



Food Avoidance among Breastfeeding Mothers in Myanmar and Its Impacts on Maternal Dietary Quality

Key Findings

- This study designed and analyzed two new surveys in Myanmar. The first one is the fifth Myanmar Household Welfare Survey (MHWS) round conducted from April to June 2023, in which 12,953 respondents were surveyed, including 5,512 women of reproductive age (15-49). The second is the Rural Urban Food Security Survey conducted in 2020, in which respondents were women who were pregnant in round 1 (June-July 2020) in Yangon and participated in at least five of those six rounds.
- Forty percent of all Myanmar women aged 15-49 believe that breastfeeding mothers should avoid at least one healthy food, with vegetables the most widely cited food to be avoided, followed by fruits, fish, meat and beans/nuts.
- Beliefs were prevalent throughout Myanmar's diverse regions and across both genders, but more common in majority Buddhist regions (and less common in majority Christian regions).
- Beliefs in food avoidance during breastfeeding were less prevalent among women with more formal education and nutritional knowledge, and with exposure to nutrition counselling from community health workers.
- Mothers in the Yangon panel saw minimum dietary diversity of women (MDD-W) fall by 46 percentage points from pregnancy to the first month after birth, stemming from significant declines in eight of the ten MDD-W food groups.
- MDD-W recovered somewhat over the second to fifth months after birth but was still significantly lower up to the sixth month after birth.

Recommendations

- The massive impact of food avoidance behaviors on maternal dietary diversity warrants more research on the nutritional impacts of these practices, as well as programmatic interventions that redress these harmful food avoidance traditions.
- Maternal nutrient requirements are high during breastfeeding, and micronutrient deficiencies among mothers can also be passed on to breastfeeding infants, particularly deficiencies in B vitamins (except folate), vitamin A, selenium and iodine. Further research studies documenting dietary intake and micronutrient deficiencies should be conducted to assess the severity of this public health concern.
- National and subnational surveys such as the DHS, MICS and other nutrition surveys should include questions on food avoidance beliefs in South-East Asian countries where there is evidence that they are prevalent. Such studies should also monitor maternal dietary diversity.
- Social behavioral change communications (SBCC) interventions should be used to redress harmful food avoidance practices during the postpartum and breastfeeding periods, and should be prioritized in nutritional messaging from medical practitioners, community health workers, ICT-based messaging and mass media campaigns.

Introduction

While there are many drivers of food choice, there are relatively few quantitative analyses on the importance of food avoidance taboos. Food avoidance beliefs are not measured in Demographic Health Surveys (DHS), Multiple Indicator Cluster Surveys (MICS), or even in more country-specific nutrition surveillance systems, despite many smaller-scale studies suggesting that these taboos may be widespread in low- and middle-income countries (LMICs), including in South East Asia where there are many traditional beliefs related to the notion that mothers should avoid consuming certain foods during breastfeeding, postpartum (the first six weeks after birth) or during pregnancy. In Myanmar, one qualitative previous study had documented food avoidance beliefs during the postpartum period among 196 women in western Yangon (Sein 2013), and systematic reviews have uncovered a number of smaller-scale studies on food avoidance taboos in a wide range of South-East Asian countries. These beliefs have their origins in traditional Indian and Chinese medicine, which began to spread throughout South-East Asia several thousand years ago. However, despite piecemeal evidence that these beliefs are widespread in South-East Asia, no previous research has documented how prevalent such beliefs are with nationally representative surveys, nor what impacts such beliefs have on maternal dietary quality.

This note designed and analyzed two new surveys in Myanmar that shed light on how prevalent food avoidance beliefs during breastfeeding are in Myanmar, and what impact these beliefs have minimum dietary diversity of women (MDD-W). The first of these is a nationally representative Myanmar Household Welfare Survey of adult women and men in Myanmar, for which we developed a novel module on food avoidance beliefs, nutritional knowledge and exposure to nutritional counselling and messaging in the fifth round conducted from April to June 2023, in which 12,953 respondents were surveyed, with an approximately even split between male (N=6,120) and female (N=6,581). The second survey analyzed is the Rural-Urban Food Security Survey (RUFSS), which initially recruited women from antenatal clinics in urban and peri-urban Yangon who were pregnant in early 2020 and gave birth in various months in late 2020. The RUFSS questionnaire is similar to MHWS in collecting data on a wide range of welfare indicators, and also includes the MDD-W module.

This note's objectives were to: (1) assess the national prevalence of beliefs around maternal food avoidance during breastfeeding in Myanmar, and the correlates of these beliefs; and (2) to assess the impact of food avoidance after birth on minimum dietary diversity (MDD-W) of breastfeeding mothers.

Findings

Beliefs about food avoidance during breastfeeding in the nationally representative Myanmar Household Welfare Survey

Table 1 provides descriptive statistics from the MHWS on the share of women of reproductive age (15 to 49 years) who believe that breastfeeding mothers should avoid certain types of foods. Results in Table 1 are reported nationally, but also stratified by levels of formal education, nutritional knowledge, and whether respondents report receiving nutritional counselling, since we hypothesize that both formal education and nutrition-specific counselling may influence food avoidance beliefs. Statistics of the share of Myanmar women who fall into each of these strata are reported at the top of Table 1. The sample generally has low education (39.9 percent had primary/no formal education), low nutritional knowledge (55 percent had low scores) and very limited access to nutrition counselling (82 percent said they'd had no counselling).

Approximately 40 percent of Myanmar women aged 15-49 believed that at least one food group that nutritionists would consider healthy should be avoided. The most common food group selected was some kinds of vegetables (27.2 percent), while 10.3 percent of respondents mentioned some fruits, 8.4 percent some fish/seafood and 8.1 percent some meat and 6.8 percent beans and nuts.

Among other food groups that are not unambiguously important for good nutrition, respondents commonly cited the need for lactating mothers to avoid spices/chili (37.6 percent), while 15.7 percent mentioned avoiding sour/fermented food, which can often include fermented vegetables.

Table 1 also points to sizable differences in the prevalence of beliefs about healthy food avoidance across formal education levels, nutritional knowledge and exposure to nutrition counselling. Female respondents between the age of 15 to 49 with no formal education or only primary education were much more likely to hold these beliefs (44.3 percent) than those with high school or tertiary education (32.7 percent). There was a similarly large difference across low and high nutrition knowledge scores (42.8 vs 29.5 percent), while reproductive aged women who reported exposure to nutrition counselling were 5.8 percentage points less likely to list at least one healthy food group to be avoided. Even so, it is notable that healthy food avoidance beliefs are still highly prevalent in absolute terms (35 percent or more) among more educated or nutritionally knowledgeable sub-samples of women.

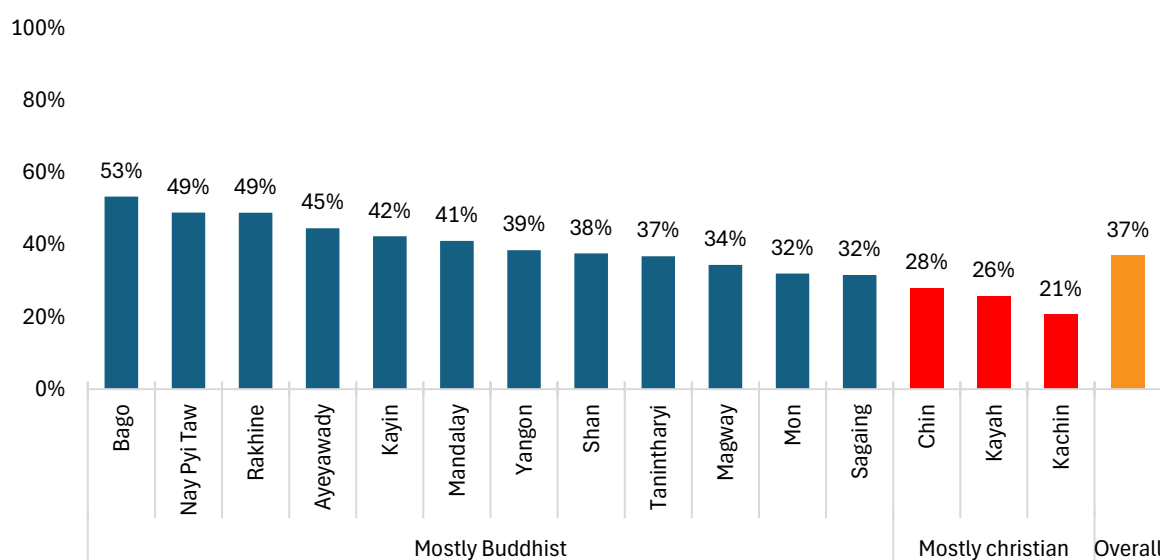
Table 1. Beliefs among women of reproductive age on whether certain types of foods should be avoided when breastfeeding, stratified by schooling, nutrition knowledge and exposure to nutrition counselling (N=5,512)

	National (%)	Formal schooling (%)			Nutrition knowledge index (%)			Nutrition counseling? (%)	
		Primary or none	Middle school	High school or tertiary	Low score	Medium score	High score	No	Yes
Share of total sample	100.0	39.9	14.3	45.8	55.0	30.2	14.8	82.0	18.0
Avoid at least 1 of 8 healthy foods	40.1	44.3	38.7	32.7	42.8	38.5	29.5	41.0	35.2
Avoid some vegetables	27.2	31.0	26.6	20.3	29.1	26.7	17.8	27.8	23.6
Avoid some fruits	10.3	11.1	10.6	8.6	10.7	10.2	8.5	10.5	9.1
Avoid some fish/seafoods	8.4	9.7	7.7	6.2	9.6	7.4	4.5	8.6	7.4
Avoid some meats	8.1	9.8	8.2	5.0	9.9	6.2	3.1	8.3	7.0
Avoid some beans and nuts	6.8	7.8	6.3	5.0	7.6	5.7	4.8	6.8	6.4
Avoid ripe fruits	1.5	1.4	1.8	1.6	1.3	1.3	3.3	1.6	1.1
Avoid dairy	0.7	0.8	0.5	0.6	0.8	0.5	0.6	0.7	0.7
Avoid eggs	0.5	0.6	0.2	0.4	0.7	0.2	0.2	0.5	0.7
Other food groups/types avoided									
Avoid spices/chili	37.6	36.6	34.3	40.5	37.1	40.3	33.5	31.0	38.8
Avoid sour/fermented foods	15.7	15.4	13.9	16.7	14.4	17.3	18.6	14.5	15.9
Avoid sugary/Sweet foods	6.4	6.3	7.3	6.3	5.9	7.6	6.5	5.3	6.6
Avoid salt/salty foods	5.7	5.1	5.9	6.6	5.7	4.8	7.5	6.4	5.5
Avoid oils/fats/butter	1.0	0.9	0.5	1.4	1.1	0.7	1.3	0.8	1.1
Avoid leftover foods	1.1	1.1	1.0	1.0	1.0	1.3	1.0	0.6	1.1

Source: Myanmar Household Welfare Survey (April-June, 2023). All estimates are derived using survey weights. Responses are derived from a question phrased in English as “When breastfeeding, should a mother eat normally, or should she avoid certain foods, and if so, which foods or food groups?” The question was multi-select and the enumerator did not read out the list of foods. Less educated equals primary/no education, more educated is all other categories.

Figure 1 reports the share of female respondents (15-49 years) who believe at least one of the eight healthy food groups should be avoided by region. Myanmar has high ethnic diversity across and often within regions, but most regions are majority Buddhist. The exceptions are Kachin, Kayah and Chin, where Christianity was introduced in the 1800s, whereupon it largely supplanted animist religions rather than Buddhism. The main conclusion from Figure 1 is that women’s beliefs around avoidance of healthy foods during breastfeeding is variable across Myanmar’s diverse regions, but nevertheless common, ranging from 28 percent in Chin in the far northwest (bordering India) to 53 percent in Bago. A second conclusion is that these beliefs are substantially less prevalent in the three predominantly Christian regions (21-28 percent) compared to the remaining majority Buddhist regions (32-53 percent).

Figure 1. The share of female respondents aged between 15 to 49 who believe at least one healthy food groups should be avoided during breastfeeding, stratified across Myanmar states/regions (N=5,512)



Source: Authors estimates from the Myanmar Household Welfare Survey (April-June, 2023). All estimates are derived using survey weights. Responses are derived from a question phrased in English as “When breastfeeding, should a mother eat normally, or should she avoid certain foods, and if so, which foods or food groups?” The question was multi-select and the enumerator did not read out the list of foods. Data on the share of people adhering to religious beliefs are drawn from the 2014 Myanmar Census results.

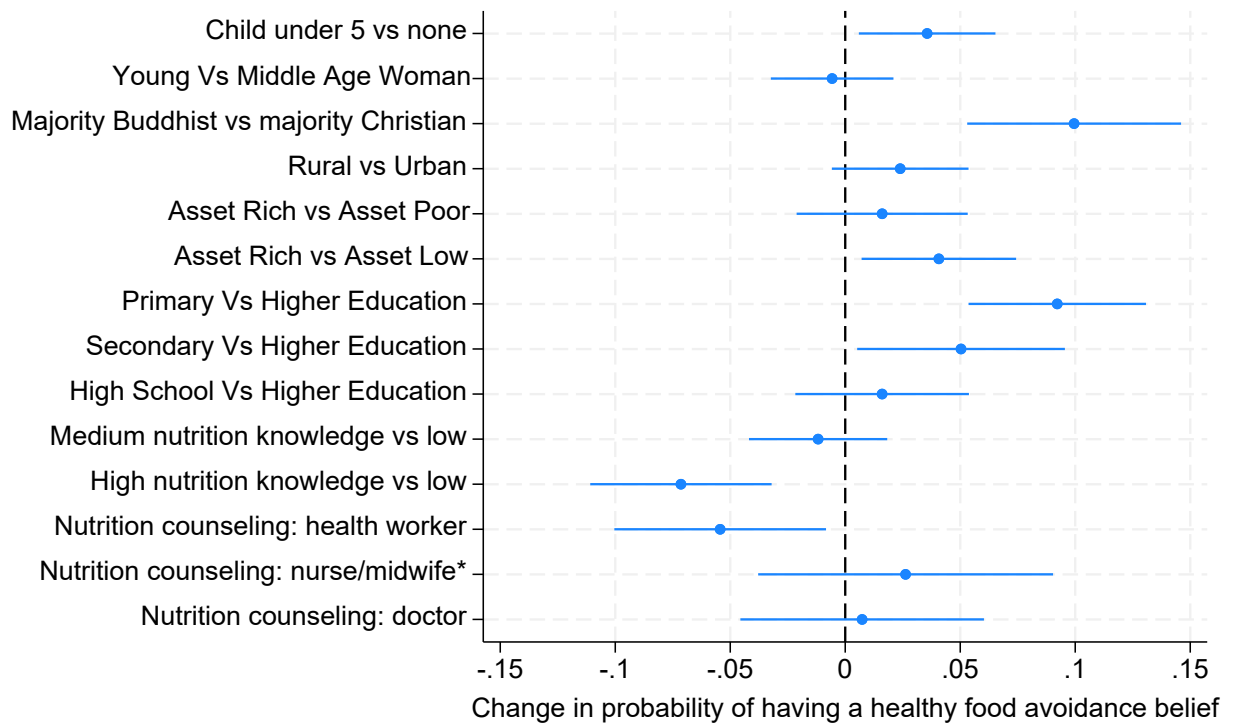
Moreover, we find that women who received some form of counselling, training or education from a public or NGO health worker were points less likely to believe in healthy food avoidance. Interestingly, however, counselling from nurses/midwives or doctors is more likely to food avoidance beliefs, perhaps because this type of counselling may typically only have taken place on a few occasions during pregnancy or immediately before or after birth.

Figure 2 reports results from linear probability model regressions for 5,512 reproductive aged female respondents from MHWS, with point estimates representing the increase/decrease in the probability that a woman believes in avoiding at least one healthy food group (95 percent confidence intervals reported in parentheses). In terms of demographics, women with a child under the age of five years are more likely to believe women should avoid at least one healthy food during breastfeeding. Younger mothers are more likely to hold healthy food avoidance beliefs compared to middle aged mothers but with a slightly significant. Consistent with Figure 2, women living in majority Buddhist states/regions are 10 percentage points more likely to believe in healthy food avoidance compared to women in majority Christian areas. Then, rural women are more likely to hold healthy food avoidance beliefs than women in urban area.

In terms of economic status and education, with women from asset-rich households being more likely than asset-poor or asset-low households to believe in healthy food avoidance. Relative to women with higher education, those with primary or no formal education and middle school are significantly more likely to believe in healthy food avoidance, with the point estimates for primary and middle school education approximately nine percentage points and four percentage points. The point estimates are relatively small for respondents with high school education, which is about three percentage points less likely to believe in healthy food avoidance than those with middle school

While formal education seems important, the simple nutritional knowledge index we developed also turns out to have strong explanatory power. Medium-score women were about two percentage points less like to hold healthy food avoidance beliefs, but high-scoring women were about seven percentage points less likely to hold these beliefs.

Figure 2. Linear probability model estimates of changes in whether female respondents 15-49 years of age believe that at least one healthy food group should be avoided during breastfeeding (N=5,512)



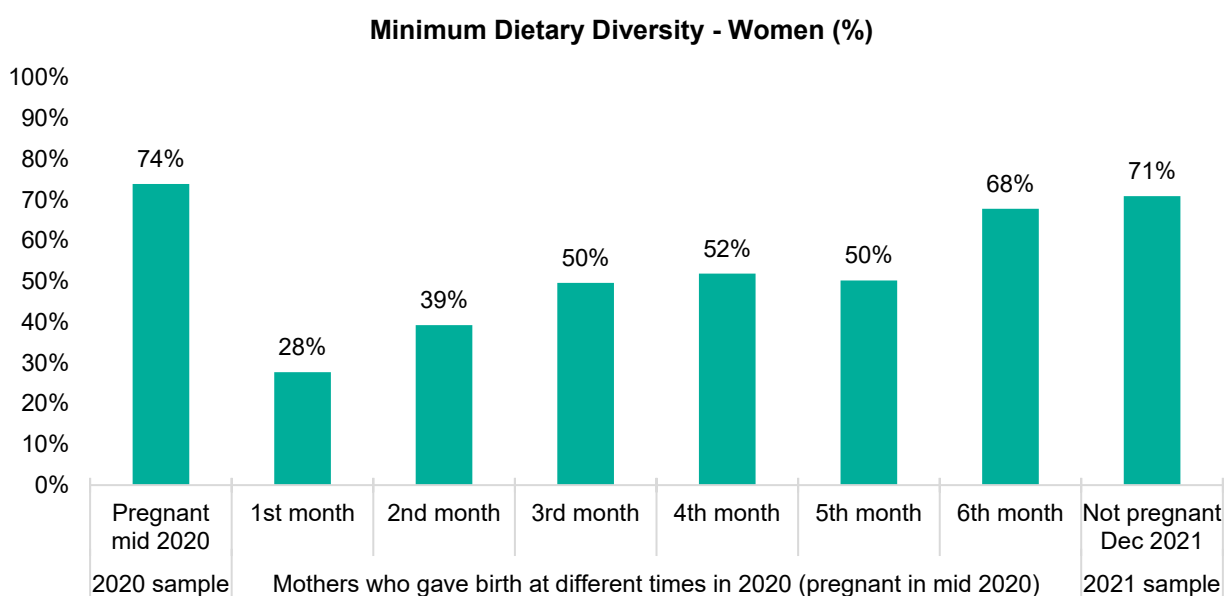
Notes: Authors' estimates from the fifth round of The Myanmar Household Welfare Survey (April-June, 2023). Robust 95 percent confidence intervals. *this refers trained midwives only.

The impacts of food avoidance beliefs on the dietary diversity of newly breastfeeding mothers in Yangon

Figure 3 provides descriptive statistics from RUFSS on MDD-W prevalence by pregnancy status and the various categories of months since giving birth in 2020, as well as MDD-W for the Yangon sub-sample of mothers from round 1 of the MHWS who were neither pregnant nor had a child under age two. Although these trends in MDD-W for the RUFSS panel of mothers are not adjusted for potential confounders, the decline in MDD-W for mothers after giving birth is strikingly large: 74 percent of women in this RUFSS sub-sample achieved MDD-W when pregnant, but this fell to just 28 percent in the first month after birth (postpartum), with a modest recovery to 39 percent in the second month. In the third to fifth months, the percentage of mothers who achieve MDD-W increases to 50-52 percent, but this is still at least 22-24 points lower than the prevalence of MDD-W during pregnancy.

However, 68 percent of women acquired MDD-W by the sixth month, which is slightly lower than the pregnant period with 7 percentage points.

Figure 3. Minimum dietary diversity (MDD-W) of mothers by pregnancy status and months since birth in the 2020 Yangon Rural-Urban Food Security Survey (RUFSS), with an additional comparison to MDD-W of non-pregnant mothers from the 2023 Myanmar Household Welfare Survey (MHWS) Yangon sub-sample



Notes: Authors' estimates from the RUFSS panel of mothers surveyed in the six rounds conducted in 2020, restricted to women who were all pregnant in round 1, participated in at least 5 of the 6 rounds, and reported breastfeeding their child. *The last statistic is derived from mothers in Yangon from the fifth round of the MHWS conducted over April-June 2023 who were not pregnant and did not have a child under age two, using population weights.

Finally, the last estimate in Figure 2 shows that 71 percent of non-pregnant MHWS mothers achieved MDD-W in late 2021, which is almost identical to MDD-W among pregnant women in RUFSS (73 percent). This suggests that pregnant women in RUFSS have dietary diversity levels that are similar to non-pregnant mothers, and that the decline in dietary diversity after giving birth is far more likely to be due to food avoidance practices during postpartum or breastfeeding, rather than to pregnant mothers eating an unusually diverse diet.

Table 2. Estimated changes in mother's consumption of various food groups in the past 24 hours when transitioning from pregnancy to various months after birth (N=3,134)

	Pregnant (mid 2020) (%)	Mothers who gave birth at different times in 2020 (%)					
		1 st month	2 nd month	3 rd month	4 th month	5 th month	6 th month
Beans	44	17	30	31	33	35	36
Nuts & seeds	26	7	14	14	17	13	11
Milk	33	10	7	9	8	6	7
Meat/fish	88	96	89	88	89	94	93
Eggs	54	32	46	53	53	47	68
Dark-green leafy veg	84	56	69	75	76	76	86
Vit A-rich fruit/veg	65	16	22	30	33	35	32
Other veg	56	29	46	49	48	53	54
Other fruits	24	11	12	18	21	22	18

Notes: Authors' estimates from the RUFSS panel of mothers surveyed in the six rounds conducted in 2020, restricted to women who were all pregnant in round 1, participated in at least 5 of the 6 rounds, and reported breastfeeding their child.

Table 2 reports changes in mother's consumption of various MDD-W food groups in the past 24 hours based on transitioning from pregnancy to the first, second and third, fourth, fifth and sixth months after birth. The results reveal that in the first month after birth there is a reduced consumption in almost all MDD-W food groups except cereals, and fish/meat. Vitamin A-rich fruits and vegetables see the largest reduction in consumption after giving birth, followed by dark green leafy vegetables and other vegetables. However, there are also large reductions in the probability of mothers consuming eggs, beans, seeds/nuts, dairy and other fruits in the first month after birth. In subsequent months, consumption of most foods starts to increase in frequency again, though typically still stays well below consumption levels during pregnancy. We believe that this imprecision may stem from greater variation across mothers in food avoidance behaviors several months after birth, with some mothers still avoiding certain foods and others re-adopting more regular consumption patterns.

Policy Implications

- **More measurement and analysis are needed on the impacts of food avoidance practices in the first 1,000 days on the health and nutritional status of both mothers and infants.** Maternal nutrient requirements are high during breastfeeding, and micronutrient deficiencies among mothers can also be passed on to breastfeeding infants, particularly deficiencies in B vitamins (except folate), vitamin A, selenium and iodine (Allen et al. 2005). Moreover, the last *Myanmar Micronutrient and Food Consumption* survey in 2017-2018 showed that inadequacies in vitamin A, iodine and iron are the three major public health concerns from a micronutrient deficiency perspective (MOHS 2019) and are estimated to cost Myanmar about 2.4 percent of its GDP (Win 2016).
- **Indicators of food avoidance behaviors and beliefs should be integrated into national nutrition surveys or surveillance systems such as the DHS, and researchers and programmers should additionally conduct specialized surveys to measure nutrient intake and breastmilk quality among postpartum and breastfeeding mothers, as well as micronutrient status of their infants.** The most avoided foods among breastfeeding mothers in our Yangon sample were vitamin A-rich fruits and vegetables, suggesting a high risk of vitamin A deficiency among breastfeeding mothers and infants, though other fruits/vegetables, eggs and dairy were also avoided and could increase the risk of deficiencies in other micronutrients.
- **Pilot programs and ultimately scale up interventions to combat potentially harmful food avoidance taboos.** We suspect that many nutrition counselling programs targeted at mothers in Asia provide only general advice on healthy eating habits for pregnant and lactating women, without directly addressing local food avoidance taboos. Randomized control trials could be used to assess the impacts of combating these beliefs on dietary quality and micronutrient inadequacies among breastfeeding mothers and children.
- **Social behavioral change communications (SBCC) and other public health interventions should be used to more directly combat these taboos.** The fact that these food avoidance beliefs persist among educated women and even women who have received nutrition counselling, suggests that messaging on this issue has not been clearly targeted or designed to combat these beliefs.

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ACKNOWLEDGMENTS

This work was undertaken as part of the Feed the Future Myanmar Agrifood Program for Strategy and Analysis (MAPSA) led by the International Food Policy Research Institute (IFPRI) in partnership with Michigan State University (MSU). This study was made possible by the support of the American people through the United States Agency of International Development (USAID), under the terms of Award No. AID-482-IO-21-000x. This publication has not gone through IFPRI's standard peer-review procedure. The opinions expressed here belong to the authors, and do not necessarily reflect the views of USAID, IFPRI, MSU, or the CGIAR.

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The Myanmar Strategy Support Program (Myanmar SSP) is led by the International Food Policy Research Institute (IFPRI) in partnership with Michigan State University (MSU). Funding support for Myanmar SSP is provided by the CGIAR Research Program on Policies, Institutions, and Markets; the Livelihoods and Food Security Fund (LIFT); and the United States Agency for International Development (USAID). This publication has been prepared as an output of Myanmar SSP. It has not been independently peer reviewed. Any opinions expressed here belong to the author(s) and do not necessarily reflect those of IFPRI, MSU, LIFT, USAID, or CGIAR.

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