Factors Associated with Exclusive Breastfeeding Practice among Formally Employed Mothers: A Case of Mutare, Zimbabwe

P. Majiwa, B. Mutonhodza , P. Chopera & T.M. Matsungo
Department of Nutrition Dietetics and Food Sciences (DNDFS), University of Zimbabwe

Abstract

Although there is growing evidence on the benefits of exclusive breastfeeding (EBF) for both mothers and infants, EBF levels remain low among working mothers. This study explored the predictors of EBF among employed mothers from Mutare urban in Zimbabwe.

A cross sectional workplace survey was conducted amongst formally employed mothers conveniently sampled from the city company registry list. An interviewer administered questionnaire based on World Health Organisation (WHO) and FAO Infant and Young Child Feeding (IYCF) guidelines was used to collect data on breastfeeding knowledge and practice. Pearson's Chi-square and binary logistic regression analysis was used to explore the predictors of EBF. Ethical approval was obtained from the Medical Research Council of Zimbabwe (MRCZ/B/1394).

The average age of the participants was 33±5.6 years. Mothers were highly knowledgeable (88%) of the recommended EBF practices. EBF rate was low (46.9%). Almost half of the mothers (40.6%) introduced solid foods to their children before 4 months. High education level (p=0.001), early breastfeeding initiation (p=0.042), reduction in daily working hours (p=0.048) were positively associated with EBF practices. The provision of a breastfeeding room (p=0.013) and low income (<$487) (p=0.019) were the only significant negative predictors of EBF. This means mothers with low income and mothers with access to private rooms at work were less likely to practice EBF most likely due to logistical challenges or misunderstandings of the concept.

The prevalence of EBF was low in this setting. The findings from this study highlight the multifaceted barriers to exclusive breastfeeding among formally employed mothers in urban Mutare. While Zimbabwe's national EBF rates are commendable, the challenges faced by urban working mothers demand targeted interventions. Policies such as workplace breastfeeding support, improvements in income levels, and flexible maternity arrangements could bridge the gap, ensuring that infants receive optimal nutrition during their first months of life despite the demands of modern employment.

Keywords: EBF, working mothers, breastmilk, IYCF, Zimbabwe

Introduction

The Global Strategy for Infant and Young Child Feeding recommends that children should be given breastmilk from birth up to 6 months of age without any additional supplements such as water or drink (WHO, 2017). There is evidence that EBF contributes to improved growth and development, including reduction of morbidities and mortality in children (Motee & Jeewon, 2014). Despite the established benefits of breastfeeding for both the mother and the child, it is no longer a norm in many communities (Nduna, Marais, & van Wyk, 2015). Global breastfeeding rates remain far below international targets (UNICEF, 2024).

Exclusive breastfeeding rate is approximately 48% globally (UNICEF, 2023). Many low-income and middle-income countries with data have shown a modest increase in exclusive breastfeeding rates of 10% since 2017 (UNICEF, 2023). In Zimbabwe, the current national EBF rate is 42% (ZIMSTAT, 2024c), which is below the World Health Assembly (WHA) target of 50% by 2025 (UNICEF, 2023). The indicator used by the Zimbabwe Demographic Health Survey 2023-2024 was "… Percentage of children age 0–5 months who were fed exclusively with breast milk during the previous day". When defined as "percentage of children born in the last 2 years who were fed exclusively with breast milk for the first 2 days after birth", the prevalence was much higher at 83% (ZIMSTAT, 2024c). Studies have demonstrated that this high prevalence decreases over the months as a result of many factors such as cultural practices (Muchacha & Mtetwa, 2015), lack of support for continued breastfeeding, and the return of mothers to the workforce (Apara et al., 2024). This makes work a possible major barrier to EBF for a third of women and a potential driver of low exclusive breastfeeding rates; however, this remains to be proven.

Formally employed women face unique challenges in maintaining exclusive breastfeeding practices due to the demands of modern workplaces such as fixed schedules, limited maternity benefits, and inadequate breastfeeding facilities (Ahmad, Sulaiman, Nik Hussain, & Mohd Noor, 2022). These obstacles often result in premature cessation of breastfeeding or early introduction of complementary feeding, compromising the infants' nutritional and developmental outcomes (Daelmans et al., 2013; Motee & Jeewon, 2014; WHO, 2016). Addressing these barriers within this group is critical for designing targeted interventions that align with their professional commitments while promoting optimal infant feeding practices.

In Zimbabwe, women make up approximately 36.8% of the national labour force, while in Manicaland, the province where Mutare is located, this percentage is 30% (ZIMSTAT, 2024a).

This indicates that a third of the workforce may face challenges related to exclusive breastfeeding practices.

Regrettably, national statistics on breastfeeding practices are not disaggregated by socio-economic characteristics. Consequently, we can only hypothesise that the prevalence is lower among formally employed women due to fixed schedules, compared to women in the informal sector. Nevertheless, efforts to increase breastfeeding rates within this group could significantly contribute to the overall prevalence of exclusive breastfeeding (EBF), thereby aiding Zimbabwe in achieving the World Health Assembly (WHA) target of 50%. This study was therefore designed to examine predictors of exclusive breastfeeding in formally employed women in the fourth largest city in Zimbabwe, Mutare.

Materials and methods

Study setting and design

A community-based retrospective cross-sectional study was carried out in Mutare, the capital of Manicaland province, and the fourth largest city in Zimbabwe. Mutare has an urban population of 224,804 and is situated at coordinates 18.9758° S, 32.6504° E (ZIMSTAT, 2024b).

Participants and sampling

The sample size was calculated using the Dobson formula for descriptive studies taking care of a 5% for non-responders to give a total sample size of 100 (Dobson, 1984). The initial step involved randomly selecting public sector entities, which are establishments owned by the Government of Zimbabwe. These entities were chosen due to their status as major employers in many cities (ZIMSTAT, 2024c).

Selection of these establishments was done using the random generation function on Microsoft excel from a list from Mutare City Registry. Participants were then purposively sampled from the selected institutions (1 per establishment) by asking if there was a female with a child between the ages of 6 months and 2 years. If there was no eligible participant the next establishment on the replacement list was selected. One participant was considered appropriate as the individual could demonstrate the workplace breastfeeding culture. If there was more than one participant meeting the inclusion criteria, random selection was used to choose only one person for the interview.

Mothers who had children with birth defects and chronic diseases were excluded from the study as their infants may have experienced feeding problems, or had extended hospital stays and procedures that could have affected breastfeeding (Hookway, Brown, & Grant, 2023).

Data collection and tools

An interviewer administered a questionnaire adapted from WHO (FAO, 2014a; WHO & UNICEF, 2021) and similar studies (Mundagowa, Chadambuka, Chimberengwa, & Mukora-Mutseyekwa, 2019). This was used to collect data on the demographics, socio-economic factors, mother's knowledge, attitudes, practices (KAPs) on EBF and work-related policies regarding breastfeeding from January 2023 to June 2023 .

WHO has published definitions for infant and young child feeding (IYCF) indicators (WHO, 2014) and FAO has published validated tools for assessing nutrition related knowledge attitudes and practices (FAO, 2014b). The adaptations were retrospectively asking about EBF if the child was older than 6 months, addition of questions on knowledge about work place breastfeeding related policies such as: *Does the establishment you work for contain a breastfeeding policy? What is the duration of maternity leave? What provisions are present on return from maternity leave*? The knowledge questions assessed the mother's knowledge of what breastfeeding was, health benefits of exclusive breastfeeding, if breastmilk satisfied the energy and other nutrient requirements for a child from birth up to six months of age.

Percentages were used as indicators of knowledge and were determined from the percentage of respondents who knew the correct answer to a question (FAO, 2014a). The breastfeeding knowledge prevalence was categorised based on the FAO knowledge criteria, according to the FAO guidelines thresholds suggestive of a nutrition intervention, a knowledge prevalence of ≤ 70 % is considered urgent for nutrition intervention. Therefore, all mothers who scored > 70 % in the knowledge test were considered to have a high level of knowledge; and those scoring ≤ 70 % were considered as having a low level of knowledge (FAO, 2014b).

The questionnaire underwent pretesting in a similar sample population in Harare to evaluate its clarity and address any ambiguities. Based on the results, necessary adjustments were implemented. Research assistants with expertise in survey methodology received training in the administration of the questionnaires using the local language. The research team then made telephonic appointments with sampled mothers and the face-to-face interviews were conducted at their respective workplaces.

Data analysis

Data collected was entered and analysed using SPSS v 25 (IBM Inc). Normality of data was assessed using the Shapiro-Wilk test and visualisations via Q-Q plots. Continuous data was presented as mean ± standard deviation (SD) while categorical data was presented as frequencies and percentages. Pearson's Chi-square was used to explore associations. When cell counts were less than 5, Fisher's exact test was used to determine associations instead. Significant associations and relevant predictor variables from literature were entered into a logistic regression model to determine predictors of exclusive breastfeeding practice. Level of significance was set at $P<0.05$.

Ethics

The study was conducted based on the ethical principles of respect, justice and confidentiality summarised in the 2013 Declaration of Helsinki (WMA, 2013). Ethical approval was obtained from the Medical Research Council of Zimbabwe (MRCZ/B/1394). Further approval was obtained from the City of Mutare Health Department and from the Human Resource departments of the various workplaces of participants. Written informed consent was obtained from each participant before study procedures.

Results

Characteristics of participants

Table 1 summarises the demographic characteristics of working mothers who were involved in the study. The study enrolled 96 formally employed mothers from Mutare after at least four did not consent. The age of the mothers ranged from 22 to 47 years, with the mean age being 33±5.6 years.

Majority of the participants (76%) had attained tertiary level of education. Above half (60%) of the mothers were getting a gross income above the Zimbabwean poverty datum line of $487 USD (ZIMSTAT, 2018). The participants were from different professions, with the most of them (24%) based in the health sector, followed by education (21.9%) and security agents (3.1%) had the least respondents.

Table 1: Sociodemographic characteristics of study participants*

Variable		n	%
Child's age (months)	0-6	3	3.1
	7-12	28	29.3
	13-24	65	67.6
Mother`s age (years)	21-30	38	39.6
	31-40	46	53.2
	41-45	7	7.2
Education level	Secondary	20	20.8
	Tertiary	76	79.2
Total income	Less than poverty line ($487)	36	37.5
	Above poverty line ($487)	60	62.5
Marital status	Single	2	2.1
	Married	82	85.4
	Divorced	7	7.3
	Widowed	2	2.1
	Cohabit	3	3.1
Employment sector	Education	21	21.9
	Health	23	24
	Civil societies	4	4.2
	NGO's	11	11.5
	Banking, finance and insurance	4	4.2
	Telecommunication	5	5.2
	Other government ministries	17	17.7
	Security agencies	3	3.1
	Media and information	8	8.3
Mothers age (years), mean ±SD			32.86±5.609
Child age (months), mean ±SD			14.75±4.697

*n=96 for all variables except Mother's age, which had n=91 available.

Mother's breastfeeding knowledge about breastfeeding practice

Table 2 shows that the majority of mothers (96.9%) knew the meaning of EBF. Some mothers (58.3%) found breastmilk expression to be difficult. Health care professionals (80%) were stated as the main source of knowledge on exclusive breastfeeding and friends and relatives (6%) were seen to be an influencing factor as they were the second main source of knowledge.

Table 2: Mothers breastfeeding knowledge and perceptions (n=96)

Attribute		
Knowledge	**Correct response n (%)**	**Incorrect response n (%)**
EBF is when an infant is fed breastmilk only without any additional water or fluids and/or solids for first 6 months of life	93 (96.9)	3 (3.1)
A baby younger than six months be breastfed on demand-	79 (82.3)	17(17.7)
Infant formula and breastmilk have the same health benefits	9 (9.4)	87 (90.6)
Breastmilk can satisfy the energy and other nutrient requirements for a child from birth till 6 months-	18 (18.8)	78 (81.2)
Benefits of breastfeeding are limited for a specific period	63 (65.6)	33 (34.4)
Perceptions	**Agree n%**	**Disagree n%**
Formula feeding is more convenient than breastfeeding	75 (78.1)	21 (21.9)
Breastmilk is the ideal food for babies	93 (96.9)	3 (3.1)
If the mother intends to resume work, formula feeding is a better choice	30 (31.3)	66 (68.7)
Breastmilk expression is a hard and complicated thing to do	56 (58.3)	40 (41.7)
Sources of information on breastfeeding*:*	**N**	**%**
Health care professionals	80	83.3
Reading	4	4.2
Mass media	1	1.0
School or college	5	5.2
Relatives and friends	6	6.3

Association of breastfeeding knowledge score (BKS), birth outcomes, sociodemographic factors and feeding practices

Table 3 shows the association between BKS and breastfeeding and complementary feeding practices among formally employed working mothers from Mutare. There was a significant association between mothers' education level (P=0.009) and knowledge score. Mothers who had attained tertiary education level (88.1%) were more knowledgeable about exclusive breastfeeding as well as those with higher income (above the PDL (64.4%). It appears those who initiated breastfeeding early (within an hour of giving birth) at least 57.6% had adequate knowledge about breastfeeding. Less than half the mothers who practised exclusive breastfeeding (47.5%) had adequate knowledge. More mothers whose source of breastfeeding knowledge was health care professionals had adequate knowledge (79.7%). Mothers who had adequate knowledge reported to have expressed breastmilk (59.3%) and were comfortable with handling expressed milk (70.6%). In contrast, 45.8% of those with adequate knowledge actually gave their infants other foods before 4 months of age. The most common challenge to exclusive breastfeeding on return to work was inadequate time (36.5%) and work pressure (37.5%). The most commonly cited reasons for continued breastfeeding at work was adequate time (35.4%) and supportive family and workmates (50%). The mothers who were taught about

breastfeeding in the hospital after delivery (88.1%) and those that received help (96.6%) had adequate knowledge.

Table 3: Association of BKS, sociodemographic factors and IYCF practices among formally employed women from urban Mutare (n=96)

Variable		BKS		Total n (%)	P value[1]
		Adequate n (%)	Deficient (%)		
Position of child (birth order)	1st born	13(22)	12 (32.4)	25 (26)	0.422
	2nd born	22 (37.3)	10 (27.0)	32 (33.3)	
	3rd born	17 (28.8)	13 (35.1)	30 (31.3)	
	4th and above	7 (11.9)	2 (5.4)	9 (9.4)	
Mother's education level	Secondary	7 (11.9)	13 (35.1)	20 (20.8)	0.009*
	Tertiary	52 (88.1)	24 (64.9)	76 (79.2)	
Total income	Less than poverty line ($487)	21(35.6)	15 (40.5)	36 (37.5)	0.669
	Above poverty line ($487)	38 (64.4)	22 (59.5)	60 (62.5)	
Breastfeeding initiation	less than an hour	34(57.6)	19(51.4)	53(55.2)	0.053
	one hour	15 (25.4)	4 (10.8)	19 (19.8)	
	more than an hour	7 (11.9)	12 (32.4)	19 (19.8)	
	don't know	3 (5.1)	2 (5.4)	5 (5.2)	
Exclusive breastfeeding (EBF)	Yes	28 (47.5)	17 (45.9)	45 (46.9)	>0.999
	No	31 (52.5)	20 (54.1)	51 (53.1)	
Expressing breastmilk	Yes	35 (59.3)	20 (54.1)	55 (57.3)	0.674
	No	24 (40.7)	17 (45.9)	41 (42.7)	
Caregivers comfortable with expressed breastmilk	Yes	36 (70.6)	21 (61.8)	57 (67.1)	0.482
	No	15 (29.4)	13 (38.2)	28 (32.9)	
Age complementary foods were introduced	Early Introduction (<4 months)	27 (45.8)	12 (32.4)	39 (40.6)	0.272
	Late Introduction (4-5 months)	9 (15.3)	10 (27.0)	19 (19.8)	
	Normal (>6 months)	23 (39.0)	15 (40.5)	38 (39.6)	
EBF challenges faced by formally employed women	Inadequate time at work to breastfeed/express	22 (37.3)	13 (35.1)	35 (36.5)	0.003*
	no place to breastfeed at work	9 (15.3)	3 (8.1)	12 (12.5)	
	child left at home due to work pressure	26 (44.1)	10 (27.0)	36 (37.5)	
	unsupportive family or workmates	0 (0.0)	3 (8.1)	3 (3.1)	
	No reduction in working hours	2 (3.4)	8 (21.6)	10 (10.4)	
Facilitators for EBF among formally employed women	adequate time at work to breastfeed/express	13 (22.0)	21 (56.8)	34 (35.4)	0.005*
	a proper place to breastfeed/express at work	4 (6.8)	0 (0.0)	4 (4.2)	
	child could be brought at work for breastfeed	3 (5.1)	2 (5.4)	5 (5.2)	
	supportive family and work mates	35 (59.3)	13 (35.1)	48 (50.0)	
	Reduced working hours	4 (6.8)	1 (2.7)	5 (5.2)	
EBF education received at hospital	Yes	52 (88.1)	27 (73.0)	79 (82.3)	0.097
	No	7 (11.9)	10 (27.0)	17 (17.7)	

[1]Pearson's Chi-square test, [£]where cell count is<5 Fisher's exact test was used. *P value significant at P<0.05.

Factors associated with EBF amongst formally employed women

Table 4 shows the association between certain variables and practice of EBF among formally employed women. High level of education (P=0.001), early breastfeeding initiation (P=0.042), high income greater than PDL (P<0.001) and private place to breastfeed or express (P<0.001) were significantly associated the practice of exclusive breastfeeding.

Table 4: Factors associated with EBF amongst formally employed women from Mutare (n=96)

Variable		**EBF**		**Total**	**P value[1]**
		Yes n (%)	**No n (%)**	**n (%)**	
Education level	Secondary	16 (35.6)	4 (7.8)	20 (20.8)	0.001*
	Tertiary	20 (64.4)	47 (92.2)	76 (79.2)	
BKS Adequate (≥70%)		28(47.5)	31 (52.5)	59(61.5)	>0.999
Deficient (<70%)		17 (45.9)	20 (54.1)	37 (38.5)	
Breastfeeding initiation	less than an hour	23 (51.1)	30 (58.8)	53 (53.2)	0.042*
	one hour	7 (20.0)	10 (19.6)	19 (19.8)	
	more than an hour	13 (28.9)	6 (11.8)	19 (19.8)	
	don't know	0 (0.0)	5 (9.8)	5 (5.2)	
Income	less than $487	26 (57.8)	10 (19.6)	36 (37.5)	<0.001*
	more than $487	19 (42.2)	41 (80.4)	60 (62.5)	
Private place to breastfeed	yes	13 (28.9)	1 (2.0)	14 (14.6)	<0.001*
	no	32 (71.1)	50 (98.0)	82 (85.4)	

[1]Pearson's Chi-square test, [£]where cell count is<5 Fisher's exact test was used. *P value significant at P<0.05.

Table 5 shows the work-related factors from the survey that affected the practice of exclusive breastfeeding. The average length of maternity leave was 3±0.88 months. There was lack of provision of private breastfeeding places at most of the workplaces (85.4%). The provision of a private breastfeeding place (P <0.001) was significantly associated with EBF practice. Breastfeeding breaks were allowed for most mothers (91.7%); however, there was no significant association with EBF practice.

Table 5: Work related factors associated with exclusive breastfeeding among formally employed mothers from Mutare (n=96)

Variable		EBF		Total n (%)	[1]P
		Yes n (%)	No n (%)		
Private place to express breastmilk and breastfeed at work	Yes	13 (28.9)	1 (2.0)	14 (14.6)	<0.001*
	No	32 (71.1)	50 (98.0)	82 (85.4)	
Refrigerator to store breastmilk at work	Yes	3 (6.7)	3 (5.9)	6 (6.2)	>0.999
	No	42 (93.3)	48 (94.1)	90 (93.8)	
Workplace policies that support breastfeeding	Breastfeeding Breaks	39 (86.7)	49 (96.1)	88 (91.7)	0.048*
	Lactation rooms	0 (0.0)	1 (2.0)	1 (1.0)	
	Less work hours	6 (13.3)	1 (2.0)	7 (7.3)	
Maternity leave length mean ±SD	3.18±0.88				

[1]Pearson's Chi-square test, [£]where cell count is<5 Fisher's exact test was used. *P value significant at P<0.05

Predictors of EBF among formally employed mothers from Mutare

Table 6 presents the predictors of EBF among formally employed mothers from Mutare.

i) Normal Delivery: The odds ratio of 1.11 suggests that normal delivery slightly increases the likelihood of practising EBF, although this factor was not statistically significant (P = 0.861).
ii) Gestational Age (Preterm Birth): Preterm birth showed a negative association with EBF (OR = 0.60), but the result was not statistically significant (P = 0.555).
iii) Education Level (Secondary): Mothers with secondary education were less likely to practice EBF, as indicated by an OR of 0.28. While this factor approached significance (P = 0.096), it remains inconclusive.
iv) Income Below Poverty Line (<$481): Low income was a significant negative predictor of EBF (P = 0.019). Mothers earning less than $481 were 74% less likely to exclusively breastfeed their infants, as indicated by an OR of 0.26.
v) Breastfeeding Knowledge Score (BKS) (Deficient): A deficient BKS had an OR of 2.05, indicating a positive association with EBF, though this result was not significant (P = 0.193).

vi) Private Breastfeeding Room: The availability of private breastfeeding rooms was a significant negative predictor (P = 0.013). Mothers with access to private rooms were 94% less likely to practice EBF (OR = 0.06), potentially due to logistical challenges or misunderstandings of the concept.

vii) Age of Mother: The mother's age had minimal influence on EBF practices (OR = 1.04) with no statistical significance (P = 0.368).

viii) Maternity Leave Length: Short maternity leave negatively impacted EBF practices (OR = 0.61), though this factor did not reach statistical significance (P = 0.078).

Table 6: Predictors of EBF among formally employed mothers from Mutare

	B	S.E.	P value	Odds Ratio (OR)	95% C.I for OR	
					Lower	Upper
Normal Delivery	0.10	0.57	0.861	1.11	0.36	3.38
Gestational age (Preterm)	-0.56	0.95	0.555	0.60	0.09	3.69
Education level (Secondary)	-1.28	0.77	0.096	0.28	0.06	1.26
Income below poverty line (<$481)	-1.33	0.57	0.019*	0.26	0.09	0.81
Breastfeeding Knowledge Score (BKS) (Deficient)	0.72	0.55	0.193	2.05	0.70	6.06
Private breastfeeding room (Yes)_	-2.87	1.16	0.013*	0.06	0.01	0.55
Age of mother (years)	0.04	0.04	0.368	1.04	0.95	1.14
Maternity leave (months)	-0.50	0.29	0.078	0.61	0.35	1.06

[1] Binary logistic regression was used to obtain P values and Odds ratios. *P value significant at P<0.05.

Discussion

This study sought to investigate the predictors of EBF among formally employed women in the urban area of Mutare. The results showed that, although mothers were highly knowledgeable about breastfeeding, this was not associated with EBF practice among the formally employed mothers. We also found that availability of a private place to express or breastfeed at work and being a low income mother were the only significant but negative predictors of EBF practice amongst formally employed women. This was probably due to misunderstandings of the concept of private breastfeeding rooms and inadequate empowerment and flexibility in lower paying position.

Although in our study the BKS was high (88%), showing that formally employed women had high knowledge on exclusive breastfeeding, EBF was low. The result agrees with findings that

have reported high awareness on exclusive breastfeeding among women albeit reduced practice (Dukuzumuremyi, Acheampong, Abesig, & Luo, 2020; Dun-Dery & Laar, 2016; Yakubu, Odesanya, Abbas, & Lawal, 2023). This is telling of an awareness - practice gap which needs to be bridged using various interventions such as addressing barriers, upskilling of target groups and creating adequate support systems (spouse, extended family, workmates). Additionally, it was noted that a significant proportion (80%) of the knowledge originated from health care professionals during antenatal and postnatal care visits. Consequently, the health sector continues to be crucial in advocating for EBF practices (WHO, 2021). Despite the majority of mothers possessing sufficient breastfeeding knowledge, the exclusive breastfeeding (EBF) practice rate was notably low at 46.9%. This result is somewhat unexpected given that knowledge is typically considered a significant factor in promoting EBF. However, this finding is consistent with previous studies, which also reported adequate levels of knowledge and attitudes among mothers, yet similarly low rates of EBF (Mogre, Dery, & Gaa, 2016). The study identified that the primary reason for continued breastfeeding among formally employed women was the support from family and workmates (50%). It is suggested that short maternity leave periods (maximum 3 months) may make it challenging for mothers to continue breastfeeding upon returning to work due to the absence of their support system. Employment can therefore be a barrier to exclusive breastfeeding (EBF) for a working mother. This finding highlights the importance of workplace breastfeeding policies and labour issues related to breastfeeding hours or the possibility of extending maternity leave for mothers (Plotka & Busch-Rossnagel, 2018).

Additionally, our findings indicate that mothers with lower income levels are less likely to practise exclusive breastfeeding compared to mothers with higher income levels. Consequently, having an income below the poverty line (less than $481) is associated with an increased risk of a child not being exclusively breastfed. Low-income mothers often work in jobs with strict rules, inflexible hours, and limited empowerment to practice EBF. This finding agrees with a study in United States of America which reported that women with a higher income were more likely to exclusively breastfeed as compared to their counterparts with a lower income (Chatterji & Brooks-Gunn, 2004). Based on our findings, we reinforce the need for increased community and work place awareness on the importance of breastfeeding and work place policies conducive to EBF particularly among low income households. Reduced EBF rates in low economic communities exposes children to stunting, compromising growth and development and, if they do not catch up, this leads to adults with poor physical and

economic potential, reinforcing the cycle of low incomes in such communities (Caulfield, Richard, Rivera, Musgrove, & Black, 2006; de Onis & Branca, 2016). This cycle becomes relentless.

The finding that provision of breastfeeding rooms was not a determinant of EBF in this population is a concern. This finding is in contrast with findings from previous studies that showed that the most effective way of combining breastfeeding and work was to help mothers with strategies which help them feed the baby directly from the breast (Castetbon, Boudet-Berquier, & Salanave, 2020). It could be that our studied population did not understand fully the concept of breastfeeding rooms. We speculate that these mothers preferred breastfeeding in the comfort of their own homes due to difficulties of bringing a baby and carer to work. This builds a case for a longer maternity leave. To substantiate our findings, a larger sample size is required. Given the limited sample size used in this study, the results should be interpreted with caution. We continue to advocate for the provision of breastfeeding rooms at workplaces accompanied by widespread education in order to ensure formally employed women continue breastfeeding even after maternity leave expires, thus preventing undernutrition and stunting in children.

In addition, we also observed that formally employed women tend to introduce complementary foods and breastmilk substitutes early before 4 months of age (40.6%) before they return to work on expiry of maternity leave. This could be an attempt to make the infant a bit less dependent on breastmilk as they prepare to return to work. This concurs with other studies that showed that short maternity leave and unsupportive working environments are notable barriers to exclusive breastfeeding among formally employed women globally (Plotka & Busch-Rossnagel, 2018). The recommendations of a longer maternity leave of at least 6 months by the ILO Maternity Protection Convention should be explored by government and employers. This would ensure that formally employed women can exclusively breastfeed for the WHO recommended period of 6 months without any interruptions.

Limitations for the study and recommendations

Our study had some limitations. It was based on recall methods which present various challenges such as incomplete, inaccurate recall or biased recall (Blome & Augustin, 2016). We tried to overcome this by using standard validated questions used reliably before and recommended by WHO. However more objective methods are required to assess EBF practices. Methods that use stable isotopes to objectively measure EBF rates are still in a

developmental phase in Zimbabwe (Victora et al., 2016). Until these are available, we may continue to rely on recall methods. We recommend similar studies in different provinces to capture context specific predictors or incorporation of the same questions in nationwide surveys such as Zimbabwe demographic health survey (ZDHS) or multiple indicator cluster survey (MICS). Furthermore, as a significant proportion of women in Zimbabwe is also found in the informal sector, their barriers must also be studied in order to inform breastfeeding policy for both formally and non-formally employed women. We used a legal city council registry to randomly select companies. This way we may have left out women from formal companies that have evaded registration.

Conclusions

The prevalence of EBF was low in this population and this could be an indication that being formally employed is a barrier to EBF and other recommended IYCF practices. Low income and provision of breastfeeding rooms in the workplaces were significant but negative predictors of EBF practice among formally employed women in Mutare urban. Therefore, there is a need for breastfeeding friendly labour policies constructed in consultation with women as well as specific workplace policies in order to promote and support EBF up to six months of age among formally employed women in this and related settings. Examples of such policies include flexible work hours, allowing mothers to adjust their work schedules to accommodate breastfeeding and childcare needs and extended maternity leave.

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