

Knowledge and Attitude of infant Feeding among Health Workers in Private Health Facilities in Ibadan, Oyo State, Nigeria

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ABSTRACT

Background: Knowledge and attitude of health workers affect caregivers' infant feeding practices. However, information on the knowledge and attitudes of health workers in private hospitals is lacking. This study was designed to assess the infant feeding knowledge, attitude, and personal experiences of health workers in private hospitals in Ibadan, Nigeria. This cross-sectional study involved sampling of 108 consenting health workers of registered private health facilities offering ante-natal care services in Ibadan North communities of Oyo State, Nigeria. Data were collected using a semi-structured questionnaire including the socio-demographic characteristics, knowledge, and attitude of infant feeding practices. Knowledge was assessed using a 19-point scale categorized as good (≥ 13) and poor (< 13). Attitude was assessed using a 65-point scale, categorized as good (≥ 33) and poor (< 33). Data were analysed using descriptive statistics at $p < 0.05$. Eighty five percent of the health workers were female, 51.9% were aged 21-30 years, 48.1% were married, and 25.9% were degree holders. Only 47.2% had attended infant feeding training recently, 57.0% had good knowledge and 53.0% had good attitude. Only 30.6% knew early initiation of breastfeeding, and 30.6% knew continued breastfeeding up 24 months and beyond. Just 49.1% considered breastfeeding in public non-embarrassing, and 33.3% agreed that infants less than six months should not be given water. There is evidence of limited knowledge and poor attitude towards the recommended infant feeding practices among the health workers in private health facilities in Ibadan. Periodic training on infant feeding for health workers in private health facilities is hereby recommended.

Key words: Exclusive breastfeeding, early initiation, private hospital, personal experience

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Introduction

Feeding practices of children during infancy and early childhood determine their overall health status

and long-term well-being.¹ Infant feeding is not a simple operation as the methods or foods used must align to a variety of criteria which is adjusted as the infant develops and modified to suit the needs of the child.² The World Health Organization (WHO) and United Nations Children's Fund (UNICEF) recommended early initiation of breastfeeding (within one hour of birth), exclusive breastfeeding for the first six months, and continued breastfeeding for two years and beyond, together with nutritionally adequate, safe, age-appropriate, responsive feeding of solid, semi-solid and soft foods starting in the sixth month.³⁻⁶ However, the global databases of UNICEF showed that only 44% of newborns are commenced on breastmilk within one hour of delivery and about 40% of infants are exclusively breastfed in the first six months of life.⁷ In Nigeria, breastfeeding is predominant, however, compliance to recommended infant and young child feeding practices remains poor. According to the



recent survey, early initiation of breastfeeding was 23.1%, exclusive breastfeeding was 34.4%, and continued breastfeeding at 2 years was 26.1%.⁸ These poor infant and young child indices endanger health and well-being of children, increases susceptibility to illness and death and cause enormous health care bills in treatment. Though multiple factors have been implicated for these poor infant and young child indices and series of interventions are being implemented, the rate of progress is slow.

Health workers are considered critical stakeholders in promoting mothers' compliance to recommended Infant and Young Child Feeding (IYCF) practices and as such they are expected to have sufficient knowledge and attitude on various aspects of infant feeding including its benefits, proper techniques, existing myths, and practical aspects of managing potential challenges. Evidence has shown that the knowledge and attitude of health workers in the facilities can affect infant feeding practices, and, studies in Nigeria have reported widespread poor knowledge of infant and young child feeding among health workers.⁹⁻¹⁴ Interestingly, these results were obtained from public health facilities where most infant and young child feeding interventions are focused. Several approaches have been deployed in the promotion of appropriate IYCF practices in Nigeria, including adoption of Baby Friendly Hospital Initiatives, adoption, and promotion of IYCF guideline, and lately Maternal, Infant and Young Child Nutrition guideline, among other interventions. Despite all these efforts, infant care practices remain low and several studies have been conducted to identify the causes of these poor care practices with mixed result.

One in five births in low-income and middle-income countries occurred with care provided by the private health sector.¹⁵ In Nigeria, the private hospitals constitute unavoidable choice for mothers as health services provided in public facilities have been persistently low in quality and adequacy.¹⁶ About one-third (30.2%) of delivery in urban areas in Nigeria occurred in private health facility.⁸ This reflects the significant role of the private health facilities in promoting compliance to recommended infant and young child feeding practices. Conventionally, the health facilities serve as a place for mothers to acquire knowledge and get motivation to adopt optimal infant feeding practices. Currently, there is limited information on the

knowledge and practices of infant feeding practices among health workers in private hospitals as previous studies were conducted in public health facilities. Since private health care facilities are largely accessed and utilized in Nigeria, assessing the knowledge and attitude of infant and young child feeding among health workers in private hospitals will help identify existing gaps in knowledge and attitude and improvise strategies to strengthen the private health system to support and promote recommended infant and young child feeding practices and contribute to promoting good maternal and young child nutrition. This study was therefore designed to assess the knowledge, attitude, and personal experiences of health workers in private hospital on infant feeding practices in Ibadan North local government area of Oyo state, Nigeria.

Materials and Methods

Study Design: The study was descriptive cross-sectional in design and included 108 health workers of registered private health facilities offering antenatal care services across Ibadan North Local government Area, Ibadan, Oyo State, Nigeria.

Study Area: The study was carried out in registered private hospitals in Ibadan North Local Government Area, Oyo State, Nigeria. Ibadan is the capital of Oyo state in Southwest Nigeria. There are eleven local government areas in Ibadan including five urban and six peri-urban local government areas. Ibadan North Local government was purposively selected being the largest and the most developed of the five urban local government areas and has an accessible list of registered private health facilities.

The local government area covers an area of 145.58-kilometer square, consists of 12 wards and has 15 registered private health facilities with antenatal care services.

Study Population and Sampling Procedure: The study population was health workers either male or female in private hospitals such as doctors, nurses, auxiliary nurses, matrons and midwives who offered support and advice to pregnant women and, rendered antenatal and postnatal care in the fifteen private health facilities.

A total of 108 health workers were recruited for the study. A health worker was considered eligible for the study based on involvement in either ante-natal or post-natal care services in the selected health facility as a full-time staff for at least six months,



ability to communicate verbally and giving informed consent to participate in the study.

Data Collection Procedure: This study was conducted between November 2020 and April 2021. Information was collected using a semi-structured, interviewer-administered questionnaire including the socio-demographic characteristics, knowledge and attitude of infant feeding practices and personal experience. Knowledge was assessed using a 19-point infant feeding scale categorized as good knowledge (≥ 13) and poor (< 13) based on the mean knowledge score of 13.0. Attitude of the health workers towards recommended infant feeding practices was assessed using a 65-point scale based on 5-point Likert scale (strongly disagree (1), disagree (2), undecided (3), agree (4) and strongly agree (5)). The cumulative score of each respondent was used to generate the final attitude score and categorized as good infant feeding attitude at a score ≥ 33 and poor at a score < 33 .

Data analysis: Data were entered and analyzed using the IBM Statistical Package for the Social Sciences (IBM SPSS) version 25.0. Age and other parametric variables were summarized using mean, while frequencies and percentages were used for categorical variables. Chi-square test was used to assess association between variables and differences were considered significant at $p < 0.05$.

Ethical approval was obtained from University of Ibadan/University College Hospital Research and Ethics Committee at the Institute of Advanced Medical Research and Training (IAMRAT). Participation was entirely voluntary and informed consent was obtained from respondents. The ethical principles guiding research among human subjects

as contained in the Helsinki Declaration were adhered to. Respondents were free to withdraw from the study whenever they deemed fit without any fear of victimization

Results

Socio-demographic characteristics of the health workers

The socio-demographic characteristics of the health workers are presented in Table 1. About 85 percent of the sampled health workers were female. The age distribution of the respondent showed that more than half (51.9%) were between 21-30 years and 22.2% were aged 31-40 years, 48.1% were married, and 47.2% were single. The health workers comprised of nurses (30.6%), auxiliary nurses (23.1%), midwives (13.9%), medical doctors (9.3%) and others (23.1%). Only 25.9% of the health workers had university education, 26.0% were graduates of Schools of Nursing/midwifery, 13.0% graduated from School of Health Technology, and 29.6% had not more than secondary school education. Majority of the health workers (79.6%) had served in the private health care system for 1-10 years, 12.0% had served for 11 – 20 years and 8.3% of the respondents had served for more than 20 years. About 82% of the health workers had received training on infant feeding and 70.4% had in-service training on infant feeding, however, only 47.2% had attended training in the last one year. Majority (75.0%) of the health workers expressed willingness to acquire more knowledge on infant feeding and 93.5% were willing to participate in infant feeding training.

Table 1: Basic Characteristics of Respondents

Variables		N	%
Gender	Male	16	14.8
	Female	92	85.2
Age (years)	<20	11	10.2
	21-30	56	51.9
	31-40	24	22.2
	>40	17	15.7



Marital status	Single	51	47.2
	Married	52	48.1
	Divorced	3	2.8
	Widowed	2	1.9
Cadre of respondents	Medical Doctor	10	9.3
	Nurses	33	30.6
	Midwives	15	13.9
	Auxiliary Nurse	25	23.1
	Others	25	23.1
Level of education	Primary education	1	0.9
	Secondary education	32	29.6
	School of Nursing/Midwifery	28	26.0
	School of Health Technology	14	13.0
	Graduate Degree (MBBS, B.Sc)	28	25.9
	Others	5	4.6
Year of service in private health facility	1-10	86	79.6
	11-20	13	12.0
	>20	9	8.3
Had ever received training on infant training	Yes	88	81.5
	No	10	18.5
Had ever received in-service training on infant feeding	Yes	76	70.4
	No	32	29.6
Had attended any IYCF training in the last one year	Yes	51	47.2
	No	57	52.8
Willing to acquire more knowledge on infant feeding	Yes	81	75.0
	No	27	25.0
Willing to participate in infant feeding training	Yes	101	93.5
	No	7	6.5

MBBS-Bachelor of Medicine and Bachelor of Surgery; B.Sc. - Bachelor of Science



Knowledge, attitude, and personal experience on Infant Feeding among Private Hospital Health Workers

The knowledge of the health workers on infant feeding is presented in Table 2. Most of the health workers (88.0%) knew human milk as the ideal milk for the newborn and 86.1% correctly defined exclusive breastfeeding, however, only 30.6% knew breastfeeding should be initiated within one hour of delivery. About 51.9% of the health workers recognized ROOMING-IN concept as the best hospital practice to support early initiation of breastfeeding, 87.0% knew breastmilk supplies essential nutrients and fluid a baby needs for the first 6 months, and 77.8% correctly identified the duration for exclusive breastfeeding. Though majority of the health workers (78.7%) knew breastfeeding should be given on demand, only 30.6% knew breastfeeding should be sustained till a child is at least 24 months. The knowledge of the benefits of exclusive breastfeeding among the health workers was limited. Only 50% of the health workers recognized that exclusive breastfeeding could reduce the risks of ovarian cancer, 63.9% knew it delays the return of ovulation in mothers and 71.3% knew it contributes to the maturation of the infants' gastrointestinal tract. About 82% knew giving colostrum is beneficial and 61%

knew a malnourished mother can practice exclusive breastfeeding exclusively. Though 87% of the health workers knew that the quantity, texture, number of times a child eat complementary foods should increase as the child gets older, only 21.3% knew the appropriate timing of the introduction of complementary feeds. Majority of the health workers (86.1%) knew that quality complementary food can be home-made and 73.1% knew that adequate complementary feeding can prevent child malnutrition.

The attitude of the health workers to recommended infant feeding is presented in Table 3. Only 69.4% considered breastfeeding more convenient than formulae feeding, 49.1% considered breastfeeding in public non-embarrassing, and 33.3% agreed that infants less than six months should not be given water. About 65% agreed to the significance of hygiene in the preparation of complementary feeds, 92.6% agreed to the six-month duration of exclusive breastfeeding, and 89.8% agreed that mothers need adequate knowledge on complementary feeding for optimal feeding of their infants. Other results are as presented in the table. Overall, 57% of the health workers had good infant feeding knowledge and 53% had good infant feeding attitude (Figure I).

Table 2: Knowledge of health workers on infant feeding

Knowledge Variables	Frequency (N=108)	Percent
Knew human milk as the only ideal milk type for the newborn	95	88.0
Defined exclusive breastfeeding as breastfeeding only without other fluids or water for the first 6 months	93	86.1
Knew breastfeeding should be initiated within one hour of delivery	33	30.6
Knew rooming-in as a hospital practice that supports exclusive breastfeeding	56	51.9
Knew breastmilk supplies all the nutrients and fluid a baby needs for the first 6 months	94	87.0
Correctly identified 6 months as the duration of exclusive breastfeeding	84	77.8
Knew breastfeeding should be given on demand	85	78.7
Knew breastfeeding should be sustained up to > 24 months	33	30.6
Knew exclusive breastfeeding reduces the risk of ovarian cancer	54	50.0



Knew exclusive breastfeeding delays the return of ovulation after delivery	69	63.9
Knew colostrum is beneficial infant feeding practices	88	81.5
Knew that a malnourished mother can still breastfeed exclusively while working on her nutritional state	66	61.1
Knew the practice of exclusive breastfeeding contributes to the maturation of the gastrointestinal tract and development of jaws and teeth of the infant	77	71.3
Knew that complementary feeding should be introduced at 6 months	23	21.3
Knew that the quantity, texture, number of times a child eat complementary foods should increase as the child gets older	94	87.0
Knew that complementary foods should contain the vital nutrients for a growing child	99	91.7
Vital nutrient in complementary foods for a growing child		
Protein	27	25.0
Vitamin C	11	10.2
Vitamin A	2	1.9
Calcium	3	2.8
Mineral Salt	1	.9
3 or more Nutrients mentioned	16	14.8
Knew that a quality complementary food can be home made	93	86.1
Knew that adequate complementary feeding can prevent certain malnutrition related disease	79	73.1



Table 3: Attitude of health workers on infant feeding

	Strongly Agree Freq. (%)	Agree Freq. (%)	Undecided Freq. (%)	Disagree Freq. (%)	Strongly Disagree Freq. (%)
Formula-feeding is more convenient than breast feeding	16(14.8)	10(9.3)	7(6.5)	28(25.9)	47(43.5)
Breastfeeding in public is embarrassing	20(18.5)	25(23.1)	10(9.3)	30(27.8)	23(21.3)
Hygiene is of importance when preparing complementary foods	70(64.8)	25(23.1)	6(5.6)	4(3.7)	3(2.8)
Complementary foods can be at any time not necessarily after 6 months	11(10.2)	18(16.7)	8(7.4)	41(38.0)	30(27.8)
Believes babies less than 6 months should not be given water	37(34.3)	28(25.9)	7(6.5)	24(22.2)	12(11.1)
Formula-feeding is a better choice if a mother plans to work outside the home	15(13.9)	44(40.7)	12(11.1)	26(24.1)	11(10.2)
Believes in feeding a baby on demand	52(48.1)	33(30.6)	10(9.3)	6(5.6)	7(6.5)
Believes in exclusive breastfeeding for at least 6 months	64(59.3)	36(33.3)	4(3.7)	3(2.8)	1(0.9)
Believe that HIV can be transmitted through breastfeeding	49(45.4)	24(22.2)	11(10.2)	12(11.1)	12(11.1)
Mothers need adequate knowledge on complementary feeding for optimal feeding of their infants	58(53.7)	39(36.1)	7(6.5)	3(2.8)	1(0.9)
In complementary feeding: age group, frequency, amount of food, texture, variety of food, responsive feeding should be considered	51(47.2)	42(38.9)	9(8.3)	2(1.9)	4(3.7)
Fruits and vegetables can be added in complementary feeding	55(50.9)	39(36.1)	11(10.2)	2(1.9)	1(0.9)
New foods should be offered several times as the child may not like new foods in the first few times	28(25.9)	59(54.6)	11(10.2)	10(9.3)	0(0)

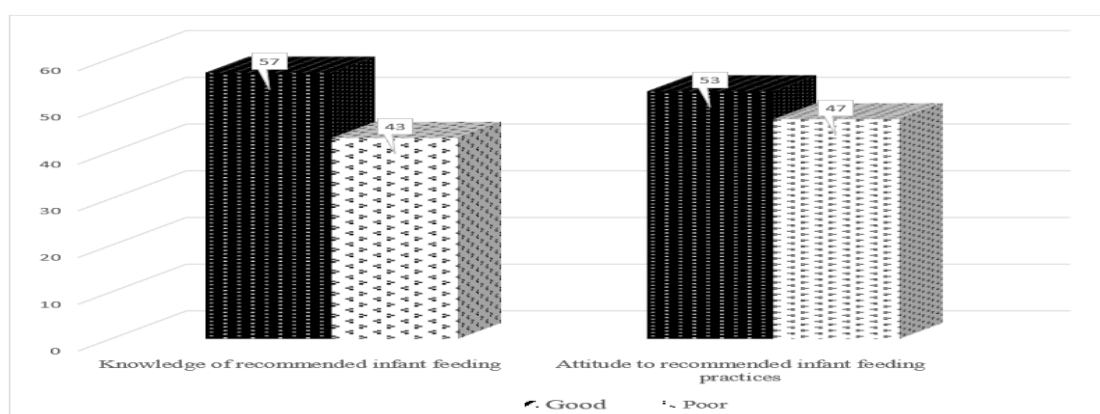


Figure I: Infants feeding knowledge and attitude scores of the health workers

Infant feeding experience among the health workers

The personal experience of the health workers is presented in Table 4. About 47% of the health workers had children, and 98% of them breastfed their children. Majority of the health workers (74.0%) breastfed for a period of 12-24 months and 26.0% breastfed for 6 -12 months. About 52% of the health workers introduced



complementary feeding earlier than recommended including 30% before age 4 months and 22% before age one month. Majority (70.6%) of the health workers did not prefer formula feeds.

Table 4: Infant feeding experience of health workers

Variables	Frequency	Percent
Had own child/children		
Yes	51	47.2
No	57	52.8
Ever breastfed own child/children (n=51)		
Yes	50	98.0
No	1	2.0
Duration of breastfeeding		
6-12 months	13	26.0
12-24 months	37	74.0
More than 24 months	-	-
Age of child when other foods were introduced		
Less than 4 weeks	11	22.0
4-15 weeks	15	30.0
At age 6 months	24	48.0
Preferred formula foods most times		
Yes	15	29.4
No	36	70.6

Discussion

Health workers in private health facilities constitute important stakeholders in achieving the WHO and UNICEF recommendations on infant feeding, and as such, they should be equipped with adequate knowledge and display right attitude towards promoting, protecting, and supporting appropriate infant feeding.^{18,19} In this study, the health workers in the private health facilities were largely female and belong to diverse categories with varied level of trainings. However, some had no training on infant and young child feeding, and less than half had such training in the last one year. There is evidence of limited knowledge of recommended infant feeding practices among the health workers particularly in early initiation of breastfeeding, use of the rooming-in concept to promote recommended breastfeeding practices, continued breastfeeding up to 24 months

and the benefits of exclusive breastfeeding to mothers and infants, and appropriate timing of complementary feeding. Furthermore, the health workers reflect poor attitude to infant feeding and their personal experience portrays them as poor role models to promote recommended infant feeding practices.

The preponderance of female among the health workers in this study may be attributed to the focus on ante-natal care section of health services and the larger proportion of nurses, midwives and community health workers compared to medical doctors. This distribution agrees with several other studies on primary health care services in southern Nigeria which has also reported larger proportion of females compared to male counterparts.^{11,19-21} The large representation of mid-level health



professionals is typical of the private health facilities and can be attributed to the cost-minimizing strategy of using many low-level staff to support high level workers.²² Although this may help the facilities to reduce wage bills, caution must be ensured that the quality of services is not compromised.

The large proportion of health workers without training and lack of periodic training on recommended infant feeding practices constitute a red flag on the potential of the private health facilities to provide adequate support for mothers to adopt recommended best practices on infant feeding. Health workers have an indispensable role particularly during the first year of a child's life which includes documenting and reporting on their promotion and support of proper infant nutrition (including breastfeeding) and hygiene.²³

Only 30.6% of the health workers knew that breastfeeding should be continued till 2 years and beyond. An earlier study also reported that 40.7% of female medical personnel in Benin city, Nigeria did not know that breastfeeding should be continued for 24 months or beyond.¹⁰

Earlier studies have also documented poor infant and young child feeding knowledge among health workers in public health facilities in different parts of Nigeria and beyond.^{10-13,24-27}

The United Nations Children Fund/World Health Organization Baby Friendly Hospital initiative (BFHI) recommends the training of all health personnel to implement best practice breastfeeding policies.^{7,28}

The large proportion of health workers with poor knowledge and attitude on optimal infant feeding practices reflect a wide gap in the successful implementation of best breastfeeding practices in the private health facilities. This gap possibly contributes to the unsuccessful efforts to increase compliance to early initiation of breastfeeding, exclusive breastfeeding and continued breastfeeding up to 24 months among Nigerian mothers. Presently, about 70 percent of under-five children in Nigeria missed the benefits associated with early initiation of breastfeeding, exclusive breastfeeding, and continued breastfeeding at 2 years.⁸ The large proportion of the health workers with poor knowledge of the benefits of exclusive breastfeeding to the mother and child reflects poor capacity to convince the mothers to practice exclusive breastfeeding.

In this study, poor attitude, and the non-inspiring personal experience of some of the health workers are even more exasperating. This makes the health workers poor role models in promoting optimal infant feeding practices. Personal experiences with breastfeeding influence attitude towards breastfeeding.²⁹ Similar negative experience and attitude have been reported among nursing and

medical students.³⁰⁻³² The poor knowledge and attitude can be a barrier to successful implementation of recommended breastfeeding best practices in private health facilities. Dykes (2006)³³ reported that attitudes towards breastfeeding are rooted in personal and vicarious experiences. Poor attitudes can debar acquisition and application of new knowledge and skills. Evidence has shown that poor knowledge on the part of health workers influences provision of supports and guidance that caregivers expected from health workers and when this is not achieved infant feeding practices suffer.^{34,35} The findings in this study reflect systemic gaps in the private health care service delivery that inhibit promotion of appropriate infant feeding practices, however, the willingness of these workers for periodic training constitutes a green light. These gaps constitute major concern with the large patronage of private health facilities by Nigerians in the urban centers and the large number of the private health facilities in the country. It is therefore important to rejig the private health care sector and better position it to support and promote ongoing efforts to improve infant and young child feeding indicators in the country. Based on this, it is essential to strengthen the infant and young child feeding component or curriculum of all categories of health workforce across Universities, Colleges of Nursing, Polytechnics, and Colleges of Health Technology. This recommendation is in line with efforts to improve infant and young child feeding in other countries.^{36,37} Evidence has shown that improved professional training has the potential to scale up the knowledge, skills, and practices of health workers on infant feeding.³⁸ In addition, the peculiarities of the private health facilities in the large use of semi-skilled non-health professionals as health workers should be taken into consideration. Though this constitutes a malpractice in health profession, its proliferation is high and is becoming a new normal in Nigeria.³⁹ Therefore, there is a need for the inclusion of infant and young child feeding components in the training schedule of auxiliary nurses and ensure services by these categories of workers are closely supervised by the qualified health professionals. In addition, it is essential to institute periodic in-service trainings or short courses on infant and young child feeding for these health workers to update their knowledge and keep them align to current understanding and emerging best practices in infants and young child nutrition. These recommendations are important for the private health facilities to contribute meaningfully to enhancing maternal and child nutrition, child survival and overall development of the country. The strength of our study lies in the uniqueness of the study population with respect to knowledge and attitude of infant feeding. Many nutrition studies



have focused on public health facilities and undermine the contribution of the private health facilities in promoting knowledge and attitude of optimal infant and young child feeding. To the best of our knowledge, this is the first study in Nigeria that sought to understand the gaps in promotion of optimal feeding practices by health workers in private health facilities. This effort has the potential to strengthen and scale up infant and young child feeding. However, reliance on self-reported data is a limitation of this study. Responses are largely based on experiences, beliefs and perceptions of the health workers which may be prone to bias or inaccuracies. Future studies may consider the use of other methods such as observational or experimental methods to overcome these limitations and better understand the knowledge and attitude of infant feeding in these facilities.

Conclusion

There is evidence of limited knowledge and poor attitude towards the recommended infant feeding practices among the health workers in private health facilities in Ibadan, particularly in early initiation of breastfeeding, use of rooming-in concept to promote recommended breastfeeding practices, continued breastfeeding up to 24 months, benefits of exclusive breastfeeding to mothers and infants, and appropriate timing of introduction of complementary feeding. There is need for improved curriculum and in-service trainings on infant feeding for health workers especially in the private hospitals to improve and support appropriate infant feeding practices.

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