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Maternal feeding practices for sick children under 2 years in Wolkite town, Gurage Zone, Central Ethiopia, 2024: a community-based cross-sectional study

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Abstract

Background Optimal feeding practices for sick children are crucial to prevent morbidity and mortality. Despite global and national policies emphasizing the importance of optimal feeding practices for sick children, studies have revealed varying levels of practice in different regions, including Ethiopia. However, there is a research gap in focusing on community-based contexts to determine sick child feeding practices among mothers with young children.

Objective To assess maternal feeding practices for sick children under 2 years in Wolkite town, Gurage zone, Central Ethiopia: 2024.

Methods A community-based cross-sectional study involving a total of 419 mothers of young children was conducted in Wolkite town, Gurage zone, Central Ethiopia from September 15 to November 15, 2023. Participants were chosen using computer-generated random numbers. Structured, interviewer-administered, and pretested data collection tool were used. The data were coded and entered into EpiData 3.1 before being exported to SPSS version 25 for analysis. Logistic regression was employed to identify factors influencing mothers' practice. Statistical significance was set at $p < 0.05$ with a 95% confidence interval.

Results The study found that 54.4% (95% CI: 50–59%) of mothers demonstrated good feeding practices for their sick children. Significant factors contributing to these practices included mothers having at least a secondary education (AOR: 3.7, 95% CI: 1.5–9.1), delivering their child in a health facility (AOR: 2.3, 95% CI: 1.4–3.8), and receiving support from the father (AOR: 2.3, 95% CI: 1.4–3.8). Additionally, mothers who were counseled on infant and young child feeding had higher odds of practicing good feeding (AOR: 4.1, 95% CI: 2.3–7.03), access to postnatal care (AOR: 3.8, 95% CI: 2.1–6.95) and having a good knowledge of feeding practices (AOR: 2.5, 95% CI: 1.4–4.5) were also strongly associated with effective feeding practices.

Conclusions The study highlights more than half of mothers in Wolkite town, Gurage zone, Central Ethiopia have good sick child feeding practices. Factors such as the higher educational status of the mother, having the father's

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support, place of delivery, receiving PNC services, counseling on infant and young child feeding, and knowledge about sick child feeding were significantly associated with their practice. Implementing targeted education programs, strengthening postnatal care services, counseling on infant and young child feeding, and encouraging the involvement of fathers in childcare and feeding were strongly recommended.

Keywords Sick child, Feeding practice, Childhood illness, Infant and young child feeding, Ethiopia

Introduction

The prevention of illness and death in children under five years of age remains a critical focus for stakeholders in child health and nutrition. Despite significant progress in lowering the global under-five mortality rate, approximately 5 million children died worldwide in 2021 [1]. Sub-Saharan Africa was disproportionately affected, accounting for 55% of these deaths, with nearly 2.4 million children losing their lives before reaching their second birthday globally; around 1 million of these fatalities occurred in Sub-Saharan Africa [1, 2].

As the emphasis on nutrition grows, there are increasing concerns regarding the integration of nutritional interventions with the treatment of childhood illnesses [3]. In 2022, data indicated that 22.3% of children under five globally were stunted, with rates reaching 31.5% in both South Asia and Sub-Saharan Africa and 37% in Ethiopia. Furthermore, the prevalence of wasting was significant, with 31.9% in Southeast Asia, 33.1% in Africa, and 7% in Ethiopia. Alarmingly, nearly 40% of stunting and 14% of wasting cases occur before the age of two, particularly in middle- and low-income countries [4, 5].

Malnutrition is a contributing factor in approximately 45% of all deaths among children under five [6]. It is estimated that nearly half of these young lives could be saved if optimal feeding practices during the first two years were met [7].

The nutritional status of children can deteriorate rapidly during or after common illnesses if their increased nutrient requirements are not met. During illness, nutrients are redirected from growth and development to support immune function, while decreased appetite can create a cycle of infection, stunting, and further illness. Optimal feeding during and after illness presents challenges related to food quantity and quality, feeding frequency, duration of care, and attention from caregivers and healthcare providers [8, 9].

Global and national policies advocate for optimal feeding practices for ill or vulnerable newborns and children, emphasizing the importance of increasing fluid intake, maintaining feeding during illness, and enhancing food consumption during recovery [3].

Over the past fifteen years in Africa, there has been an increase in fluid intake and exclusive breastfeeding practices during diarrheal episodes in 60% of countries; however, only 30–40% have made progress in providing more than usual solid or semi-solid foods [10]. Studies in Sub-Saharan Africa indicate that appropriate feeding practices during illness range from 4 to 25% [11]. while Ethiopian studies reveal that good sick child feeding practices vary between 15.4% and 47.6% [12, 13].

In Ethiopia specifically, research has shown that between 45 and 54% of caregivers engage in appropriate feeding practices during common childhood illnesses, which exceeds the average for the broader African region [8, 14]. Factors such as the child's age, sex, place of residence, caregiver's educational background, occupation, postnatal care (PNC) and antenatal care (ANC) visits, counseling on child feeding, and paternal involvement significantly influence these practices [8, 14].

However, these studies were conducted in health facilities, which may not fully capture caregivers' natural behaviors and challenges outside clinical settings. Additionally, this study determines the potential role of participants' knowledge and attitudes toward their sick child feeding practices to gain a more comprehensive understanding of caregiver practice.

Methods and materials

Study area and period

The research was carried out in Wolkite town [Fig. 1]., which serves as the capital of the Gurage zone in Central Ethiopia, located 158 km from Addis Ababa. According to data from the town's statistics office, the population stands at 75,841, with 53% male and 47% female residents. Wolkite is divided into five administrative Kebeles: Menaheriya, Edigetchora, Selamber, Adishiwot, and Edigetber. The town is equipped with two government health centers and ten private clinics, catering to approximately 3,929 mothers with children under the age of two while 1,421 of them had a sick child. The study was conducted between September 15 and November 15, 2023.

Study design

A community-based cross-sectional study was conducted.

Population

All mothers of sick children under the age of two years in Wolkite town, where the source population, and all mothers of sick children under the age of two years in Wolkite town, who fulfilled the inclusion criteria, were the study population for this study.

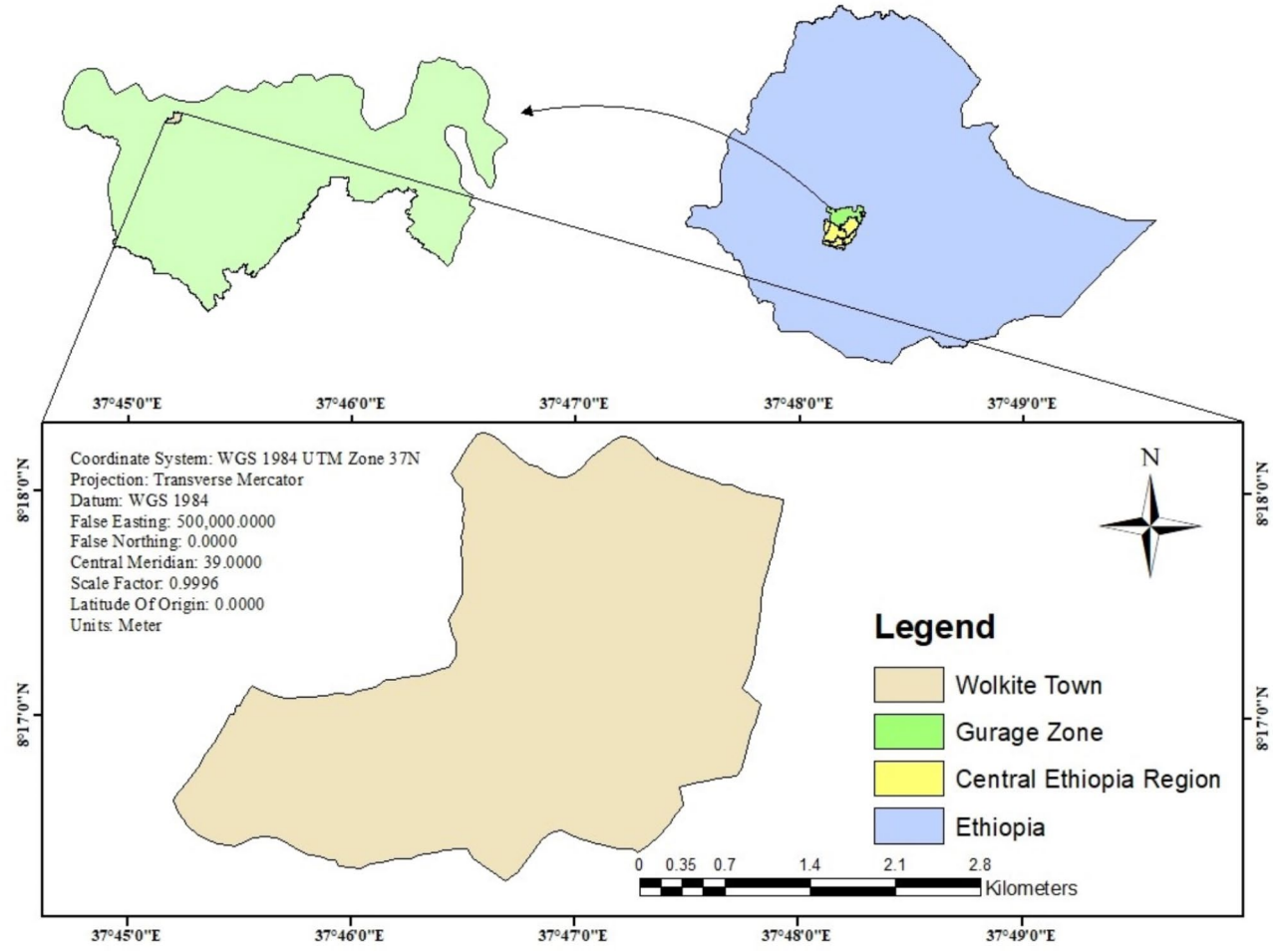

Fig. 1 Geographic information system (GIS) representation of Wolkite town, Gurage zone, Central Ethiopia, 2024

Inclusion criteria and eligibility criteria

All mothers who have young children who were sick in the last two weeks, and have lived in Wolkite town for more than six months were included in the study. Furthermore, mothers who had proven mental illnesses or were critically ill were excluded from the study.

Sample size determination

The sample size for the study was calculated using the single population proportion formula. A 95% confidence interval (CI) and a 5% margin of error (d) were considered, along with a prevalence rate of 45% for sick child feeding practices among mothers, based on research conducted in the Gamo zone of South Ethiopia [14]. To account for a potential 10% non-response rate, the final sample size was determined to be 419.

Sampling technique and procedure

To choose respondents for the study, a stratified random sampling method focused on mothers with sick children under the age of two was utilized. The sample size was proportionately assigned to each kebele based on the total number of mothers with sick children under the age of two. The total population of interest (N) was identified (1,421). The desired final sample size (n) was 419. A proportionate distribution (Nh) was calculated, this factor was then applied to the number of mothers with sick children in each kebele (ni) to determine how many respondents would be selected from each kebele. To ensure a random selection process, a computer-generated random number system was used. This approach utilized the family folders maintained by health extension workers [Fig. 2].

Data collection instruments and procedures

Data for this study were collected using a paper-based method. A structured, pretested questionnaire, administered by trained interviewers, was employed. This questionnaire was adapted from previous research studies [8, 14]. Additionally, participants' socioeconomic status was assessed using a tool consisting of 37 items, which was

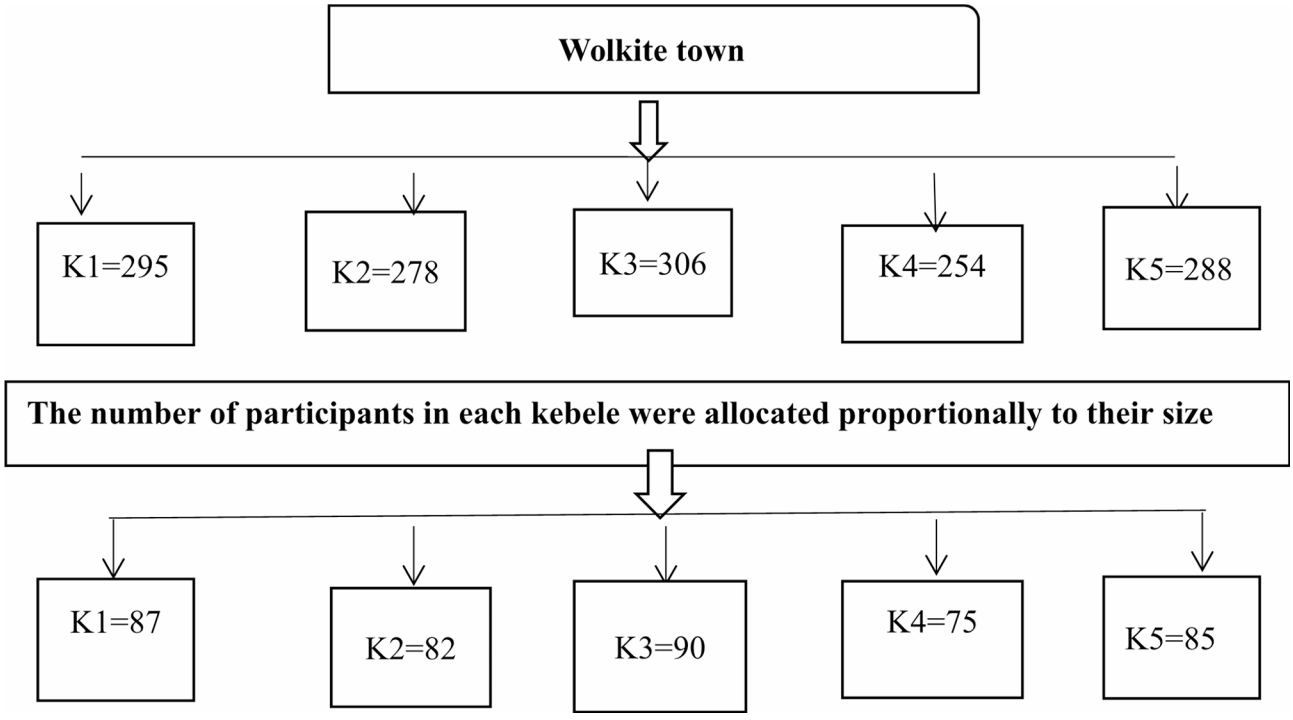

Fig. 2 Schematic presentation of the sampling procedure used to assess the practice of sick child feeding and its associated factors among mothers of sick young children in Wolkite town, Gurage zone, Central Ethiopia, 2024. The sampling comprised five kebeles: K1 = Menaheriya Kebele, K2 = Edigetchora Kebele, K3 = Selam ber Kebele, K4 = Adishiwot Kebele, K5 = Ediget ber Kebele

modified from the Ethiopian Demographic and Health Survey (EDHS) [5].

The data collection team comprised five diploma nurses who had prior experience in conducting data collection. To ensure effective oversight, three supervisors with Bachelor of Science degrees in nursing were appointed to supervise the process. Furthermore, the internal consistency of the knowledge, attitude, and practice sections of the questionnaire was evaluated using Cronbach's alpha coefficients, yielding values of 0.75, 0.79, and 0.89, respectively.

Data quality control

To maintain high standards of data quality, the questionnaire was first developed in English and subsequently translated into Amharic. This translation was then back-translated into English by two independent language experts to ensure consistency and accuracy. A pre-test of the data collection tool was conducted one week before the main data collection period, involving 21 mothers of sick children under two years old in the past two weeks in Hole Town, Wolkite Zuria Woreda. Feedback from this pre-test led to revisions of any ambiguous or confusing language in the questionnaire. Data collectors and supervisors underwent a full day of intensive training, which included familiarization with the interview protocol, conducting practice interviews, and engaging in discussions to clarify any uncertainties.

Throughout the data collection process, supervisors and researchers provided close oversight daily. Any inconsistencies identified by the investigators were addressed and corrected promptly during the data collection phase. To minimize social desirability bias, interviews with study participants were conducted in private rooms within their homes. Additionally, participants who were initially unavailable were revisited up to three times to maximize their inclusion in the study.

Operational definition

Optimal feeding includes initiating breastfeeding within the first hour of birth, introducing complementary foods at six months of age, and continuing breastfeeding for up to two years [15].

Sick child An infant or young child experiencing common childhood illnesses or other medical conditions, as reported by their mother while seeking treatment. **Good feeding practices** for sick children include: providing four or more meals daily for non-breastfed infants aged 6–23 months; offering two or more meals each day for breastfed infants aged 6–8 months; and ensuring more than three meals per day for children aged 9–23 months [8, 14].

Poor sick child feeding practices mothers/caregivers who gave the usual amount of fluids/foods and those who gave slightly fewer fluids/foods than usual and the

frequency of fluids/foods or interruptions in feeding were considered poor feeding practices for the sick child [8, 14].

Knowledge of sick child feeding This aspect was evaluated using three specific items related to feeding practices for sick children. Responses were scored as '1' for correct answers and '0' for incorrect ones. Women who achieved at least the mean score on the knowledge assessment were classified as having good knowledge, while those who scored below the mean were considered to have poor knowledge [16, 17].

Attitudes towards sick child feeding were assessed through a set of three items using a Likert scale. Each item received a score from 1 to 3, where 1 indicates "not good," 2 denotes uncertainty, and 3 signifies "good." Mothers scoring at or above the mean on the attitude assessment were categorized as having a positive attitude, whereas those scoring below the mean were classified as having a negative attitude [16].

Minimum meal frequency For breastfeeding mothers, the recommended feeding frequency is 2–3 times per day for infants aged 6–8 months and 3–4 times per day for those aged 9–23 months. Non-breastfeeding mothers should aim for at least four meals per day [18, 19].

Minimum dietary diversity This refers to the consumption of foods from four or more distinct food groups to ensure higher nutritional quality and meet daily energy and nutrient needs. The seven recommended food groups include grains, roots and tubers, legumes and nuts, dairy products, flesh foods, fruits, and vegetables [20].

Wealth index This is a composite measure reflecting a household's overall living standards. Respondents are classified into three wealth categories based on a net score derived from 37 items encompassing domestic animals, durable assets, productive assets, dwelling characteristics, and any variables or assets owned by over 90% or less than 5% of households were excluded. The adequacy of the sample was assessed using the Kaiser-Meyer-Olkin measure (≥ 0.6), anti-image correlations (>0.4), and Bartlett's Sphericity Test (p-value <0.05) [17].

Having postnatal care service Refers to mothers who have attended at least one postnatal care session provided by health professionals within 42 days following delivery [21].

Data processing and analysis

After the data collection process, the dataset was thoroughly reviewed for completeness and subsequently coded before entry. The data were then inputted into Epi Data version 3.1 statistical software and later exported to SPSS version 25 for analysis. Descriptive statistics, including percentages, frequencies, means, standard deviations, tables, and graphs, were employed to summarize the characteristics of the study participants. The results were presented through a combination of tables, graphs, and narrative text.

To identify factors associated with feeding practices among mothers of sick children, a binary logistic regression model was utilized. Initially, bivariable analysis was conducted to pinpoint candidate explanatory variables for subsequent multivariable analysis. All explanatory variables with a p-value of less than 0.25 from the bivariable analysis were included in the multivariable logistic regression to account for potential confounding effects and to identify independent predictors of feeding practices in the final model.

The fitness of the final model was assessed using Hosmer and Lemeshow's goodness-of-fit test, yielding a p-value of 0.53. Additionally, multicollinearity was evaluated using the Variance Inflation Factor (VIF), which ranged from 1.04 to 1.21. The adjusted odds ratios, along with 95% confidence intervals and p-values of less than 0.05, were used to determine statistical significance.

Result

Sociodemographic and economic characteristics of mothers

This study included a total of 406 mothers of children younger than 2 years, resulting in a response rate of 97.13%. The mean age of the mothers was 25.64 years (±4.975), with a 95% confidence interval of 25.15–26.12. 40.1% of them fell within the age range of 20–24 years, followed by those aged 25–29 (32.8%). Most of the respondents were married (89.4%), and 43.8% identified as followers of the Orthodox Christian religion Additionally, 53.9% reported having a family size of four to five, while 37.2% had no formal education. A significant portion of the respondents 59.9% were housewives, around 32.5% had a poor household wealth index, 37.2% reported that their husbands had no formal education, and more than half of mothers(55.9%) had had support from their husbands [Table 1].

Child-related characteristics

The average age of the children participating in this study was 10.21 months (±4.16), with a 95% confidence interval ranging from 9.81 to 10.62 months., 62.1%, fell within the 6 to 12-month age group. In terms of gender distribution, more than half of the 234 children (57.6%), were male. Only a small percentage, 1.5%, had not been breastfed. Among those who were breastfed, a majority (58.1%) began breastfeeding within the recommended timeframe, and 66% were breastfed above eight times daily.

Table 1 Sociodemographic characteristics of mothers who have sick young in Wolkite town, Gurage Zone, Central Ethiopia, 2024

Variable	Category	Frequency	Percentage
Age of the mother	< 20	32	7.9
	20–24	163	40.1
	25–29	133	32.8
	30–34	56	13.8
	+ 35	22	5.4
Religion	Orthodox	178	43.8
	Muslim	166	40.9
	Protestant	40	9.9
	Catholic	22	5.4
Marital status	Married	363	89.7
	Single	16	3.9
	Windowed	14	3.4
	Divorced	13	3.2
Ethnicity	Gurage	269	66.3
	Amhara	78	19.2
	Oromo	32	7.9
	Kebena	27	6.7
Educational status of a mother	No formal education	146	36
	Primary education	139	34.2
	Secondary	58	14.3
	Above secondary	63	15.5
Mothers occupation	Housewife	243	59.9
	Government employee	64	15.8
	Daily labor	15	3.7
	Merchant	20	3.7
	Private employee	64	15.8
Husband Education	No formal education	151	37.2
	Primary Education	119	29.3
	Secondary	77	19
	Above secondary	59	14.5
Family size	< 4	112	27.6
	4–5	219	53.9
	6–8	59	14.5
	+ 9	16	3.9
Father support in Child feeding	Yes	179	44.1
	No	227	55.9
Household wealth index	Poor	132	32.5
	Medium	137	33.7
	Rich	137	33.7

Regarding feeding methods, 32.8% of the children were bottle-fed, while 22.7% had utilized a bottle at some point for feeding. Additionally, pre-lacteal feeding was reported in 22.7% of cases. When examining complementary feeding practices among the 352 children aged between 6 and 24 months, it was found that 70.7% initiated solid or semi-solid foods between the ages of 6 and 8 months. Furthermore, within this age group, 78.1% had received vitamin A supplementation at least once during their early life (Table 2).

Maternal obstetrics and health service-related characteristics

Among study participants, 62.6% were multi-para, a significant majority, and 82.1%, delivered their babies in healthcare facilities. Furthermore, 88.2% of mothers reported attending antenatal care (ANC) visits during their pregnancy. In terms of postnatal care (PNC), 65.8% of mothers indicated that they had at least one visit after childbirth. Additionally, 65.8% of mothers received counseling on infant and young child feeding practices, while 59.6% obtained information regarding feeding practices for sick children. Most of this guidance came from health professionals, accounting for 62.8% of the responses,

Table 2 Child-related characteristics of mothers who have sick young children in Wolkite town, Gurage Zone, Central Ethiopia, 2024

Variable	Category	Frequency	Percentage
Age of the child	0–6 months	54	13.3
	6–12 months	252	62.1
	12–24 months	100	24.6
Sex of the child	Male	234	57.6
	Female	172	42.4
Breastfeeding status	Yes	400	98.5
	No	6	1.5
Timely initiation of breastfeeding	Immediately	236	58.1
	Hours	170	41.9
Frequency of breastfeed	≥ 8 times	268	66
	< 8 times	138	34
Prelacteal feeding	Yes	92	22.7
	No	314	77.3
Bottle feeding	Yes	133	32.8
	No	273	67.2
Timely initiation of complementary feeding	Yes	249	70.7
	No	103	29.3
Vitamin A supplementation status	Yes	275	78.1
	No	77	21.9

followed by health extension workers, who provided information to 31.4% of the mothers (Table 3).

Nutrition-related factors

Among sick children who had begun solid and semi-solid foods, 26.1% had consumed four or more food categories within the 24 h preceding data collection. The predominant food categories reported were dairy products (91.6%), followed by grains, roots, and tubers (88.4%). Notably, only 10% had taken other fruits and vegetables. Furthermore, over half of these children (50.7%) met the minimum meal frequency.

Knowledge of mothers regarding sick child feeding practice

The study found that 176 mothers (43.3%) [95% CI: 39-48%] demonstrated good knowledge (Fig. 3).

Attitudes of mothers regarding sick child feeding practice

A significant proportion of participants (62.6%, 95% CI: 58-67%) had positive attitudes, whereas only (37.4%) exhibited poor attitudes (Fig. 4).

Sick child feeding practice of mothers

The study's results indicated that a majority of respondents (54.4%, 95% CI: 50–59%) exhibited good feeding practices by feeding their sick children more frequently than usual. Additionally, 39.4% maintained the same feeding frequency as usual, while only 6.2% fed their sick children less frequently than usual (Fig. 5).

Factors associated with sick child feeding practice

In the bivariable analysis, factors such as the mother's education level, the age of the child, having father's support, parity, place of delivery, receiving ANC, receiving PNC services, having counseling on infant and young child feeding, having information on sick child feeding, knowledge, and attitudes were statistically significant at a *P*-value less than 0.25. However, in the multivariable analysis, the educational status of the mother, having the father's support, place of delivery, receiving PNC services, having counseling on infant and young child feeding, and knowledge about sick child feeding were found to be statistically significant at $P<0.05$.

Table 3 Maternal obstetrics and health service-related characteristics of mothers who have sick young children in Wolkite town, Gurage Zone, Central Ethiopia, 2024

Variable	Category	Frequency	Percentage
Parity	Primi parous	152	37.4
	Multi parous	254	62.6
Place of delivery	Home	73	17.9
	Health institution	333	82.1
Having ANC visits	Yes	358	88.2
	No	48	11.8
Having PNC visits	Yes	267	65.8
	No	139	34.2
Receiving counseling on infant and young child feeding	Yes	267	65.8
	No	139	34.2
Hearing information about sick child feeding	Yes	242	59.6
	No	164	40.4
Source of information about sick child feeding	Health professionals	152	62.8
	Health extension workers	76	31.4
	Mass media	12	4.96
	Others	2	0.83

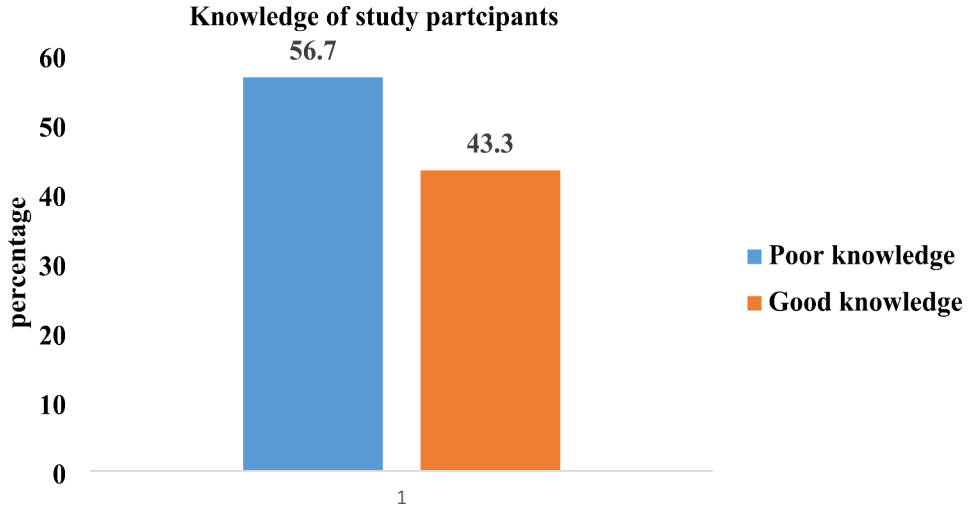

Fig. 3 Knowledge of mothers of sick young children regarding sick child feeding practice in Wolkite town, Gurage zone, Central Ethiopia, 2024

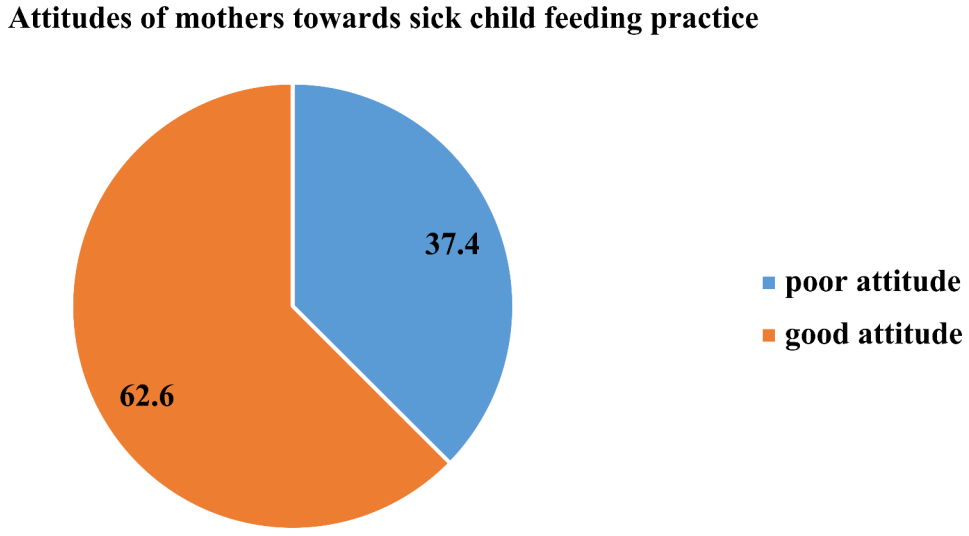

Fig. 4 Attitudes of mother's sick young children regarding sick child feeding practice in Wolkite town, Gurage zone, Central Ethiopia, 2024

The odds of practice around four times (AOR: 3.7, 95% CI: 1.5–9.1) was more likely among mothers with secondary education, and six times (AOR: 6.1, 95% CI: 2.4–15) more likely among mothers with above secondary education than those counterparts. In comparison to mothers who did not receive nutritional counseling on infant and young child feeding, the odds of practice increased approximately four times (AOR: 4.1, 95% CI: 2.3–7.03) in those who received it. The odds of practice were four times more likely in mothers who receive postnatal care services when compared to their counterparts (AOR: 3.8, 95% CI: 2.1–6.95). Furthermore, those who delivered their child in a health institution were about three times more likely to practice than their counterpart (AOR: 2.7, 95% CI: 1.4–5.2). Moreover, knowledgeable mothers and having fathers support were nearly three times (AOR: 2.5, 95% CI: 1.4–4.5) and two times (AOR: 2.3, 95% CI: 1.4–3.8) higher in their feeding practice than those who had not, respectively [Table 4].

Discussion

In this study, (54.4%, 95% CI: 50–59%) respondents had good practices, found to be consistent with a study conducted in conducted in Burayu town, Ethiopia (53.6%) [8]. However, it was found to be higher compared to other studies conducted in South Ethiopia (45%) [14],and India (14.3–6.5%) [22]. These variations may be due to differences in study periods, settings, socioeconomic, cultural, and geographical factors. It is important to note that all participants in our study were urban residents with access to health services and information, potentially influencing their practices positively. Moreover, the community-based nature of our study might have contributed to the observed differences.

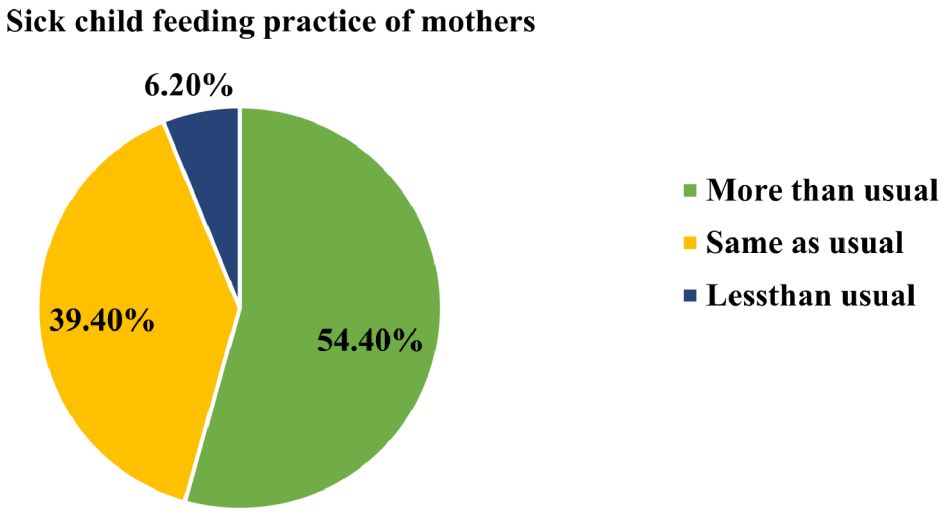

Fig. 5 Practice of mothers of children younger than 2 years regarding sick child feeding in Wolkite town, Gurage zone, Central Ethiopia, 2024

Table 4 Factors associated with sick child feeding practice among mothers of sick young child in Wolkite town, Gurage Zone, Central Ethiopia, 2024

Variable	Categories	Mothers practice		COR(95% CI)	AOR= (95% CI)	*P*-Value
		Good (%)	Poor (%)			
Educational status of a mother	No formal education	57 (28.6%)	120 (54.8%)	1	1	
	Primary	54 (27.1%)	75 (34.2%)	1.89 (1.2–3.43)	1.5 (0.8–2.8)	0.178
	Secondary	47 (23.6%)	14 (6.4%)	5.7 (2.7- 11.33)	**3.7 (1.5–9.1)****	< 0.01
	Above secondary	41 (20.6%)	10 (4.6%)	10.8(5.0- 23.5)	**6.1 (2.4–15)****	< 0.01
Father support	Yes			3.2(2.1–4.9)	**2.3(1.4–3.8)****	< 0.01
	No			1	**1**	
Place of delivery	Home	19 (9.5%)	54 (24.7%)	1	1	
	Health institution	180 (90.5%)	165 (75.3%)	3.74 (2.2–6.4)	**2.7 (1.4–5.2)****	< 0.01
Hearing information about sick child feeding	Yes			3.01(2.0-4.55)	0.84(0.45–1.6)	0.577
	No			1		
Having counseling on IYCF	Yes	157(78.9%)	90(41.1%)	6.2(4.0–10.0)	**4.1(2.3–7.03)****	< 0.01
	No	42(21.1%)	129(58.9%)	1	1	
Having PNC service	Yes	162(81.4%)	111(50.7%)	5.5(3.5- 8.6)	**3.8(2.1–6.95)****	< 0.01
	No	37 (18.6%)	108 (49.3%)	1	1	
Mothers knowledge	Poor	50 (22.8%)	169 (77.2%)	1	1	
	Good	151 (75.9%)	48 (24.1%)	4.1 (2.7–6.3)	**2.5(1.4–4.5)***	< 0.01
Mothers attitude	Poor	56 (25.6%)	163 (74.4%)	1	1	
	Good	143 (71.9%)	56 (28.1%)	1.87 (1.3–2.8)	1.2 (0.69–2.3**)**	0.55

Note: *$p<0.05$, **$p<0.01$, IYCF = Infant Young Child Feeding, PNC = Postnatal Care

However, our findings were lower compared to a survey conducted in Mirab Abaya, South Ethiopia, where 70.7% of respondents exhibited good feeding practices [23]. This difference could be recognized by variations in study settings and the lower percentage of mothers in our study with no formal education and who were housewives. Being a housewife creates a conducive environment for ensuring that sick children receive appropriate nutrition and care during times of illness.

Notably, respondents with at least a secondary education were more inclined to practice, compared to those with no formal education. This aligns with findings from surveys in North east, Ethiopia [24] and South Asia [25]. The potential suggests that education enhances awareness of health-related issues, including nutrition, which positively influences feeding behaviors.

Another significant factor that influences feeding practices is the place of delivery: respondents who gave birth in health facilities were three times more likely to engage in proper feeding practices than those who gave birth at home. Which is supported by surveys in Northern Ethiopia [26] and China [27]. A possible explanation might be respondents could receive guidance and education from trained professionals on proper infant and child feeding

practices, additionally increasing their chance of getting postnatal care service.

Additionally, respondents who received nutritional counseling on infant and young child feeding were more likely to practice healthy feeding behaviors when their children were unwell. This finding is supported by a survey conducted in Addis Ababa Ethiopia [28], and India [29]. The counseling sessions likely equipped mothers with essential knowledge about optimal feeding strategies and encouraged them to adopt healthier practices for their sick children.

The involvement of fathers also plays a significant role in feeding practices. This finding is consistent with surveys conducted in the Gamo zone, South Ethiopia [14], and the Benishangul Gumez region of Ethiopia [30]. This may be attributed to the emotional support, practical assistance, financial resources, and collaborative decision-making that fathers can provide.

Furthermore, access to postnatal care services was associated with an increased likelihood of practice. This finding is concurrent with previous studies in South [14] and, Northeast Ethiopia [7]. Respondents receiving postnatal care are often educated on various aspects of infant care, including proper feeding techniques, the timing for introducing complementary foods and recognizing illness signs that may affect feeding behaviors.

Lastly, maternal knowledge significantly influences feeding practices. This is in agreement with studies conducted in Northwest Ethiopia [24] and Malaysia [31]. Mothers who possess a solid understanding of sick child feeding are more likely to appreciate the importance of proper nutrition during a child's illness and recognize the potential risks associated with inadequate feeding practices.

Conclusion

The findings of this study indicate that over half of the respondents demonstrated good feeding practices for sick children. Several factors were identified as enhancing the likelihood of these positive practices, including the mother's higher educational attainment, support from fathers, the location of delivery, access to postnatal care services, participation in counseling regarding infant and young child feeding, and overall knowledge about feeding practices for sick children.

Recommendations

The relevant authorities, including the town health office and NGOs, should prioritize maternal education for individuals with lower educational backgrounds. They should also focus on improving postnatal care services, enhancing counseling related to infant and young child feeding, promoting institutional deliveries, and encouraging fathers to participate in childcare and feeding activities. Future research could involve longitudinal studies to monitor shifts in child-feeding practices over time and explore the cultural factors that influence these practices. Additionally, researchers might assess the impact of intervention programs designed to enhance child-feeding practices.

Strengths and limitations of the study

Strengths: One of the key strengths of this study is it takes into account various factors that may influence the feeding practices of mothers with sick children and considers a community-based studies to assess their actual practice. **Limitations**: Furthermore, since the data relies on self-reported information, there is a risk of social desirability bias, which may affect the accuracy of the responses provided by participants.

Abbreviations

AOR	Adjusted Odds Ratio
ANC	Antenatal Care
CI	Confidence Interval
COR	Crude Odds Ratio
EDHS	Ethiopian Demographic Health Survey
IYCF	Infant Young Child Feeding
PNC	Postnatal Care
WHO	World Health Organization

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Author contributions

All authors (TK, TS, AG, AA, AH, and YA) equally contributed to the conception of the research problem, initiated the research, wrote the research proposal, conducted the research, made data entry, analysis, and interpretation, and wrote and reviewed the final manuscript. All authors read and approved the final manuscript.

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Data availability

No datasets were generated or analysed during the current study.

Declarations

Ethics approval and consent to participate

Ethical approval for this non-clinical trial study was granted by the research ethics review board of Wolkite University (protocol No. 4113/2023). Additionally, permissions were secured from the Wolkite town health office and the administration of each kebele. Before data collection, written informed consent was obtained from all participants, who were also assured of their right to withdraw from the interview at any time. All information gathered from respondents was treated with strict confidentiality and anonymity.

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

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