



Socio-economic Factors Influencing Adoption of Exclusive Breastfeeding Practice by Nursing-Mothers in Selected Communities in Imo State, Nigeria

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Authors' contributions

This work was carried out in collaboration between all authors. Authors SNOI and OO designed the study. Author SNOI wrote the protocol and the first draft of the manuscript. Authors EAN, BON, COA and CRN managed the literature searches. Authors SNOI and OO managed the data analyses. All authors read and approved the final manuscript.

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ABSTRACT

Aim: To determine the influence of socio-economic characteristics of the nursing-mother on the adoption of exclusive breastfeeding practice, among rural nursing-mothers in Imo State, Nigeria.

Study Design: This study employed descriptive survey design.

Place and Duration of Study: The study was carried out in three rural communities selected from the three senatorial zones in Imo State, Nigeria. The study was conducted between December, 2012 and June, 2013.

Methodology: The entire population was enlisted for the study. The target population of the study was 405 nursing-mothers with children aged twenty-four months and below in the selected communities. However, 340 nursing-mothers out of the 405 responded. Instruments for data

collection were structured questionnaire and Focus Group Discussion (FGD). Reliability of the instrument was established using Crombach's Alpha Coefficient ($r = 0.8$). All the households in the communities were visited and the nursing-mothers found at home on the day of the visit responded to the questionnaire. Ten nursing mothers from each of the communities participated in FGD. The socio-economic factors studied included nursing-mother's age, educational attainment, occupation, monthly income, marital status and religion.

Results: Results of the study revealed that the percentage of exclusive breastfeeding practice was very low (13.5%) in the target communities which aligned with the national compliance level of 13%. Respondents within the age range of 15-19 years; those with no formal education; subsistence farmers and those who earn less than minimum wage had higher percentage practice than others. All the variables were statistically significant except marital status and religion.

Conclusion: Some socio-economic factors negatively influence exclusive breastfeeding practice. It was recommended that efforts to promote exclusive breastfeeding be directed towards addressing the identified factors with negative influence and to also identify other factors contributing to low exclusive breastfeeding practice.

Keywords: Socio-economic; exclusive-breastfeeding; nursing-mother.

1. INTRODUCTION

Exclusive breastfeeding is the practice of feeding an infant with breast milk (including expressed breast milk) only, without any food or drink, nor even water except drops or syrups consisting of vitamins, minerals' supplements or medicines when medically prescribed [1,2]. Exclusive breastfeeding has been acclaimed to be of immense value to the mother, her child and even the society [1,3,4,5,6,7,8]. In the year 1979, the World Health Organization recommended that infants be exclusively breastfed for the duration of 4-6 months, but the period was later in 2001, pegged at six months in recognition of the importance of breastfeeding, based on the scientific review and evaluation carried out by WHO [9].

Despite the huge benefits of exclusive breastfeeding and efforts by international and national governmental and non- governmental agencies to encourage and support the practice, the rate of exclusive breastfeeding still remained low globally [10] with Nigeria having compliance rate of 13 percent [11]. The target of WHO and UNICEF was to achieve exclusive breastfeeding compliance rate of 75 percent and above in sub-Saharan Africa, but this target is far from being achieved despite years of research and policy initiatives [12].

There was need therefore, to identify socio-economic factors that influence the adoption of exclusive breastfeeding by nursing-mothers in Imo State with the view of suggesting measures required for positive impact. This study was conducted as a contribution to the filling of the

knowledge gap that existed since most of the earlier studies in this state were facility and urban based. This report is an excerpt from a larger research work on 'Factors influencing the adoption of exclusive breastfeeding practice by nursing-mothers in selected rural communities in Imo State, Nigeria' and the results presented here were delimited to those of the socio-economic factors.

Certain socio-economic factors such as the lack of suitable facilities outside the home, inconveniences, conflicts at work, family pressure and ignorance were found to adversely affect the willingness of women to practice exclusive breastfeeding [13,14]. Also, decline in social support contributed to the decline in exclusive breastfeeding practice and the increased urban women work-load-demand kept mothers away from their babies for longer hours making effective breastfeeding difficult [15]. Many working mothers in developed countries do not breastfeed their children due to work pressures and short periods of maternity leave. This lack of enabling environment for breastfeeding would likely make mothers give up breastfeeding. Nevertheless, this study addressed rural women in a developing country whose work environment differed from that of the developed world. Income level could contribute to the early discontinuation of breastfeeding as low income women were likely to have unplanned pregnancy which was associated with low breastfeeding rate and highly educated women were more likely to have access to information that would resolve breastfeeding difficulties instead of discontinuing breastfeeding [16,17].

Earlier studies that addressed socio-economic factors and breastfeeding showed discordant results, though some addressed just breastfeeding and not exclusive breastfeeding. Such results were deemed relevant to this study only in cases where low breastfeeding practice was reported. Mothers less than 24 years of age were less likely to breastfeed than older mothers in Uppsala, Sweden, which was attributed to lack of breastfeeding experience in young mothers [18]. Similarly, adolescent mothers were found to be unlikely to breastfeed [19] and older women were more likely to breastfeed exclusively [20]. Others reported the contrary, that exclusive breastfeeding was practised by women of younger age compared to the older mothers [21]. A correlation between nursing-mother's age and exclusive breastfeeding rate was reported as mothers aged 25 years or less and those aged 36 years and above had lower exclusive breastfeeding rate when compared with those in between these ages [3] while in another study, no statistical significance was observed between age of mother and initiation of breast feeding [22].

Sixty-five (65) percent of married mothers did not breastfeed exclusively and it was attributed to the perception and attitudes of their husbands that discouraged breastfeeding [23], while in contrast, married women breastfed their infants exclusively more often than single women in another study [20]. Others did not find significant relationship between marital status and breastfeeding practice [24]. Also, attitudes of married women concerning breastfeeding were more positive than those of single mothers [25]. Marital status was significantly related to exclusive breastfeeding and most of those who exclusively breastfed their infants lived with their partners either married or not married, but none of the never-married respondents was exclusively breastfeeding [12].

There was an association between education and breastfeeding practice where most (63.2%) mothers with secondary education did not breastfeed exclusively [23]. Increased duration of exclusive breastfeeding was associated with less education [26]. In Ghana, it was found that mothers with primary schooling were more likely to breastfeed exclusively than those of other levels of schooling [12]. Mothers with higher educational level were more likely to initiate breastfeeding when compared with those with lower education (65% among those with senior secondary or higher levels of education and 48%

in mothers with lower education levels) [22]. In Nigeria, it was reported that exclusive breastfeeding rates for infants under six months of age were significantly lower among mothers who had no education when compared with those who had primary, secondary or higher education [27]. Higher maternal education (women with at least secondary school education) was found to favour exclusive breastfeeding practice in Nigerian [3]. Also, more mothers with a university degree were found to exclusively breastfeed when compared with those with less education [18].

Working and breastfeeding an infant were not easy tasks for mothers because the social system of capitalist patriarchy posed limitations to their economic and political options [28]. It had been reported that working mother's return to work negatively affect breastfeeding practice of the mother [26,29,30] and that 73% of the women who were employed did not breastfeed exclusively [23]. Most of the mothers who practised exclusive breastfeeding were unemployed [12] and 38.5% of women who practised exclusive breastfeeding for all their children reported no work-related interruptions during the period of breastfeeding [3], but some of those who were self-employed had to give up work for a while [3].

Low prevalence of exclusive breastfeeding among educated Nigerian mothers might be linked to the current economic hardship in Nigeria that compel mothers to resume full time work shortening duration of breastfeeding [31]. Infants from poorest households were less likely to be exclusively breastfed when compared with infants from middle level and wealthiest households in Nigeria [27]. There was paucity of empirical data on religion as a variable in breastfeeding practices. This study included religion as a variable of interest to bridge this observed gap.

The nursing-mothers targeted in this study were those who had children aged 24 months and below (policy recommended breastfeeding period), in Umuokanne, Umuowa and Dikentana-Odinma (Avutu) Autonomous Communities in Imo State. The independent variables of interest in this study were delimited to the nursing-mothers' age, educational level, occupation, marital status and religion while the dependent variables were some identified dimensions of exclusive breastfeeding practice which included the time of initiating breastfeeding, length of time

the infant spends on breast during breastfeeding, breastfeeding on demand including at night, rooming-in (sleeping with the child), time of introduction of complementary feeds and duration of breastfeeding before weaning.

2. METHODOLOGY

A descriptive survey design was utilised for the study and the communities were selected through purposive sampling method based on their being rural communities and located in the different senatorial zones of the state. Community entry was facilitated by the Community Development Officers (CDOs) in the Local Government Areas (LGAs) and community leaders consented to the study. All nursing-mothers in these communities were targeted, hence all the households there-in were visited for eligible respondents. The target population of the study was 405 nursing-mothers with children aged twenty-four months and below in the selected communities. This was made up of 118 nursing mothers from Dikenta-na-Odinma, 125 from Umuowa and 162 from Umuokanne. However, a total of 340 nursing mothers (84% of the target population) responded to the questionnaire. The rest were either not found at home when visited or declined participation. The distribution of respondents by their communities was as follows: 91% (107) of the target population in Dikenta-na-Odinma, 89% (111) of the target population in Umuowa and 75% (122) of the target population in Umuokanne. This was representative of the population. In addition 30 nursing-mothers participated in the FGD (10 from each of the three communities). The theme for FGD was 'barriers to exclusive breastfeeding practice'.

The study took place between December, 2012 and June, 2013. Data were collected with the assistance of eight trained Research Assistants and the CDOs in the various LGAs. They assisted in community entry and also served as principal guides in the communities. The instruments for data collection were structured questionnaire and Focus Group Discussion (FGD) guide developed by the researchers. Some of the FGD guiding questions included: 'What did exclusive breastfeeding mean to you? What were the barriers you experienced in the practice of exclusive breastfeeding? What were the reasons for your not practicing exclusive breastfeeding as you were told by health workers?' Reliability of the instrument was established with Cronbach's alpha coefficient

reliability test and the value was 0.8. Data were analysed using the Statistical Package for the Social Sciences (SPSS) computer software package (version 16.0). Statistical analytic techniques used were frequency counts and percentages. Chi-square (X^2) statistics was employed to test hypotheses for associations, while multivariate logistic regression analysis was used to determine the independent contribution of each variable. The FGD was translated and transcribed by the researchers. The decision rule was to accept the alternate hypothesis (H_1) set for this study if P -value was significant ($P < \text{or} = 0.05$) and reject H_1 if P -value was > 0.05 level of significance.

3. RESULTS

Table 1 shows the age distribution of respondents and influence of age on adoption of exclusive breastfeeding by nursing-mothers. Age group 35 to 39 years had the highest frequency of 98(28.8%) followed by age group 30 to 34 years (92;27.1%) and age group 15 to 19 years had the lowest, (6;1.8%). Only two mothers (33.3%) in age group 15-19 years, three (7.0%) in age group 20-24 years, seven (9.9%) in age group 25-29 years, nine (9.8%) in age group 30-34 years, 16(16.3%) in age group 35-39 years, seven (31.8%) in age group 40-44 years and two (25%) aged 45-49 years practised exclusive breastfeeding. In all the age groups greater percentage of the nursing-mothers did not practice exclusive breastfeeding and non-adoption of exclusive breastfeeding practice was highest in age group 20–24 years (93.0%) and lowest in age 15-19 years (66.7%). Age had statistically significant relationship with the nursing-mothers' exclusive breastfeeding practice (chi-square value 13.36, df 6, P -value 0.04).

Table 2 shows the distribution of the nursing-mothers by marital status and the influence of marital status on adoption of exclusive breastfeeding practice. Most of the nursing-mothers were married (88.5%). Single mothers accounted for 7.1% of the respondents, widows 2.1%, divorced 1.2% and separated 0.9%.

Forty-two married respondents (14%), three (12.5%) single respondents and one (14.3%) widowed respondent practised exclusive breastfeeding. None of the respondents who were either divorced or separated practised exclusive breastfeeding, although it was only one respondent that was separated. The divorced

and separated mothers had the least exclusive breastfeeding practice percentage (0% each) followed by single mothers (12.5%) when compared with married (14.0%) and widowed (14.3%). Marital status of respondents' was not significantly related with exclusive breastfeeding practice (chi-square value = 1.32, df = 5, P -value = 0.93).

Table 3 shows the results of highest educational qualification of respondents and exclusive breastfeeding practice. Majority of the nursing-mothers 168(49.4%) had their highest educational qualification as the West African School Certificate (WASC), 76(22.4%) had Bachelor's degree or its equivalent, 27(7.9%) had post graduate qualifications while 16(4.7%) of the nursing-mothers never went to school.

Thirty-seven percent of the nursing-mothers who never went to school practised exclusive breastfeeding. Others that practised exclusive breastfeeding were: 33.3% for those with primary education, 8.9% for those with secondary education, 10.5% for those with Bachelor's degree or its equivalent and 3.7% for those with post graduate education (Master's degree and above). Those who never-went-to-school had higher percentage of exclusive breastfeeding practice (37.5%) when compared with nursing-mothers with other levels of highest educational attainment. Those with post graduate degree had high non-compliance (96.3%). Highest educational attainment of respondents was significant with exclusive breastfeeding practice (chi-square value 30.59, df 5, $P < 0.001$)

The results of occupation of respondents and exclusive breastfeeding practice are presented in Table 4. Those nursing-mothers whose occupation was trading/business made up 25.3% of the respondents. Eighteen percent were full time housewives, while 16.8% were in civil/public service. Nursing-mothers who were farmers had comparatively higher exclusive breastfeeding (23.9%), seconded by those who were traders/business women (19.8%), while those who were self-employed had 2.1%. Those in the private sector employment had zero percent (0%) exclusive breastfeeding practice. Those who were private sector employee and those who were self-employed had high percentage of non-compliance (100% & 97.9% respectively). Nursing-mother's occupation had a significant relationship with her practice of exclusive breastfeeding (chi-square value = 21.74, df = 7, $P = 0.003$).

Results in Table 5 reveal findings on monthly income of respondents and exclusive breastfeeding practice. More of the nursing mothers (35.9%) earned less than ₦18,000 (eighteen thousand naira) per month which was less than US\$100 and only 0.6% earn up to ₦98,000 (about US\$490). Nursing-mothers whose income per month was less than ₦18,000 had the highest exclusive breastfeeding practice (23.8%), seconded by those in ₦8,000 – ₦97,000 income per month bracket. Those mothers that belonged to ₦38,000 – ₦47,000, ₦58,000 – ₦67,000 and ₦98,000 and above income groups had zero percent exclusive breastfeeding each. A significant relationship was found between nursing-mother's income per month and practice of exclusive breastfeeding (chi-square value = 24.43, df = 9, P -value = 0.004).

Table 6 shows the results of respondents' religion and exclusive breastfeeding practice. Majority (96.2%) of the nursing-mothers were Christians, 2.4% were Muslims (Islam) while only 0.3 percent belonged to African Traditional Religion. Only 13.5% of the nursing-mothers who were Christians practiced exclusive breastfeeding and the rest did not. Among those mothers who were Muslims only 12.5% practiced exclusive breastfeeding while the only mother whose affiliation was the African traditional religion did not practice exclusive breastfeeding. There was no statistically significant relationship between religion and exclusive breastfeeding practice (chi-square value 0.62, df 3, P -value 0.89).

Table 7 reveals the results of Multi-variate Logistic Regression Analysis of independent correlates of exclusive breastfeeding practice among nursing-mothers. It is applied to determine the independent contribution of each variable to exclusive breastfeeding practice. Only variables that were significant on bivariate analysis were entered into logistic regression model. This was to determine the independent factors that predisposed these nursing-mothers to exclusive breastfeeding practice. Exclusive breastfeeding practice could be influenced by multiple factors which come together to play significant role.

3.1 Focus Group Discussion (FGD)

The groups discussed why nursing-mothers were unable to practice exclusive breastfeeding as defined by WHO. The discussion revealed that nursing mothers breastfed their infants but not in

a form that would be deemed exclusive breastfeeding. The barriers to exclusive breastfeeding which most of the FGD participants agreed upon included; difficulty in moving about with their infants while struggling for daily bread and the doubt that their nutritional status could produce adequate breast milk for their infants. A mother said, “yes, we practice breastfeeding and it is good but exclusive breastfeeding is very difficult to practice as it demands your being with your child all the time

which is not easy. How can we carry baby to farm, market and everywhere as we go struggling to make ends meet”? Another mother said, “you need to feed very well to give only breast milk to your baby. What do we eat after all, that will sustain us if we continue giving only breast milk after three months? We will collapse and of course the breast milk will not be sufficient for the child. We do not have the money to feed well” (quotes are researchers’ translation from the Igbo language used by the mothers).

Table 1. Age of nursing-mothers and adoption of exclusive breastfeeding practice (n = 340)

Age of mother (in years)	Frequency %	Exclusive breastfeeding practice		Total %
		Yes %	No %	
15-19	6 1.8%	2 33.3%	4 66.7%	6 100.0%
20-24	43 12.6%	3 7.0%	40 93.0%	43 100.0%
25-29	71 20.9%	7 9.9%	64 90.1%	71 100.0%
30-34	92 27.1%	9 9.8%	82 90.2%	92 100.0%
35-39	98 28.8%	16 16.3%	82 83.7%	98 100.0%
40-44	22 6.5%	7 31.8%	15 68.2%	22 100.0%
45-49	8 2.4%	2 25.0%	6 75.0%	8 100.0%
Total	340 100%	46 13.5%	294 86.5%	340 100.0%
Chi-square value		Degree of freedom	P-value	
13.34		6	0.04	

Table 2. Marital status of nursing mother and adoption of exclusive breastfeeding practice (n = 340)

Marital status	Frequency %	Exclusive breastfeeding practice		Total %
		Yes %	No %	
Married	301 88.5%	42 14.0%	259 86.0%	301 100.0%
Single	24 7.1%	3 12.5%	21 87.5%	24 100.0%
Divorced	4 1.2%	0 .0%	4 100.0%	4 100.0%
Widow	7 2.1%	1 14.3%	6 85.7%	7 100.0%
Separated	3 .9%	0 .0%	1 100.0%	3 100.0%
Others	1 .3%	0 .0%	1 100.0%	1 100.0%
Total	340 100%	46 13.5%	294 86.5%	340 100.0%
Chi-square value		Degree of freedom	P-value	
1.32		5	0.93	

Table 3. Highest education attainment of nursing mother and exclusive breastfeeding practice (n = 340)

Highest education attainment	Frequency %	Exclusive breastfeeding practice		Total %
		Yes %	No %	
Never went to school	16 4.7%	6 37.5%	10 62.5%	16 100.0%
Primary (FSLC)	48 14.1%	16 33.3%	32 66.7%	48 100.0%
Secondary (WASC)	168 49.4%	15 8.9%	153 91.1%	168 100.0%
Tertiary (B.Sc., HND)	76 22.4%	8 10.5%	68 89.5%	76 100.0%
Post graduate (M.Sc. & above)	27 7.9%	1 3.7%	26 96.3%	27 100.0%
Others	5 1.5%	0 .0%	5 100.0%	5 100.0%
Total	340 100%	46 13.5%	294 86.5%	340 100.0%
Chi-square value		Degree of freedom	P-value	
30.59		5	<0.001	

Table 4. Nursing mothers' occupation and exclusive breastfeeding practice (n = 340)

Occupation	Frequency %	Exclusive breastfeeding practice		Total %
		Yes %	No %	
Full-Time	61	12	49	61
Housewife	17.9%	19.7%	80.3%	100.0%
Farming	46	11	35	46
	13.5%	23.9%	76.1%	100.0%
Trading/Business	86	17	69	86
	25.3%	19.8%	80.2%	100.0%
Civil/Public servant	57	3	54	57
	16.8%	5.3%	94.7%	100.0%
Unemployed	28	1	27	28
	8.2%	3.6%	96.4%	100.0%
Private sector employee	10	0	10	10
	2.9%	.0%	100.0%	100.0%
Self-employed	47	1	46	47
	13.8%	2.1%	97.9%	100.0%
Others	5	1	4	5
	1.5%	20.0%	80.0%	100.0%
Total	340 100%	46 13.5%	294 86.5%	340 100.0%
Chi-square value		Degree of freedom	P-value	
21.74		7	0.003	

4. DISCUSSION

The communities shared the same ethnic origin; they were all rural and had similar socio-economic factors. There was generally low percentage exclusive breastfeeding practice (13.5%) which showed that nursing mothers had not fully embraced exclusive breastfeeding practice. The youngest age group (15-19 years)

registered higher exclusive breastfeeding practice (33.3%) than the other groups, though still much lower than expected. The youngest age group had just entered the child bearing age and might be having their first child. Their lack of experience in child bearing and related issues might cause them to obey the health workers' directive on exclusive breastfeeding, to a certain extent. Earlier studies documented conflicting

results regarding age of mother and exclusive breastfeeding practice, for instance, it was found that younger mothers less than 24 years of age were less likely to breastfeed than older mothers [18]; adolescent mothers were unlikely to breastfeed [19]; older women were more likely to breastfeed exclusively [20]. On the other hand, other studies reported that exclusive

breastfeeding was practised by women of younger age when compared to the older mothers [21]; mothers aged 25 years or less and those aged 36 years and above have lower exclusive breastfeeding rate in comparison with those in between these ages [3] and there was correlation between nursing mother's age and exclusive breastfeeding rate [3,4].

Table 5. Nursing mothers' income per month and exclusive breastfeeding practice (n = 340)

Income per month	Frequency %	Exclusive breastfeeding practice		Total %
		Yes %	No %	
Less than ₦18,000	122 35.9%	29 23.8%	93 76.2%	122 100.0%
₦18,000 - ₦27,000	74 21.8%	11 14.9%	63 85.1%	74 100.0%
₦28,000 - ₦37,000	58 17.1%	2 3.4%	56 96.6%	58 100.0%
₦38,000 - ₦47,000	37 10.9%	0 .0%	37 100.0%	37 100.0%
₦48,000 - ₦57,000	20 5.9%	1 5.0%	19 95.0%	20 100.0%
₦58,000 - ₦67,000	6 1.8%	0 .0%	6 100.0%	6 100.0%
₦68,000 - ₦77,000	8 2.4%	1 12.5%	7 87.5%	8 100.0%
₦78,000 - ₦87,000	7 2.1%	1 14.3%	6 85.7%	7 100.0%
₦88,000 - ₦97,000	6 1.8%	1 16.7%	5 83.3%	6 100.0%
₦98,000 & Above	2 .6%	0 .0%	2 100.0%	2 100.0%
Total	340 100%	46 13.5%	294 86.5%	340 100.0%
Chi-square value		Degree of freedom	P-value	
24.43		9	0.004	

Table 6. Nursing mothers' religion and exclusive breastfeeding practice (n = 340)

Religion	Frequency %	Exclusive breastfeeding practice		Total %
		Yes %	No %	
Christianity	327 96.2%	44 13.5%	283 86.5%	327 100.0%
Islam	8 2.4%	1 12.5%	7 87.5%	8 100.0%
African traditional religion	1 .3%	0 .0%	1 100.0%	1 100.0%
Others	4 1.2%	1 25.0%	3 75.0%	4 100.0%
Total	340 100%	46 13.5%	294 86.5%	340 100.0%
Chi-square value		Degree of freedom	P-value	
0.62		3	0.89	

Table 7. Multi-variate logistic regression analysis of independent correlates of exclusive breastfeeding practice among nursing mothers in Imo State (n = 340)

Variables	Categories	Odd's ratio	95% confidence interval		p-value
			Lower	Higher	
Age group	≥ 30 years	1.0			
	< 30 years	1.6	0.779	- 3.298	0.200
Education	≥ Secondary	1.0			
	< Secondary	1.3	0.536	- 3.226	0.550
Occupation	Trader/skilled worker	1.0			
	Housewife/unemployed/farmer	0.18	0.069	- 0.470	0.001*
Income per month	≥ ₦58,000	1.0			
	< ₦58,000	0.385	0.111	- 1.068	0.065

N/B: The reference categories were age less than 30 years, educational attainment less than secondary school, occupation (house wife, unemployed and farmer) and an average monthly income less than ₦58,000
* means statistically significant

It was a common thought in this society that the divorced and separated nursing mothers would have less care and support from relatives which might lead to shorter period of confinement. Divorce and separation are negatively viewed in Nigeria especially within the Igbo culture which the respondents belonged to. These mothers were hence expected to move out early enough to fend for themselves and their children, which would impact negatively on exclusive breastfeeding practice. The results of this study corroborated with some other studies [12,20,23,24].

Educational attainment had significant relationship with exclusive breast practice ($P < 0.001$). The low percentage of exclusive breastfeeding practice among all the different groups of nursing-mothers pointed to factors beyond just the variables under consideration as influencing exclusive breastfeeding practice. Nursing-mothers who never went to school reporting higher percentage exclusive breastfeeding when compared with the other groups was not surprising. They were likely to be more receptive of health information such as that on exclusive breastfeeding from health workers without questioning. They would view the health workers as custodians of accurate health information. These results were in agreement with some results of other earlier works [12,23,26], but failed to align with some others [3,22,27].

Nursing-mothers' occupation had significant relationship with their practice of exclusive breastfeeding ($P=0.003$). Full-time house-wives and the unemployed having lower percentage of exclusive breastfeeding practice when compared with other groups was not expected. One would

ordinarily expect that full-time house-wives and unemployed would have higher percentage of exclusive breastfeeding practice as they were not engaged in work outside the home and therefore likely to be with their infants most times, which might encourage the practice of exclusive breastfeeding. This study found otherwise which aligned with a work that reported low exclusive breastfeeding practice among the unemployed [3]. This finding could be attributed to negative attitudes of mothers towards exclusive breastfeeding. Also, the low percentage of employed mothers practising exclusive breastfeeding as reported in this study was not surprising because the work environment was not conducive for effective practice of exclusive breastfeeding by working mothers. The period of maternity leave in Nigeria was shorter than the period the mother was expected to breastfeed exclusively. Furthermore, there were no facilities such as the crèche provided for baby care while mother was at work, which would have encouraged mothers to take their infants to their work place. The findings of this study corroborated with the findings of some other studies that reported low exclusive breastfeeding practice among employed mothers [12,23,26, 29,30].

A significant relationship was found between nursing-mothers' income per month and exclusive breastfeeding ($P=0.004$). Nursing-mothers who earned less than ₦18,000 as income per month registered higher percentage (23.8%) of exclusive breastfeeding practice than others. Mothers in this category earned less than the approved minimum wage in Nigeria which was ₦18,000 and they could to a large extent, be classified as living below the poverty level. Low income affects purchasing power and could

negatively affect the ability to procure supplementary feeds for the infant. Those in high income bracket could afford supplementary feeds which could be inimical to the practice of exclusive breastfeeding in those who were yet to appreciate its importance. It had been documented that household wealth was significantly associated with exclusive breastfeeding practice and that those infants from poorest households were less likely to be exclusively breastfed when compared to infants from middle level and wealthiest households [27] which was in line with the results reported in this study in the aspect of significant association but differed in the level of wealth. This difference could arise from what constituted personal income and house hold income in the different studies.

The results of this study revealed no statistically significant relationship between religion of nursing mothers and the exclusive breastfeeding practice ($P=0.89$). The percentage exclusive breastfeeding practice from the different religious groups was closely ranged. This might be because all the major religions supported breastfeeding though no direct pronouncements concerning exclusive breastfeeding had been credited to any of them, to the best knowledge of the authors of this work. Adherents of these religions might be influenced more by other factors other than religious beliefs in the practice of exclusive breastfeeding.

The results of Multi-variate Logistic Regression Analysis of independent correlates of exclusive breastfeeding practice among nursing-mothers indicated that occupation had a statistically significant contribution to exclusive breastfeeding practice. This might be due to the fact that working as an employee and exclusively breastfeeding an infant were difficult tasks for nursing-mothers. Furthermore, existing workplace policies were not sensitive to breastfeeding status of nursing-mothers, coupled with the cultural practice that frowns at women exposing their breasts in the public. Nonetheless, a comparative study of exclusive breastfeeding practice among nursing-mothers in exclusive-breastfeeding-friendly and exclusive-breastfeeding-non-friendly work-places is recommended to control any biases.

Focus Group Discussion revealed that combination of factors was responsible for low exclusive breastfeeding practice in the target communities. The responses from participants in

the FGD supported the questionnaire responses. There is need for appropriate intervention that will address the identified factors to increase the percentage of nursing-mothers who practice exclusive breastfeeding.

The authors acknowledged as limitation to this study the inability to revisit those who were not available to respond to the questionnaire when visited. However, the high response rate of eighty-four percent of target population and additional data from FGD filled this gap.

5. CONCLUSION

Exclusive breastfeeding practice was low in the target communities and this situation had some socio-economic factors as contributory factors. There is need for measures that will create conducive environment for exclusive breastfeeding while nursing-mothers pursue their economic endeavours. Working environment in a capitalist society compromises the maternal role including that of adoption of exclusive breastfeeding by the working mothers. Efforts to promote exclusive breastfeeding practice should not concentrate only on giving health information and education but should include proper analysis of the socio-economic factors that affect such practice.

ETHICAL APPROVAL AND INFORMED CONSENT

Ethical approval was gotten from the Department of Sociology, Imo State University Owerri. Both the community leaders and the respondents gave informed consent for the study.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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