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ORIGINAL RESEARCH

The Impact of Maternal Common Mental Disorders on Exclusive Breastfeeding in Eastern Ethiopia: A Prospective Cohort Study

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Introduction: Maternal common mental disorders (CMD) and inadequate child feeding practices are significant public health concerns in Ethiopia. Nevertheless, the impact of maternal CMD on infant feeding practices remains poorly comprehended. Hence, the objective of this research was to examine the impact of maternal CMD on the practice of exclusive breastfeeding (EBF) in the rural districts of eastern Ethiopia.

Methods: A prospective cohort study was carried out within a community setting, involving 986 pregnant women (371 exposed and 615 non-exposed). The assessment of maternal CMD during pregnancy and the postpartum period was conducted using the Self-Reported Questionnaire-20 (SRQ-20) from the World Health Organization (WHO). To determine the impact of maternal CMD on EBF, a modified Poisson regression model was employed. Statistical significance was set at $P<0.05$.

Results: The cumulative incidence of suboptimal EBF practice was higher among infants' mothers who had only prenatal CMD (61.3%) and persistent/chronic CMD (64.7%) compared to those with no CMD at all (51.9%). However, the incidence was slightly lower in mothers having only postnatal CMD (51.1%). The risk of suboptimal EBF was 1.21 times more likely among women with prenatal CMD (Adjusted Relative Risk (ARR)=1.21, 95% Confidence Interval (CI): 1.04, 1.40) and 1.25 times more likely in those with persistent CMD (ARR=1.25, 95% CI: 1.02, 1.52) compared with those having no CMD.

Conclusion: Maternal CMD is a significant predictor of suboptimal EBF practice in the rural part of Ethiopia. Community-based screening and early management of maternal CMD and integration of mental health services into community-based nutrition could improve EBF.

Keywords: common mental disorders, Eastern Ethiopia, exclusive breastfeeding, maternal

Introduction

The right to good nutrition for every infant and child was established by the United Nations Convention on Child Rights.[1] It is crucial to provide adequate nutrition during the first two years of life, as this is a period of rapid growth and development for infants and children.[2,3] If infants and young children are not fed properly during this time, it can lead to undernutrition, which in turn increases the risk of illness, death, and long-term stunting that can affect future generations.[4] Suboptimal practices in infant and young child feeding (IYCF) can raise the risk of morbidity and mortality by up to five times.[5,6] Suboptimal IYCF practices account for around 25–50% of infant mortality in developing nations.[5,7]

Infant and young child feeding (IYCF) plays a crucial role in enhancing child survival rates and fostering optimal growth and development.[8] Breastfeeding exclusively for the initial six months and continuing it with appropriate complementary feeding can avert 13% and 6% of the yearly mortality rate of children under the age of five, respectively. Nevertheless, globally, only around 40% and 66% of infants are exclusively breastfed and introduced to complementary foods at the

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appropriate time, respectively.[9,10] In Ethiopia, breastfeeding is widely practiced; however, the rates of early initiation of breastfeeding, EBF, and timely introduction of complementary feeding stand at 72%, 59%, and 69%, respectively.[11]

The inadequate IYCF practices in many developing nations, such as Ethiopia, can be linked to a range of socio-demographic, maternal, and child health factors. These factors encompass place of residence, maternal age, child age, maternal occupation, educational level of the mother, availability of mass media, place and mode of delivery, knowledge and attitude towards child feeding, household food security, women's decision-making power, and economic status.[12–16]

Maternal CMD is additionally regarded as a noteworthy contributing element to inadequate infant feeding practices and undernutrition.[17–19] Common mental disorders (CMDs) are groups of distressing conditions, which include anxiety, depression, and unexplained somatic symptoms typically encountered in community and primary care settings.[20] These conditions pose a significant health challenge in low- and middle-income countries (LMIC),[21] impacting approximately 15.6% and 19.8% of women during the perinatal and postnatal phases, respectively.[22–24]

Maternal CMD has the potential to disrupt the establishment of a strong bond and attachment between a mother and her child,[25,26] resulting in challenges during the crucial dyadic interactions involved in breastfeeding. The successful breastfeeding process may also be hindered by the neuroendocrine changes linked to these disorders, including disruptions in cortisol secretion patterns.[27] Women who experience depression may have a higher tendency to discontinue breastfeeding earlier if they feel overwhelmed by other responsibilities.[28] According to a prospective cohort study conducted in Pakistan, perinatal depression was significantly associated with early cessation of EBF, and this was more pronounced in women with persistent depression.[29] Other previous study findings also showed that prenatal anxiety and postpartum depression were significant predictors of early cessation of EBF.[28,30–32] On the contrary, different study findings from various areas of the world revealed no association between postpartum depression and EBF.[24,33–38] These inconsistent findings indicate the need for further evidence.

By 2030, the world has committed to eradicating hunger, food insecurity, and all types of malnutrition as part of the ongoing global effort known as the Sustainable Development Goals (SDGs).[39,40] Following this, the Ethiopian government has been executing various initiatives and strategies to hasten the decrease of malnutrition.[41–44] To effectively execute, oversee, and assess the implementation of such a strategic course of action, an abundance of current and relevant evidence is indispensable.

Although poor child-feeding practice and maternal CMD are among the major public health issues in Ethiopia, strong evidence is duly needed regarding the effect of prenatal and post-natal CMD on infant feeding practices using longitudinal data. Hence, this prospective cohort study aimed to assess and confirm whether maternal CMD can independently predict the practice of EBF in cohorts of pregnant women residing in rural Eastern Ethiopia. Our primary emphasis was on EBF as it is the most widely utilized IYCF indicator in both national and international initiatives.[39–44] Additionally, we directed our attention toward rural women due to the higher prevalence of inadequate child-feeding practices and CMD in the rural regions of Ethiopia.[45–47]

Methods and Materials

Study Site

The research was conducted within the Kersa and Haramaya Health and Demographic Surveillance System (HDSS) of Haramaya University, spanning from February 1, 2021, to July 30, 2022. The Kersa HDSS is situated in the Kersa District of the East Hararghe Zone, located in the Oromia Regional State. The district's administrative center is Kersa Town, which is positioned 484 km to the east of Ethiopia's capital city, Addis Ababa. Kersa district comprises 35 rural and three small-town Kebeles, which are the smallest administrative units in Ethiopia. The district's total population is 172,626, with urban residents accounting for 6.9%. The Kersa HDSS encompasses 24 kebeles, 10 health posts, and four health centers. During the initial recruitment, there were approximately 1834 pregnant women. Another district situated in the East Hararghe Zone of the Oromia Regional State is Haramaya district. Its administrative center is Haramaya Town, which is positioned 506 km to the east of the capital Addis Ababa. The district comprises 33 rural and two urban kebeles, with a total population of 220,986. Haramaya HDSS encompasses 12 rural kebeles and had 1036 pregnant women during the initial recruitment.

Research Design and Population

A community-centered prospective cohort study was implemented to test if maternal CMD is an independent predictor of EBF. The study encompassed all mother-infant pairs residing in the HDSS sites as the source population, whereas the study population consisted of mother-infant pairs residing in the randomly chosen kebeles within the HDSS sites. Women who were unable to communicate due to health issues were excluded from the study. This study was a part of another large prospective cohort research project. The project initially recruited and included 1015 pregnant women during the baseline assessment. Then, the women were monitored from the first trimester of their pregnancy until six months after giving birth, along with their infants. Of the initially recruited 1015 women (381 exposed and 634 non-exposed), 986 of them (371 exposed and 615 non-exposed) completed the follow-up.

Data Collection and Measurements

To gather the required data, we used a structured questionnaire that encompassed inquiries on socio-demographic and economic characteristics, reproductive, medical, and mental conditions, household food security, and feeding practices. Maternal CMD, the primary exposure of interest, was assessed during pregnancy (at baseline) and post-partum period. The outcome variable of interest, EBF, was measured in the sixth month after delivery. Other independent variables were assessed at baseline, birth, and sixth months of life. The data collection process involved a team of twenty data collectors and six supervisors. They utilized an open data kit (ODK) application to conduct face-to-face interviews and record the data. The application was installed on Android mobile devices, allowing data collectors to submit their findings to a central server. In the event of an internet interruption, data collectors could save their progress and resume data collection once the connection was reestablished.

The economic status was evaluated by collecting data on household assets through the use of a tool adapted from the 2016 Ethiopia Demographic and Health Survey.[45] Afterward, households were categorized into three groups—poor, middle, and rich—according to their wealth index level. The collection of data on household food security was conducted by the locally validated tool provided by the Food and Nutrition Technical Assistance (FANTA). The tool consists of nine primary and nine follow-up questions, with a data collection method that involves recalling information from the past four weeks (one month). Based on the responses obtained, households were categorized into four distinct groups: food-secured, mildly food insecure, moderately food insecure, and severely food insecure.[48,49]

To obtain information on maternal diet diversity, a questionnaire consisting of ten food groups was utilized. The food items were adjusted to suit the local context.[50] The questionnaire was designed in such a way that women who consumed a minimum of five out of the ten food groups within a 24-hour recall period were considered to have adequate dietary diversity.[50]

Information about CMD was gathered during pregnancy and postpartum through the utilization of WHO SRQ-20, which had been validated locally.[51–53] The SRQ-20 questionnaire consists of twenty items that require a "yes" or "no" response, aiming to assess the presence of depressive, anxiety, panic, and somatic symptoms within the last month. Pregnant women who indicated a positive response to six or more items on the SRQ-20 were classified as having a high level of CMD.[54,55]

The measurement of social support was conducted using the Oslo 3-item Social Support Scale (OSSS-3). The scale contains three items evaluating the number of close confidants, perceived level of concern from others, and perceived ease of getting help from neighbors. The total score of the OSSS-3 ranges from 3 to 14 and is classified into three social support categories: poor (3–8), moderate (9–11), and strong (12–14).[56]

The maternal functioning was assessed using the 36-item version of the WHO Disability Assessment Schedule (WHODAS-2.0). The assessment tool comprises six domains: cognition, getting around, self-care, getting along with people, life activities, and participation in society. The domains of WHODAS-2 are scored on a scale of zero to 100, with higher scores indicating more significant impairment in daily functioning.[57]

Operational Definitions

Exclusive breastfeeding (EBF): refers to the practice of providing only breast milk to the infant, without any additional food or liquids, including water. However, it does permit the administration of oral rehydration salts (ORS), drops, and syrups containing essential vitamins, minerals, and medications.[58]

Early initiation of breastfeeding: refers to the act of placing newborns on the mother's breast within 60 minutes after delivery.[58]

Timely initiation of complementary feeding: the introduction of solid, semi-solid, and soft foods to infants at the age of six months, while maintaining breastfeeding.[58]

Proximate low birth weight: the size of the child at birth was determined based on the mothers' subjective assessment in comparison to other children they have encountered. The babies were categorized as big, normal, or small. The small category was identified as proximate low birth weight in this research.[59]

Preterm delivery: is defined as a delivery that takes place before 37 weeks of gestation.[60]

Data Quality Control

During the baseline assessment, the data collectors and supervisors underwent a four-day training session to ensure the quality of the data. Subsequent trainings were also provided at birth, post-partum, and end line of the study. A pre-testing of the questionnaire was conducted on five percent of the sample size, and necessary adjustments were implemented based on the results. The supervisors and investigators closely monitored the data collection process, ensuring the completeness of each questionnaire daily.

Data Processing and Analysis

The Microsoft Excel (xls) file containing the stored data in the server was downloaded. Subsequently, a thorough examination was conducted to ensure its completeness and it was appropriately cleaned. STATA version 17 for Windows[61] was utilized for data analysis. Categorical variables were described using frequencies and percentages, whereas summary measures such as mean, median, standard deviation, and interquartile range were employed to describe the continuous variables. Numerical and visual normality tests were conducted to select suitable summary measures for the continuous and discrete variables. Additionally, a principal component analysis was executed to derive a wealth index from household assets, which was then presented in tertiles.

The exposure variable (ie, the CMD) was classified into four categories and coded as follows: "1" representing prenatal CMD only, "2" for postnatal CMD only, "3" for combined prenatal and postnatal CMD (persistent CMD) and "4" for no CMD (not exposed). The outcome variable (ie, EBF) was coded into two groups: "1" representing "suboptimal EBF" and "0" representing "optimal EBF".

We executed a modified (robust) Poisson regression to confirm the independent effect of CMD on EBF. A bivariate analysis was conducted to evaluate the crude impact of the exposure on the outcome. The crude relative risk (CRR) was calculated along with a 95% confidence interval to demonstrate the unadjusted effect. To control for the potential influence of other variables, a multivariate analysis was conducted. Only covariates with a p-value below 0.25 in the bivariate analysis were included in the final multivariate analysis model. The stepwise forward variable selection method was employed to determine which covariates should be included in the model. A diagnostic test for multicollinearity was conducted using the Variance Inflation Factor (VIF) to examine whether there were any significant linear relationships (VIF > 2.5) among the covariates. Nevertheless, there was no substantial collinearity observed.[62] The final model was used to calculate the ARR with a 95% CI, indicating the direction, strength, and presence of association between the exposure and outcome while controlling for confounding factors. Statistical significance was determined by a P-value < 0.05.

Results

Socio-Demographic and Economic Attributes

Out of the total of 1015 pregnant women who were enrolled for the follow-up (381 with CMD and 634 with no CMD), 986 of them (371 with CMD and 615 with no CMD) completed the follow-up and were included in the final analysis, resulting in a response rate of 93.4%. The women had a median age of 29.0 years, with an interquartile range (IQR) of 10.5. A majority of them, 655 (66.4%), fell within the age range of 20–35 years. Almost all of the women, 956 (97.0%), were married, and the majority, 983 (99.7%), identified as Muslims. Additionally, 981 (99.5%) of the women belonged to the ethnic Oromo group. A significant proportion, 749 (76.0%), of the participants were unable to read or write, while the majority, 878 (89.1%), were housewives. In terms of wealth status, 381 (38.6%) of women's households were classified as poor (in the first tertile category). On the other hand, 521 (53.0%) of the infants in the study were male (Table 1).

Table 1 Socio-Demographic and Economic Features of Women and Their Infants in the Kersa and Haramaya HDSS, Eastern Ethiopia, 2023

Variables	Categories	End Line (n = 986)	
		Frequency	Percent
Age (in years)	<20	90	9.1
	20–35	655	66.4
	>35	241	24.4
Marital status	Married	956	97.0
	Cohabited	21	2.1
	Divorced	4	0.4
	Widowed	5	0.5
Religion	Muslim	983	99.7
	Orthodox Christian	3	0.3
Ethnicity	Oromo	981	99.5
	Amhara	5	0.5
Educational status	Formal education	212	21.5
	Can read and write	25	2.5
	Neither read nor write	749	76.0
Occupation	Farmer	44	4.5
	Housewife	878	89.1
	Others*	64	6.5
Wealth index	Poor	381	38.6
	Middle	365	Housewife
	Rich	240	24.3
Infant sex (n=984)	Male	521	53.0
	Female	463	47.0

Note: *petty trader, student, retired, unemployed.

Social Support and Maternal Functioning

The mean score of OSSS-3 was 10.6 (standard deviation (SD)=2.9). Four hundred-thirty (43.6%), 322 (32.7%), and 234 (23.7%) had strong, moderate, and poor social support, respectively. On the other hand, the mean score for WHODAS-2.0 was 18.9 (SD=20.7), where 635 (64.4%) of the women had maternal functioning below the mean score.

Healthcare Service Utilization

Out of the 1015 pregnant women initially recruited, 488 (48.1%) received antenatal care (ANC) follow-up for the index infant. Of the 986 women, who completed the follow-up, 562 (57.0%), 144 (14.6%), 172 (17.4%), and 108 (11.0%) of them had one, two, three, and three or above visits of postnatal care follow up, respectively. Concerning the provision of iron and folic acid supplementation, 224 (22.1%) of the women stated that they received the supplementation during pregnancy, while 91 (9.2%) reported receiving it during lactation. On the other hand, 335 (34.0%) of the infants had growth monitoring at health facilities. Three hundred fifty-five (36.0%), 417 (42.3%), and 214 (21.7%) of the infants

were not vaccinated at all, incompletely vaccinated and fully vaccinated, respectively. Furthermore, a total of 239 infants, accounting for 24.2% of the sample, experienced illness within the two weeks leading up to the final assessment.

Birth Outcomes

Among the 986 women who were part of the final analysis, the average gestational age at birth was 38.3 weeks (SD=1.6). Out of the total newborns, 110 (11.2%) were born prematurely. For 957 (97.1%) of the deliveries, the mode of delivery was spontaneous vaginal delivery. Based on the weight perception of their babies relative to others, 518 (52.5%) of the women reported that their babies were normal size, and 815 (82.7%) reported that their babies' weight at birth was proportional to the duration of their pregnancy. One hundred-eleven (11.3%) of the newborns faced breathing difficulty, and congenital anomalies were observed in 22 (2.3%) of the babies. Additionally, 16 (10.9%) babies required admission to the neonatal intensive care unit (Table 2).

Household Food Insecurity and Maternal Dietary Intake

The median household food insecurity access scale score was 6.0 units (IQR=12.0). Two hundred-eight (21.1%) of the households were food secured, while 778 (78.9%) were food insecure. Of the food insecure households, 93 (9.4%), 202 (20.5%), and 483 (49.0%) were classified as mildly, moderately and severely food insecure, respectively.

According to the study findings, pregnant women had a median meal frequency of 2.0 (IQR=1.0) during baseline, which increased to 3 meals (IQR=1) during lactation. Four hundred-fifteen (40.9%) of the women reported consuming an

Table 2 Birth Outcomes Among Pregnant Women in the Kersa and Haramaya HDSS Sites, Eastern Ethiopia, 2023

Variables	Categories	Frequency	Percent
Place of delivery	Hospital	146	14.8
	Health center	257	26.1
	Home	583	59.1
Gestational age at birth	Preterm	110	11.2
	Term	876	88.8
Mode of delivery	Spontaneous vaginal	957	97.1
	Instrumental	20	2.0
	Cesarean section	9	0.9
Mother perceived birth weight	Big	307	31.1
	Normal	518	52.5
	Small	161	16.3
Proportionality of birth weight with duration of pregnancy	Yes	815	82.7
	No	171	17.3
Breathing difficulty at birth	Yes	111	11.3
	No	875	88.7
Presence of congenital anomaly	Yes	22	2.2
	No	964	97.8
Admission to neonatal intensive care unit (n=147)	Yes	16	10.9
	No	131	89.1

additional meal per day during pregnancy, while 709 (71.9%) consumed two extra meals per day during lactation. The median dietary diversity score for the women was 3.0 (IQR=3.0) during pregnancy and 3.0 (IQR=4) during lactation. It was observed that 287 (28.3%) of the women met the minimum criteria for dietary diversity during pregnancy, whereas 304 (30.8%) met the criteria during lactation (Table 3).

Maternal Common Mental Disorders

During pregnancy, the pregnant women had a median SRQ-20 score of 2.0 units (IQR=7.0), which then rose to 3 units (IQR=5) in the postpartum period. The overall magnitude of CMD was 371 (37.6%) at baseline (during pregnancy), and reduced to 237 (24.0%) in the postpartum period. Two hundred sixty-nine 269 (27.3%) had CMD only during pregnancy, 135 (13.7%) had CMD only during postnatal, 102 (10.3%) had both prenatal and postnatal (persistent) CMD, and 480 (48.7%) had no CMD at all.

The Impact of Maternal CMD on EBF

Out of 986 infants included in this study, 549 (55.7%) of them were exclusively breastfed until six months of life (95% CI: 52.5, 58.8). The cumulative incidence of suboptimal EBF practice was higher among infants' mothers who had only prenatal CMD (61.3%) and persistent/chronic CMD (64.7%) compared to those not exposed at all (51.9%). However, the incidence was slightly lower in mothers with only postnatal CMD (51.1%) than the non-exposed ones.

In a bivariate analysis, CMD was found a significant predictor of suboptimal EBF. Women with prenatal CMD had a 1.18 times higher risk of suboptimal EBF practice (CRR=1.18, 95% CI: 1.04, 1.34), while women with persistent CMD had a 1.25 times higher risk (CRR=1.25, 95% CI: 1.06, 1.47) compared to those without CMD.

Following the crude/bivariate analysis, we fitted a multivariate model to adjust the confounding effects of other covariates. Accordingly, CMD significantly predicted suboptimal EBF. Women with prenatal CMD were found to have a 1.21 times higher probability of suboptimal EBF practice compared to women with no CMD (ARR=1.21, 95% CI: 1.04, 1.40). Similarly, women with persistent CMD were 1.25 times more likely to practice suboptimal EBF (ARR=1.25, 95% CI: 1.02, 1.52). In addition to CMD, other factors such as preterm delivery, maternal extra meal consumption, postnatal care follow-up, child growth monitoring, and sickness were also significant predictors of suboptimal EBF (Table 4).

Table 3 Maternal Dietary Intake During Pregnancy and Lactation in the Kersa and Haramaya HDSS, Eastern Ethiopia, 2023 (n=986)

Food Groups	Baseline (N=1015)		End Line (n=986)	
	Frequency	Percentage	Frequency	Percent
Grains, roots, and tubers	905	89.16	807	81.9
Pulses	533	52.51	344	34.9
Nuts and seeds	272	26.80	274	27.8
Dairy	554	54.58	385	39.1
Meat, poultry, and fish	207	20.39	179	18.2
Eggs	115	11.33	123	12.5
Dark green leafy vegetables	251	24.73	366	37.1
Other vitamin-A-rich vegetables and fruits	332	32.71	396	40.2
Other vegetables	217	21.38	259	26.3
Other fruits	228	22.46	265	26.9
Minimum dietary diversity fulfilled	287	28.3	304	30.8

Table 4 Bivariable and multivariable modified Poisson regression results on the impact of maternal CMD on infant exclusive breastfeeding practice in the Kersa and Haramaya HDSS, Eastern Ethiopia, 2023

Bivariate/ crude analysis				
Independent Variable	**Categories**	**Suboptimal EBF**		**CRR (95% CI)**
		Yes	**No**	
Maternal CMD	Prenatal CMD only	165	104	1.18 (1.04, 1.34)*
	Postnatal CMD only	69	66	0.99 (0.82, 1.19)
	Persistent CMD	66	36	1.25 (1.06, 1.47)*
	No CMD at all	249	231	Reference
Multivariate/adjusted analysis				
Independent variables	**Categories**	**Suboptimal EBF**		**ARR (95% CI)**
		Yes	**No**	
Maternal CMD	Prenatal CMD	165	104	1.21 (1.04, 1.40)*
	Postnatal CMD	69	66	0.96 (0.81, 1.14)
	Persistent CMD	66	36	1.25 (1.02, 1.52)*
	No CMD at all	249	231	Reference
Maternal functioning	Below mean	343	292	1.12 (0.97, 1.29)
	Mean and above	206	145	Reference
Gestational age at birth	Preterm	78	32	1.22 (1.06, 1.41)*
	Term	471	405	Reference
Proximate birth weight	Small	93	68	1.18 (1.00, 1.39)
	Normal	297	221	1.01 (0.90, 1.13)
	Big	159	148	Reference
Social support	Poor	124	110	0.96 (0.83, 1.11)
	Moderate	196	126	1.08 (0.96, 1.22)
	Strong	229	201	Reference
Extra meal consumption	< 2 meals per day	92	185	1.55 (1.29, 1.86)**
	>= 2 meals per day	457	252	Reference
Postnatal care	No	251	311	1.30 (1.13, 1.50)**
	Yes	298	126	Reference
Infant growth monitoring	No	289	362	1.48 (1.30, 1.69)**
	Yes	260	75	Reference
Child illness	No	445	302	1.32 (1.14, 1.52)**
	Yes	104	135	Reference

(*Continued*)

Table 4 (Continued).

Child vaccination	Not vaccinated at all	204	151	1.15 (0.98, 1.35)
	Partially vaccinated	217	200	0.92 (0.81, 1.05)
	Fully vaccinated	128	86	Reference

Notes: *Significant at p<0.05, **Significant at p<0.001.

Discussion

Exclusive breastfeeding (EBF) has been recognized as a highly efficient and economical measure in promoting child survival, growth, and development.[63] However, more than 50% of infants below the age of six months fail to obtain the advantageous effects of EBF, and the global progress towards reaching the minimum target of 70% by 2030 is off-track.[39] The mental well-being of caregivers plays a crucial role in influencing childcare practices, including EBF.[64] The current study could, therefore, contribute to the growing body of literature related to maternal mental health problems and their impacts on child-feeding practices.

This follow-up research aimed to examine the independent impact of maternal CMD on infant EBF practice among cohorts of pregnant women and their infants. Accordingly, it has provided further evidence that CMD is a significant predictor of suboptimal EBF practice. The probability of suboptimal EBF practice was 1.21 times more likely among women with prenatal CMD and 1.25 times more likely in those with persistent CMD compared to women with no CMD at all. Our finding is in agreement with previous research results.[29,30,65–67]

The significant negative impact of maternal CMD on the duration of EBF practice in the present research could be explained in different ways. The maternal-child interaction may be hindered due to the presence of maternal CMD,[68] and as a result, mothers exhibit a decreased tendency to accurately comprehend and react to cues from their infants, display higher negative emotions towards their infants, and are more prone to being excessively intrusive in their interactions with their infants.[69] Mothers with CMD may be less aware of their infant's nutritional needs.[70] They may also be less inclined to engage in responsive feeding,[71] one of the fundamental behaviors associated with better child feeding and nutrition.[70] These all lead to improper feeding practices, including early cessation of breastfeeding.[18,72–74]

The study's strength is its utilization of a longitudinal cohort design, which effectively establishes a temporal relationship between CMD and EBF practice. However, there exist certain limitations in this research. The SRQ-20 serves as a screening instrument for evaluating mental health, rather than a diagnostic instrument. Consequently, the count of mothers identified as having CMD may vary from the true count. Furthermore, the data for CMD and EBF were obtained through maternal recall, which can lead to either under-reporting or over-reporting.

Conclusions

Both CMD and suboptimal EBF practice are among the major public health issues in the eastern part of Ethiopia. Maternal CMD was found to be an independent predictor of suboptimal EBF practice. Therefore, early identification and management of CMD is needed to promote EBF. Efforts should also be made to integrate mental health services into community-based nutrition programs.

Abbreviations

ARR, Adjusted Relative Risk; ANC, Antenatal Care; CMD, common mental disorders; CI, Confidence Interval; CRR, Crude Relative Risk; EBF, Exclusive Breastfeeding; HDSS, Health and Demographic Surveillance System; IQR, Inter-quartile Range; IYCF, Infant and Young Child Feeding; OSSS, Oslo Social Support Scale; SRQ-20, Self-Reporting Questionnaire-20; SD, Standard Deviation; WHODAS, World Health Organization Disability Assessment Schedule.

Data Sharing Statement

Data can be obtained by contacting the corresponding author.

Ethics Approval and Consent to Participate

The study was conducted in accordance with the Declaration of Helsinki. The Institutional Health Research Ethics Review Committee (IHRERC) of the College of Health and Medical Sciences at Haramaya University granted ethical approval and clearance, with the ethics approval number of IHRERC004/2021. Before the study, written informed consent was obtained from each participant. For participants younger than 18 years of age, written informed consent was obtained from their legal guardians, primarily from their parents or spouses. Interviews took place in private areas/rooms to maintain confidentiality. To protect the anonymity of the participants, any personal identifiers were excluded from the questionnaire.

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Author Contributions

All authors made a significant contribution to the work reported, whether that is in the conception, study design, execution, acquisition of data, analysis, and interpretation, or all these areas; took part in drafting, revising, or critically reviewing the article; gave final approval of the version to be published; have agreed on the journal to which the article has been submitted; and agree to be accountable for all aspects of the work.

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Disclosure

The authors declare that they have no conflicts of interest.

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