

# Factors Associated with Exclusive Breastfeeding Duration at Six Months among Working Mothers in the Greater Lomé Region

Ounoo Elom Takassi<sup>1\*</sup>, Ouro-Bagna Tchagbele<sup>2</sup>, Mawouto Fiawoo<sup>3</sup>,  
Kokou Agbékogni René Ségbedji<sup>2</sup>, Foli Agbéko<sup>3</sup>, Abila Emefa Amouzou<sup>1</sup>,  
Nadiedjoa Kokou Douti<sup>3</sup>, Komi Deladem Azoumah<sup>2</sup>, Koffi Edem Djadou<sup>4</sup>

<sup>1</sup>Department of Paediatrics, University of Lomé, Sylvanus Olympio University Hospital, Lomé, Togo

<sup>2</sup>Department of Paediatrics, University of Kara, Kara University Hospital, Kara, Togo

<sup>3</sup>Department of Paediatrics, University of Lomé, Campus University Hospital, Lomé, Togo

<sup>4</sup>Department of Paediatrics, University of Lomé, Tsévié Regional Hospital, Tsévié, Togo

Email: \*elomtak@gmail.com

**How to cite this paper:** Takassi, O.E., Tchagbele, O.-B., Fiawoo, M., Ségbedji, K.A.R., Agbéko, F., Amouzou, A.E., Douti, N.K., Azoumah, K.D. and Djadou, K.E. (2025) Factors Associated with Exclusive Breastfeeding Duration at Six Months among Working Mothers in the Greater Lomé Region. *Open Journal of Pediatrics*, 15, 882-890.  
<https://doi.org/10.4236/ojped.2025.155083>

**Received:** August 9, 2025

**Accepted:** September 15, 2025

**Published:** September 18, 2025

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## Abstract

**Introduction:** Breast milk is the best food for the nutritional needs of newborns and infants. The study aims to determine the factors associated with exclusive breastfeeding for six months among working mothers. **Patients and Methods:** This was a cross-sectional, analytical study conducted from 17 January to 30 June 2022 in five health facilities in Greater Lomé. The socio-demographic characteristics of mothers and breastfeeding practices were studied. **Results:** 415 mother-infant pairs participated in the study. The average age of the mothers was  $29.33 \pm 5.88$  years. Among the surveyed mothers, 98.55% were well informed about exclusive breastfeeding. About 51.81% of mothers practiced exclusive breastfeeding for up to 6 months. Factors associated with exclusive breastfeeding for 6 months or longer included secondary and university education ( $p = 0.022$ ), multiparity ( $p = 0.009$ ), marital status (married) ( $p = 0.005$ ), vaginal delivery ( $p = 0.016$ ), occupation ( $p = 0.015$ ), mother's age ( $p = 0.048$ ), number of hours worked per day by the mother ( $p = 0.000$ ), infant's age at return to work ( $p = 0.048$ ), gestational age ( $p = 0.001$ ), mode of delivery ( $p = 0.016$ ), and male sex ( $p = 0.035$ ). **Conclusion:** Work influences exclusive breastfeeding among women. Better organisation of services with designated breastfeeding rooms would help to further promote breastfeeding among working women in the country.

## Keywords

Breastfeeding, Work, Practice, Togo

## 1. Introduction

Breastfeeding is the method of feeding newborns and infants in which milk plays an exclusive or primary role [1]. The World Health Organization (WHO) states that breast milk, unlike any other milk, promotes optimal development in newborns and infants [2]. It is estimated that the proper feeding of infants and young children (FYC), especially breastfeeding, can prevent 1.4 million deaths worldwide each year among children under five [3]. At its General Assembly in May 2001, the WHO recommended exclusive breastfeeding for the first six months of life and continued breastfeeding until the age of two or beyond, depending on the mother's wishes [1]. Globally, the World Health Assembly (WHA) set a goal in 2012 to increase the rate of exclusive breastfeeding to 50% by 2025 [4]. Despite these recommendations and targets, only 44% of infants are breastfed within one hour of birth, 40% of all infants under six months are exclusively breastfed, and 45% of these children are breastfed until the age of two worldwide [1].

The decision to breastfeed depends on each mother's wishes. However, this choice is influenced by various factors, including medical advice, family and friends, socio-economic status, the mother's personal beliefs and values, and societal policies overall [5]. In Africa, the practice of exclusive breastfeeding (EBF) remains significantly below expectations. Only four out of ten newborns (40%) are breastfed early, and three out of ten infants (30%) are exclusively breastfed until six months of age [6]. Several factors, such as employment status, education level, childcare arrangements, religious beliefs, and maternal fatigue, impact breastfeeding practices, according to studies conducted in countries like Morocco, Ghana, and Nigeria [7]-[9].

In 2017, in its implementation plans to achieve breastfeeding rates in line with the targets set, the WHO encouraged empowering women to practise exclusive breastfeeding by providing for six months of compulsory paid maternity leave and policies encouraging breastfeeding in the workplace and in public [10]. Exclusive breastfeeding and mothers' socio-professional activity remain challenges in several countries around the world, particularly in Sub-Saharan Africa and Togo. Assessing the impact of women's professional activities on exclusive breastfeeding will help guide decision-makers on appropriate actions to improve breastfeeding indicators. We therefore undertook this study to determine the factors associated with breastfeeding duration of six months in the Greater Lomé (GL) region.

## 2. Patients and Method

### 2.1. Study Setting

The study was conducted in the Greater Lomé region, one of Togo's six health regions. To obtain a sufficiently representative sample, we included a national reference centre (the University Hospital Centre (CHU) Campus), a district hospital (Bè Hospital), and three medical-social centres located in three different suburbs of Lomé: the Agoè-Nyivé Medical-Social Centre (CMS), the Adidogomé CMS, and the Cacaveli CMS.

## **2.2. Type and Period of Study**

This was a cross-sectional analytical study conducted from 17 January to 30 June 2022.

## **2.3. Study Population**

The study population consisted of working mothers breastfeeding children over six months of age, admitted to the various vaccination units of the different study centres. The study included all working mothers who were breastfeeding infants aged 6 months and older, who were present at the study centres when the investigators visited, and who gave their informed consent. Mothers whose infants had died or who refused to participate in the survey were not included in the study.

## **2.4. Parameters Studied**

The parameters studied were socio-demographic characteristics, the mothers' obstetric history and breastfeeding practices.

## **2.5. Sampling**

We used the non-probabilistic method with a reasoned choice technique.

It was exhaustive, taking into account the number of survey days, the availability and acceptance of respondents to the questionnaire. All women who were employed and breastfeeding infants aged 6 months and older received care at the centres.

## **2.6. Data Collection Techniques and Tools**

A team of two people per health facility was responsible for data collection. Data collection took place from Wednesday to Friday and was carried out using a data collection form. The data collection technique involved interviewing mothers.

The interviewers received training and tested the data collection form in a centre not included in the study, which ensured that they all had the same level of understanding of the questions and thus produced consistent data.

## **2.7. Data Entry and Analysis**

The information was entered into EPI Data 3.1 software. Data analysis was performed using R 3.3.4 software. It consisted of a descriptive and comparative analysis. For the descriptive analysis, the results were presented as numbers and proportions for qualitative variables and as means plus standard deviation for quantitative variables. For the comparative analysis, the tests used were the chi-square test of independence or Fisher's test for qualitative variables and Student's t-test for the comparison of quantitative variables. The significance threshold chosen was 0.05.

## **2.8. Ethical and Deontological Considerations**

We were allowed to carry out the study at the University of Lomé. For the collec-

tion of data from mothers, their informed and verbal consent was systematically required. Data collection was anonymous, and the data collected were used solely for the study.

### 3. Results

A total of 415 mother-child pairs participated in the study in the five health facilities selected in Greater Lomé.

The mothers' ages ranged from 18 to 46 years, with an average of  $29.33 \pm 5.88$  years. The 25 - 30 (28.43%) and 30 - 35 (28.67%) age groups were the most represented. Among the mothers surveyed, 391 (94.22%) were married, and 241 (58.07%) had a secondary education. Regarding the mothers' occupations, 289 (69.64%) worked in the craft sector, 19 (4.58%) were students, 67 (16.14%) were private sector employees, and 40 (9.64%) were public sector employees. Mothers working in the informal sector numbered 308 (74.22%), and 357 mothers (86.02%) were Christian. Two hundred and forty-one (58.07%) mothers had a secondary education, 112 (26.99%) mothers had a higher education, and 16 (3.86%) mothers had not attended school. Among the mothers, 408 (98.31%) had given birth to one child, and 6 (1.45%) had given birth to twins. The mothers who had practised early breastfeeding were 291 (70.12%). Among the respondents who had practised early breastfeeding, 184 (62.37%) had been assisted by health workers. Two hundred and thirty-four mothers (56.39%) were multiparous, and 368 mothers (88.67%) had given birth at term. Mothers who had given birth vaginally numbered 313 (75.45%).

The age of the infants ranged from 6 to 22 months, with an average age of 10.41. The median age of the infants was 10 months. The 6 - 12 age group accounted for 86.32% (366) of the infants. There were 231 male infants (54.48%).

Among the mothers, 370 (89.15%) knew the age for introducing complementary foods, and among them, 409 (98.55%) knew at least one benefit of exclusive breastfeeding for the child and for the mother, namely birth spacing, among 67 mothers (16.14%). Regarding the knowledge of the benefits of breastfeeding for the child, good child growth was cited by 310 mothers (74.70%). In addition, regarding knowledge of the benefits of exclusive breastfeeding for the mother, 224 mothers (53.98%) cited the prevention of infections and allergies, 100 mothers (24.1%) mentioned the prevention of infant colic, 52 mothers (12.53%) mentioned strengthening the mother-child relationship, 83 mothers (20%) mentioned reducing the risk of breast cancer, and 67 mothers (16.14%) mentioned birth spacing.

#### 3.1. Practice of Exclusive Breastfeeding According to the Socio-Demographic Characteristics of Mothers

The mother's occupation ( $p = 0.015$ ) had a statistically significant influence on the practice of exclusive breastfeeding (Table 1).

#### 3.2. EB Practice According to Childbirth Determinants

There was no statistically significant link between early breastfeeding and EB prac-

tice. Gestational age ( $p = 0.001$ ), mode of delivery ( $p = 0.016$ ) and parity ( $p = 0.009$ ) had a statistically significant influence on EB practice (**Table 2**).

### 3.3. Breastfeeding Practice and Labour

A total of 215 mothers (51.81%) had practised exclusive breastfeeding for up to 6 months, and 159 mothers (73.95%) had returned to work when their infants were over 3 months old. Of these, 159 (73.95%) worked less than 8 hours per day. Nearly 9 out of 10 (89.77%, or 193 mothers) continued to breastfeed exclusively for up to 6 months. The main motivation cited by these mothers was to have a healthy baby. One hundred and sixty mothers (38.55%) reported having a room where they could keep their baby at work. The number of hours worked per day ( $p = 0.000$ ), being male ( $p = 0.035$ ) and returning to work 3 months after giving birth ( $p = 0.048$ ) significantly influenced the practice of exclusive breastfeeding (**Table 3**).

**Table 1.** Distribution of mothers according to their socio-demographic characteristics based on the practice of EA.

	Practice of exclusive breastfeeding				p
	No		Yes		
	n	%	n	%	
<b>Age (years)</b>					<b>0.044</b>
<30	100	50	111	51.63	
≥30	100	50	104	48.37	
<b>Religion</b>					0.62
Animist	4	2	2	0.93	
Christan	168	84	189	87.91	
Muslim	28	14	24	11.16	
<b>Level of education</b>					<b>0.022</b>
Not attending school	8	4	8	3.72	
Primary	24	12	22	10.23	
Secondary	103	51.5	138	64.19	
University level	65	32.5	47	21.86	
<b>Profession</b>					<b>0.015</b>
Informal	144	72	164	76.28	
Formal	56	28	51	23.72	
<b>Marital status</b>					<b>0.005</b>
Married	202	48.86	189	94.50	
Unmarried	13	6.05	83	5.50	

**Table 2.** Distribution of mothers according to pregnancy determinants influencing breastfeeding practices.

	Practice of exclusive breastfeeding				p
	No		Yes		
	n	%	n	%	
<b>Term of pregnancy</b>					0.001
Premature	34	17	4	1.86	

**Continued**

Term	159	79.5	209	97.21	
Post-term	7	3.5	2	0.93	
<b>Mode of delivery</b>					0.016
Low track	135	67.5	178	82.79	
Caesarean	65	32.5	37	17.21	
<b>Parity</b>					0.009
Primiparous	160	80	21	9.77	
Multiparous	40	20	194	90.23	
<b>Early breastfeeding</b>					0.057
≤1 h	133	66.5	158	73.49	
>1 h	66	33	57	26.51	

**Table 3.** Distribution of mothers according to the age of the infant when returning to work, the number of hours worked per day, and the sex of the infant according to work practices.

	Practice of exclusive breastfeeding				P
	No		Yes		
	n	%	N	%	
<b>Age of the baby at resumption</b>					<b>0.048</b>
≤3 months	157	78.5	56	26.05	
>to 3 months	43	21.5	159	73.95	
<b>Daily working hours</b>					<b>0.000</b>
≤8 h	120	60	159	73.95	
>8 h	80	40	56	26.05	
<b>Children's sexes</b>					<b>0.035</b>
Male	107	48.86	124	59.90	
Female	112	51.14	83	40.10	

## 4. Discussion

This study enabled us to evaluate the factors associated with exclusive breastfeeding among working mothers. The mothers were relatively young, with an average age of 29.33 years and ages ranging from 18 to 46 years. They had given birth vaginally in 75.45% of cases. They were multiparous in 56.39% of cases, had given birth at term in 88.67% of cases, and worked in the informal sector in 74.22% of cases. These characteristics of breastfeeding mothers in the Greater Lomé region are similar to those recorded in a district in the central region on breastfeeding, where mothers had an average age of 27.5 years, ranging from 15 to 45 years, with 90.4% of them having given birth vaginally [11]. Although these data are not sufficient, they suggest that the study reflects the characteristics of breastfeeding women in the country and therefore reinforce the rigour of the study methodology. With regard to age groups, other authors have reported similar data in other countries such as Mali [12] and Senegal [13], with the 25 - 35 age group being the most represented, accounting for

52.8% and 56.7% respectively, compared with 57.1% in this study. These similar results from various studies show that it is around this average age that women not only marry but also, and above all, express their desire for motherhood.

Level of education is an important factor in promoting healthcare and a fundamental social determinant of health [14]. Secondary education was more prevalent in our study at 58.07%, while those with no schooling accounted for 3.86%. Augumbiadé *et al.* in Nigeria in 2012 found that secondary education accounted for 65%, and those with no schooling were less represented (5%) [9]. In Ghana, Dansol found that secondary education accounted for the majority of his study population, with a proportion of 37%, and higher education accounted for 12.5% [8]. These differences could be explained, on the one hand, in Nigeria by the fact that the study was conducted in a health centre on a non-homogeneous sample and, on the other hand, by the fact that the study conducted in Ghana only involved the formal sector with a more representative sample, as the study was conducted in sectors of activity.

A woman's professional activity is a factor that can significantly influence breastfeeding practices. In this study, 74.22% of mothers were in the informal sector and 25.78% in the formal sector. These results are higher than those of Augumbiadé *et al.* in Nigeria, who found 64% in the informal sector and 21% in the formal sector [9]; in Ghana, however, Dansol found 92% in the formal sector and 8% in the informal sector [8]. The low proportion of women in the formal sector in our study and in Nigeria could be explained by the fact that these studies were conducted in health centres. In Ghana, however, the study was conducted in carefully selected sectors of activity. However, these results in this study and in Nigeria may also reflect the low integration of women in formal sectors, where maternity leave and other issues are societal problems and must be fully integrated into all sectors of activity.

The factors influencing the practice of AE in our study were fundamentally occupation ( $p = 0.048$ ), marital status ( $p = 0.005$ ), the number of hours the mother worked per day ( $p = 0.000$ ), the age of the baby when the mother returned to work ( $p = 0.048$ ) and the mother's level of education ( $p = 0.0022$ ). A review of the literature showed that in 2009 in Belgium, inflexible working hours influenced breastfeeding practices [15]. Indeed, there was a statistically significant relationship between the mother's occupation and breastfeeding ( $p = 0.015$ ). Furthermore, only 51.82% of mothers were breastfeeding when they returned to work. Taking into account the sectors of activity, 76.28% of mothers in the informal sector had breastfed for up to 6 months, compared with 23.72% in the formal sector. Returning to work was the main reason given by 34.53% of mothers for their breastfeeding practices. Coulibaly *et al.* found that occupation had an influence on breastfeeding practices ( $p = 0.011$ ) [16]. However, their study noted that women working in both the public and private sectors did not exclusively breastfeed their children [16]. Hamada *et al.* also found a significant association between level of education ( $p < 0.001$ ), profession ( $p < 0.001$ ), number of hours worked ( $p < 0.001$ ) and

breastfeeding practices ( $p < 0.001$ ) in Morocco [7]. While this finding can be explained by the short duration of maternity leave (14 weeks after childbirth), it cannot justify abandoning exclusive breastfeeding when we know its countless benefits. In addition, manual milk expression, which is widely used in our practice, and the long shelf life of breast milk are further reasons for facilitating exclusive breastfeeding. In the present study, the age of the infant at the time of return to work was statistically associated with the continuation of exclusive breastfeeding ( $p = 0.048$ ). As in the work of Hamada *et al.* [7], we found that exclusive breastfeeding was influenced by the advanced age of the infant. These results can be explained by the confidence gained by mothers through exclusive breastfeeding during their maternity leave and the health status of their children, who normally have fewer health concerns. This also means that knowledge of the benefits of breastfeeding facilitates the adoption of exclusive breastfeeding regardless of the circumstances.

The mode of delivery also had a statistically significant link to breastfeeding practice ( $p = 0.016$ ). Among mothers who had practised exclusive breastfeeding, the majority (82.79%) had given birth vaginally. While post-caesarean pain may be a factor in these results, the fact that mothers stay in intensive care units without their newborns may also be a significant factor, as it allows parents to engage in practices that are contrary to breastfeeding, resulting in delayed milk production in mothers. Coulibaly *et al.* in Ivory Coast in 2014 also reported a link between mode of delivery and breastfeeding practice ( $p = 0.002$ ) [16], corroborating our findings.

## 5. Conclusion

This descriptive and analytical cross-sectional study highlighted the factors associated with exclusive breastfeeding from 0 to 6 months among working mothers. The mothers were young, and more than half had a secondary education. Overall, the factors influencing exclusive breastfeeding were occupation, number of hours worked, mothers' level of education, multiparity, mode of delivery, marital status, mode of delivery and age of the infant when the mother returned to work. More than half of the mothers surveyed had breastfed for up to six months. Returning to work was the main reason for changing breastfeeding practices, cited by nearly a third of mothers. More than half of mothers were unable to bring their babies to work due to a lack of childcare facilities. Mechanisms should therefore be put in place in public and private structures to enable women to breastfeed at work. Although initial breastfeeding is fairly common in the developing world, exclusive breastfeeding for six months remains a challenge. Further studies should assess the effect of policies that ensure and guarantee work breaks, infrastructure and maternity leave for breastfeeding mothers.

## Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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