

**KNOWLEDGE, ATTITUDES AND PRACTICES OF MOTHERS AND
CAREGIVERS ON INFANT AND YOUNG CHILD FEEDING IN PERI-URBAN
ZONES OF BOBO-DIOULASSO IN BURKINA FASO**

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ABSTRACT

Knowledge, attitudes and practices (KAP) of mothers/caregivers on infant and young child feeding are key factors for optimal nutritional status, health and growth of the children. A community-based, cross-sectional descriptive study was conducted during January 2017 to assess the knowledge, attitudes and practices on infant and young child feeding (IYCF) of mothers/ caregivers who lived in peri-urban areas of Bobo-Dioulasso, Burkina-Faso. This study was carried out before a nutrition education-based intervention and included 245 mothers/ caregivers that were randomly selected in the peri-urban communities of Bobo-Dioulasso. A semi-structured interviewer-administered questionnaire developed based on Food and Agriculture Organization knowledge, attitudes and practices assessment method was used to collect KAP and socio-economic data. Analyses were performed using SPSS version 20. For this study, authorization was obtained from the regional directorate of health of the Hauts-Bassins region. Verbal consent was obtained after the participants had been informed about the study objectives. Among the 245 study participants, 55.1% were aged less than 30 years. More than 3 out of 4 mothers/caregivers (76.3%) were Muslim and 59.2% of them were illiterate. Almost all mothers/caregivers (98.8%) had adequate knowledge for breastfeeding and 87.9% of them knew about exclusive breast feeding up to 6 months. In addition, 91.8% of mothers/caregivers reported that they gave colostrum at birth. Furthermore, 67.5% of the mothers started breastfeeding within one hour after delivery. Based on mothers/caregivers' report on complementary foods consumed by 6-59 months children in the previous 24h before the interview, cereals were the most reported consumed food group (89.8%) followed by meat and fish products (28.6%). This study found that mothers/caregivers had adequate knowledge about IYCF in general. However, mothers/caregivers' practice of complementary feeding was inappropriate. Cereals were the food group consumed by most of children aged 6-59 months raising the needs for interventions, such as cooking demonstrations during postnatal visits in health facilities, to improve complementary feeding in this population.

Key words: IYCF, knowledge, attitude, and practices; low income countries; Burkina Faso



INTRODUCTION

It has been found that optimal infant and young child feeding is the most effective single intervention to improve child health[1]. It prevents malnutrition, reduces neonatal, infant and child mortality and reduces the risk of infectious diseases like diarrhea and pneumonia substantially[2]. In Burkina Faso, despite an important decline in child mortality (from 202 to 89 deaths per 1,000 live births from 1990 to 2015), the under-5 mortality rate did not reach the 2015 Millennium Development Goal (MDG) target of 67 per 1,000 live births [3]. Even with optimum breastfeeding children will become stunted if they do not receive an adequate quantity and quality of complementary foods after 6 months of age. Most incidents stunting (and wasting outside of famine situations) happen in the first 2 years of life when children have a high demand for nutrients and inadequate dietary intakes in terms of quantity and quality, especially after the period of exclusive breastfeeding [3]. In 2018, underweight and wasting prevalence in under-5 children was 21.5% and 12.2%, respectively [4].

Adequate nutrition during the first year of life with rapid growth is vital to ensure that the infants grow both physically and mentally and achieve their fullest potential[5].

Poor feeding practices are a major threat to social and economic development. Knowledge, attitudes and practices associated with infant and young child feeding are an essential first step for any 'need-felt' for an intervention program designed for a positive behavioral change in infant health[6].

This study was conducted to assess the knowledge, attitudes and practices (KAP) of mothers/caregivers of under 5 children on infant and young child feeding in peri-urban areas of Bobo-Dioulasso.

MATERIALS AND METHODS

A cross-sectional study was carried out among mothers/caregivers of under-5 children who lived in peri-urban areas of Bobo-Dioulasso city in January 2017. Mothers/caregivers were recruited from 7 peri-urban neighborhoods of Bobo-Dioulasso: sectors 11, 15, 17, 21, 22, 24 and 25. Bobo-Dioulasso is the economic capital of Burkina Faso. Mothers/caregivers of under-5 children who live in the peri-urban areas of Bobo-Dioulasso and accepted to participate in the study were recruited after provision of an oral consent.

Data were gathered for 245 mothers/caregivers that were randomly selected from the peri-urban areas. Those mothers/caregivers were interviewed using a structured questionnaire developed based on the Guidelines for assessing nutrition related knowledge, attitudes and practices from the United Nations Food and Agriculture Organization (FAO) [7]. The questionnaire consisted of a list of items assessing the mother's knowledge, attitudes, and practices related to infant and young child feeding (breastfeeding, formula feeding, complementary feeding). It also included questions on sociodemographic and economic characteristics. The questionnaire was pre-tested in a



peri-urban area not covered by the study. Well-trained enumerators administered the questionnaire to the participating mothers/caregivers during the data collection.

Collected data was entered using Epi-Info version 7.2.2.16, processed and analyzed using the Statistical Package for Social Sciences software (SPSS) version 20. The significance level for all statistical analysis was set at 0.05. For this study, authorization was obtained from the regional directorate of health of the Hauts-Bassins region. Verbal consent was obtained after the participants had been informed about the study objectives.

RESULTS AND DISCUSSION

The mean age (\pm SD) of the 245 mothers/caregivers was 29.2 ± 7.4 years with those aged 25-29 years representing 28.6% (Table 1). Four mothers/caregivers were not able to report their age. Two thirds of the participating mothers/caregivers (66.5%) were housewives, and 59.2% of them were illiterate. Only 14.3% of mothers/caregivers had a secondary school level of education. Most of mothers/caregivers (88.2%) were married. More than half of infants/young children (51.8%) were male. The mean age (\pm SD) of infants/young children was 13 ± 7.9 months with 70% of them having more than 6 months. The age of 33 infants/young children was unknown (table 1).

Most of mothers/caregivers (93.5%) reported that breastfeeding was beneficial especially for children, and 96.3% of them knew that only breast milk should be given to infants during the first six months of age. About three fourth of mothers/caregivers (75.5%) reported the correct age for complementary feeding start (6 months). In addition, 60.8% of mothers/caregivers knew that breastfeeding is critical for child growth and development, and 68% of them were aware that breastfeeding could be continued for more than two years of age along with complementary feeding (table 2). Almost all mothers/caregivers (96.7%) reported that the practice of exclusive breastfeeding was not difficult; less than 1% of them declared that practicing exclusive breastfeeding was difficult (table 3). Regarding the practice of early initiation of breastfeeding, 67.5% of mothers/caregivers reported initiating their infant to breastmilk within one hour after birth and almost all of them (98.3%) within 24 hours after birth. Furthermore, 91.8% of mothers/caregivers reported giving colostrum at birth (table 3).

Only 16.7% of mothers/caregivers of under 6 months' children reported giving liquid or food to their infants the day before the survey.

Based on mothers /caregivers' report on complementary foods consumed by 6-59 months old children the previous 24h before the interview, cereals were the most consumed food group (89.8%) followed by meat and fish products (28.6%). Dairy products, legumes and nuts, fruits and vegetables, and eggs were reported being consumed by 6-59 months old children the day before by less than one fifth of mothers/ caregivers. In addition, 86.6% of 6-59 months old children were still breastfed.

In general, mothers/caregivers of under 5-years children had appropriate knowledge and practice on breastfeeding. Very few mothers of under 6-month infants reported suboptimal breastfeeding. Complementary feeding practice was inadequate with most of



6-59 months old children having consumed only cereal-based foods the day before the survey. Less than 30% of them consumed foods from other food groups such as meat and fish, legumes and nuts, dairy, eggs, fruits and vegetable.

In this study, a total of 98.8% of mothers/caregivers reported starting to breastfeed their children within the first day of their child's birth. This was similar to the findings of Berde *et al.* [8] in Nigeria but higher than the findings of Bhardwaj *et al.* [9] in peri-urban Slums at Jaipur Rajasthan in India and the rate reported by Mohammed E *et al.* [10] in rural area of Egypt. This good level of knowledge can be explained by the fact that mothers receive health awareness campaigns and targeted health education from local health workers. In Nigeria, the good level of knowledge reported by Balogun *et al.* [11] was hypothesized to be attributed to the cosmopolitan nature of Lagos State where rural areas are increasingly receiving health awareness campaigns and targeted health education from local government authorities and health workers. The practice rate of breastfeeding in our study was higher than the ones reported by Chen S *et al.* [12] in China, Issaka AI *et al.* [13] in sub-Saharan Africa, Li L *et al.* [14] in Western Australia, the Ministry of Health of Burkina Faso in 2017 for the city of Bobo-Dioulasso [15] and Shareena I *et al.* [16] in a tertiary hospital in Malaysia. Most of mothers/caregivers (93.5%) were aware of the benefits of breastfeeding on child's health. The same findings were also reported by Trojanowska A *et al.* [17] in Poland and in Belgium. Majority of mothers/caregivers of infants knew the meaning of exclusively breastfeeding (EBF) (96.3%), as per the recommendations of WHO and the United Nations Children's Fund (UNICEF) [18]. Indeed, the high rates of appropriate knowledge in this group about EBF can be attributed to the peri- and postnatal EBF support provided in the health center, suggesting the important role played by health professionals in the promotion and support of breastfeeding in other developing countries such as Ghana and Bangladesh [19, 20]. The exclusive breastfeeding rate in the present study was higher than the findings of 2017 SMART survey in Bobo-Dioulasso province, which reported a 43.8% rate of EBF [15]. This could be explained by the fact that SMART concerns both urban, rural and peri-urban area, and the rate of exclusive breastfeeding is generally lower in urban areas.

Breastfeeding must be complemented after 6 months of age because breast milk is no longer sufficient for the nutritional needs of the infant [21]. Complementary feeding is defined as the process starting when breast milk alone is no longer enough to meet the nutritional requirements of infants, and therefore other foods and liquids are needed, along with breast milk. The target age range for complementary feeding is generally taken to be 6 to 24 months old, even though breastfeeding may continue beyond two years [22]. Delaying complementary feeding beyond 6 months leads to the risk of growth retardation, malnutrition, anemia, and zinc deficiency [21]. The appropriate age for introducing complementary foods into the child's diet was known by more than two thirds of mothers/caregivers (75.5%). The rate of timely initiation of complementary feeding in this study was higher than the findings of other studies in Ethiopia and in India [23, 24].

Global and national infant and young child feeding (IYCF) guidelines recommend that all newborns should start breastfeeding immediately (within the first hour after delivery), the current study showed that 67.5% of mothers initiated the early breastfeeding before

one hour after delivery [25]. However, other studies noted that the rate of breastfeeding initiation within 1 hour was low and one of the main barriers to the initiation and even continuation of breastfeeding is the caesarean section/delivery [26, 27].

Complementary foods are generally introduced between 4 and 6 months and partial weaning is the most common type of weaning adopted by mothers [25]. Poor diet diversity is common in low-income settings because the main complementary foods are mainly starch-based staples, with few animal products and vegetables [28]. This study indicated the high level at which starchy foods such as grains, roots and tuber foods are being consumed in peri-urban compared with more expensive foods like legumes and nuts, eggs and flesh foods which are rich in protein. Only 29.7% of children aged 6-59 months consumed meat and fish products the day preceding the interview. These results were consistent with the findings of Udoh EE in Cross River State in Nigeria where it was reported that many mothers were not able to afford expensive animal and vegetable products [29].

Limitations of the study

The current study has some limitations. First, our findings are based on mothers/caregivers' report; so, the recall bias and/or social desirability bias cannot be excluded. Second, the survey took place after harvest season, a period where foods are generally available and accessible, and women have less activities. Infant and young child feeding practices may not be better at other times of the year, such as during the lean season or the rainy season for instance.

CONCLUSION

In the present study, mothers/caregivers had adequate knowledge and practice about breastfeeding. Maternal or caregivers' breastfeeding knowledge and attitudes were strongly associated with breastfeeding practices. However, mothers'/caregivers' practice of complementary feeding was suboptimal according to the WHO recommendations. Cereals were the food group consumed by most of children aged 6-59 months raising the need for the future intervention program to further understand the reasons for the inappropriate complementary feeding practice in order to guide the development of targeted and effective strategies before the implementation. The capacity of health workers in the Hauts-Bassins regions should be reinforced so that they can effectively use all the contact opportunities to provide IYCF counselling to mothers/caregivers and conduct cooking demonstrations during postnatal visits in the health facilities.

ACKNOWLEDGEMENTS

The authors acknowledge the women living in peri-urban area in Bobo-Dioulasso who provided the information used for the study. This study was supported by the Clowns Without Borders, Spain.



Table 1: Socio-demographic characteristic of participating mothers/caregivers of under 5-year children in peri-urban areas of Bobo-Dioulasso in Burkina Faso

Variables	Group	Frequency	Percentage
Age in years	<20	16	6.5
	20-24	47	19.2
	25-29	70	28.6
	30-34	53	21.6
	>35	55	22.4
	Missing	4	1.7
			245
Religion	Catholic	43	17.6
	Muslim	187	76.3
	Protestant	15	6.1
		245	100
Literacy status	Illiterate	145	59.2
	Primary school level	62	25.3
	At least secondary school level	35	14.3
	Missing	3	1.2
		245	100.00
Occupation	Farmer	4	1.6
	Trader	51	20.8
	Student	5	2.1
	Housewife	163	66.5
	Other	14	5.7
	Missing	8	3.3
	245	100.00	

Marital status	Single	8	3.3
	Concubinage	17	6.9
	Maried	216	88.2
	Divorced	1	0.4
	Missing	3	1.2
		245	100.00
Child sex	Male	127	51.8
	Female	107	43.7
	Missing	11	4.5
		245	100
Age in months	< 6	43	17.6
	6-11	49	20.0
	12-23	105	42.9
	24-59	15	6.0
	Missing	33	13.5
		245	100

Table 2: Mothers/caregivers’ knowledge on breastfeeding in peri-urban areas of Bobo-Dioulasso in Burkina Faso

Variables	Group	Frequency	Percentage
Early initiation of breastfeeding	Yes	242	98.8
	No	3	1.22
		245	100
Aware of breastfeeding benefits	Yes	229	93.5
	No	16	6.5
		245	100
Exclusive breastfeeding under 6 months	Only breast milk	236	96.3
	Breast milk and other liquid	9	3.7
		245	100
Duration of breastfeeding	≤6 months	19	7.8
	>6-11 months	0	0
	12-23 months	60	24.5
	≥24 months	160	67.8
		245	100
Duration of exclusive breastfeeding	0-6 months	213	86.9
	others	32	13.1
		245	100
Initiation of complementary feeding	6 months	185	75.5
	Others	60	24.5
		245	100
Benefits of breastfeeding to child	Growth and development	152	60.8
	Disease prevention	66	26.4
	communicable disease Prevention	9	3.6
	Don't know	18	7.2
		245	100

Table 3: Mothers/caregivers’ attitudes and practices on breastfeeding in peri-urban areas of Bobo-Dioulasso in Burkina Faso

Variables	Group	Frequency	Percentage
Attitudes			
Exclusive breastfeeding for 1st six months	Difficult	2	0.8
	No difficult	237	96.7
	Don’t know	6	2.5
		245	100
Practices			
Early inition of breastfeeding	Yes	240	98.0
	No	4	1.6
	Don’t know	1	0.4
		245	100
Time of initiating breastfeeding	Within 1 hour of birth	162	67.5
	1-24 hours of birth	74	30.8
	>24 hours of birth	4	1.7
		240	100
Colostrum provision to child at birth	Yes	225	91.8
	No	18	7.4
	Don’t know	2	0.8
		245	100

Table 4: Complementary foods received by 6-59 months children during the previous 24 hours before the survey in peri-urban areas of Bobo-Dioulasso in Burkina Faso

Food group consumed	Yes (%)	No (%)	Total
Cereals	132 (89.8)	15 (10.2)	147
Legumes and nuts	27 (18.4)	120 (81.6)	147
Dairy product	33 (23.4)	114 (76.6)	147
Meat products	42 (28.6)	125 (71.4)	147
Eggs	21 (14.3)	126 (85.7)	147
Fruits and vegetables	32 (21.8)	115 (72.2)	147
Breastfeed	136 (86.6)	21 (13.4)	147

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