N = 118[1]	yes, N = 141[1]	Overall, N = 259[1]	p-value[2]
Prenatal education				<0.001
Yes	61 (35%)	113 (65%)	174 (100%)	
No	57 (67%)	28 (33%)	85 (100%)	

[1] n (%)
[2] Pearson's Chi-squared test

Failure to participate in prenatal education is significantly unfavorable to exclusive breastfeeding. [P-value: 95% CI: <0.001; 0.2713317-0.3890251]

Table 12. Early pregnancy and exclusive breastfeeding

Characteristic	No, N = 118[1]	yes, N = 141[1]	Overall, N = 259[1]	p-value[2]
Early pregnancy				0.5
Yes	16 (52%)	15 (48%)	31 (100%)	
No	102 (45%)	126 (55%)	228 (100%)	

[1] n (%)
[2] Pearson's Chi-squared test

The early pregnancy is not significantly unfavorable to exclusive breastfeeding [P-value: 0.5; 95% CI: 0.0827912 -0.1655734]

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DISCUSSION OF FINDINGS

Aiming to elucidate the factors unfavorable to exclusive breastfeeding, we submitted all the variables to statistical analysis after which some proved to be significant and for others, independence between the explanatory variables and the explained variable was revealed.

About the age of breastfeeding women, the study found out that the exclusive breastfeeding does not vary according to the age [P-value: 0.12; 95% CI: 31.52696- 33.33790]. As for the other researchers, although less numerous, in particular Heather L. Sipsma in united states, found out that "odds of exclusive breastfeeding […] among mothers aged 30 and older (OR 1.47 [95% CI 1.02-2.11]) were higher but lower odds among mothers aged 18-19 (OR 0.26 [95% CI 0.10-0.70]).(Sipsma et al., 2017).

The exclusive breastfeeding varies according to the household size. The household size of 6 and more is revealed to be unfavorable to exclusive breastfeeding [P-value: 0.047; 95% CI: 0.4203445 - 0.5453086]. In order to understand why, we could associate the idea that women who live in very crowded homes have a lot of responsibilities, they work a lot and maybe they don't find enough time to take care of their infants, in a particular way, to the lactation. Sayres and Visentin supported this idea that "mother's socioeconomic status, may influence exclusive breastfeeding. (Sayres & Visentin, 2018).

The refusal to breastfeed on the grounds of preventing breast deformations such as ptosis is significantly unfavorable to exclusive breastfeeding [P-value: <0.001; 95% CI: 0.1160577- 0.2085643]. this seems to be strange and amazing. Fewer researchers found out this. The population must be taught how to prevent breast deformation without refusing breastfeed their infants, because it's dangerous. So emphasis should be placed on the health education of women as they begin to have pregnancies.

The exclusive breastfeeding does not vary according to the marital status of the lactating woman [P-value: 0.14; 95% CI: 0.7829562 - 0.8771667]. Contrary to my results, Diane and al, found that among Demographic factors that influence breastfeeding duration such as race, age, education, socioeconomics, […] there is also marital status. (Thulier & Mercer, 2009). This may be explained in the context of albert health area by the fact that a woman is not alone. She has less to do, so she can find easily the time to take care of her infants.

The illiteracy has been revealed significantly unfavorable to exclusive breastfeeding [P-value: 0.004; 95% CI: 0.01093385-0.05489074]. The literacy influences positively the exclusive breastfeeding [95% CI: 0.9451093 - 0.9890662]. It is normal to the one who is educated to breastfeed infants because of more advices she is expected to have than the one who is illiterate. A study from the German KUNO-Kids showed that health literacy and full breastfeeding for at least 4 months were not associated (OR = 0.995 [CI 0.977–1.015], p = 0.60). (Graus et al., 2021).

The early pregnancy is not significantly unfavorable to exclusive breastfeeding [P-value: 0.5; 95% CI: 0.0827912 -0.1655734]. In the place where the study was carried out, the habit to wean the infant regardless to his age because of the early pregnancy is often experienced. Despite this, exclusive breastfeeding is independent from that.

The exclusive breastfeeding varies according to the parity. [P-value: 0.020; 95% CI: 0.4432101-0.5682389]. This study has found out the same result as revealed by (Ferreira et al., 2018), who stated that there is a significant association between multiparty and exclusive breastfeeding variables.

The exclusive breastfeeding is not influenced by the spousal support [P-value: 0.3; 95% CI: 0.6149634 - 0.7323117]. These results are contrary to those found by Ebru Uludağ in his study entitled "Effect of Partner Support on Self-Efficiency in Breastfeeding in the Early Postpartum Period in Turkey". The study revealed that "Breastfeeding efficacy in mothers was positively related to their partner's level of emotional, social, and physical support". (Uludağ & Öztürk, 2020).

The breast diseases during breastfeeding are unfavorable to breastfeeding. [P-value: 0.022; 95% CI: 0.06344411-0.1391888]. It is also interesting to note that the lactating women who have not had breast disease were likely to exclusively breastfeed their infants up to 6 months. [95% CI: 0.8608112- 0.9365559]. Even though, the lactating women with sufficient milk are likely to breastfeed exclusively their infants, this study has not proved that relation. The lack of breast milk is not significantly unfavorable to exclusive breastfeeding [P-value: 0.9; 95% CI: 0.1746589-0.2796552].

Failure to participate in prenatal education is significantly unfavorable to exclusive breastfeeding. [P-value: 95% CI: <0.001; 0.2713317-0.3890251]. the study reveals that having prenatal education influences woman to breastfeed exclusively their infants [95% CI: 0.6109749- 0.7286683]. Prenatal period is still the best moment to give advices to pregnant women who are preparing to get children in the future. The idea of ensuring prenatal education is supported by Feldman-Winter , who stated that "best methods of support during the preconception period are needed to prepare women to exclusively breastfeed as a cultural norm" (Feldman-Winter, 2013).

Among several factors that can influence the exclusive breastfeeding as a strategy to promote health of children and mothers, the following factors were found significantly unfavorable: the illiteracy, the household size of 6 and more, the refusal to breastfeed on the grounds of preventing breast deformation, the parity, the breast diseases during breastfeeding and Prenatal education. The study recommends that local leaders take into consideration these different factors concerning health education within health facilities and in the community.

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British Journal of Multidisciplinary and Advanced Studies:
Health and Medical Sciences 4 (1),149-165, 2023
Print ISSN: 2517-276X
Online ISSN: 2517-2778
Website: https://bjmas.org/index.php/bjmas/index
Published by European Centre for Research Training and Development UK