

Determinants of Women's Dietary Diversity and Consumption of Micronutrient-Rich Foods in Winter in the Kyrgyz Republic

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INTRODUCTION

The Kyrgyz Republic is experiencing a triple burden of malnutrition: 18% of children under 5 are stunted; 43% of children 6–59 months are anemic; 36% of women of reproductive age are overweight or obese (BMI ≥25); and 35% are anemic.^{2,4,5} Dietary intake is among the major determinants of poor nutrition and provides an opportunity to ease the triple burden.^{9,8}

Minimum diet diversity among women (MDD-W) is associated with adequate micronutrient intake and is correlated with child dietary diversity.^{3,1,6} Even where food insecurity is not a barrier, dietary diversity remains a challenge in winter, when micronutrient-rich foods are infrequently consumed due to scarcity and prohibitive price.⁷

RESEARCH METHODS

Between 2014 and 2018, the Strengthening Partnerships, Results, and Innovations in Nutrition Globally (SPRING) project partnered with the Government of Kyrgyzstan to promote improved diets of women and children in the Feed the Future zones of influence within Jalalabad Rayon (district), Jalalabad Oblast (province), and Jumgal Rayon, Naryn Oblast. SPRING encouraged effective, locally-proven, household-level practices to extend the growing season and improve post-harvest processing and

storage. The project analyzed secondary data from a cross-sectional survey it conducted in February/March 2017 of 1,359 women (~450 per area) using a 24-hour list-based dietary recall. We identified key determinants of women's dietary diversity and consumption of micronutrient-rich foods in winter in the two oblasts and Uzgen Rayon of Osh Oblast (non-intervention area). We conducted bivariate analysis of key factors and a logistic regression analysis to identify key determinants of MDD-W.

FINDINGS

Maternal dietary intake may be influenced by socio-economic characteristics, land availability, market accessibility, seasonality, and individual knowledge and preferences.

Socio-economic characteristics included mean age of 27.3–29.6 years and household size of 5.7–6.2 residents. Most were ethnic Kyrgyz and completed 10–11 years of education. Main income sources were raising livestock (Jumgal), salaried professionals (Jalalabad), and raising livestock or crops (Uzgen). Small gardens were held by 66.5% of Jumgal, 44.4% of Jalalabad, and 55.0% of Uzgen respondents (table 1).

Of 10 total food groups, the mean number that women consumed were 5. MDD-W (5+ food groups) prevalence was 62% (Jumgal), 76%

(Jalalabad), and 68% (Uzgen). The percentage who consumed micronutrient-rich food groups in the three places, respectively, ate the following: animal flesh (90.3%, 92.7%, 91.1%); dark green leafy vegetables (34.2%, 47.0%, 43.0%); and vitamin A-rich fruits and vegetables (65.3%, 81.8%, 74.3%) (figure 1). Women consumed more foods from the market than from their farms (figure 2).

The regression analysis showed that fall storage of 4+ foods (OR: 2.5), having leftover preserved foods (OR: 1.61), and living in Jalalabad (OR: 1.45) were associated with greater odds of consuming diverse diets in late winter. Those with smallholding gardens (OR: 0.71) were less likely to consume diverse diets (figure 3).

Figure 1. Percentage of Women with Children under 2 Years Consuming 10 Food Groups and with MDD (February/March 2017)

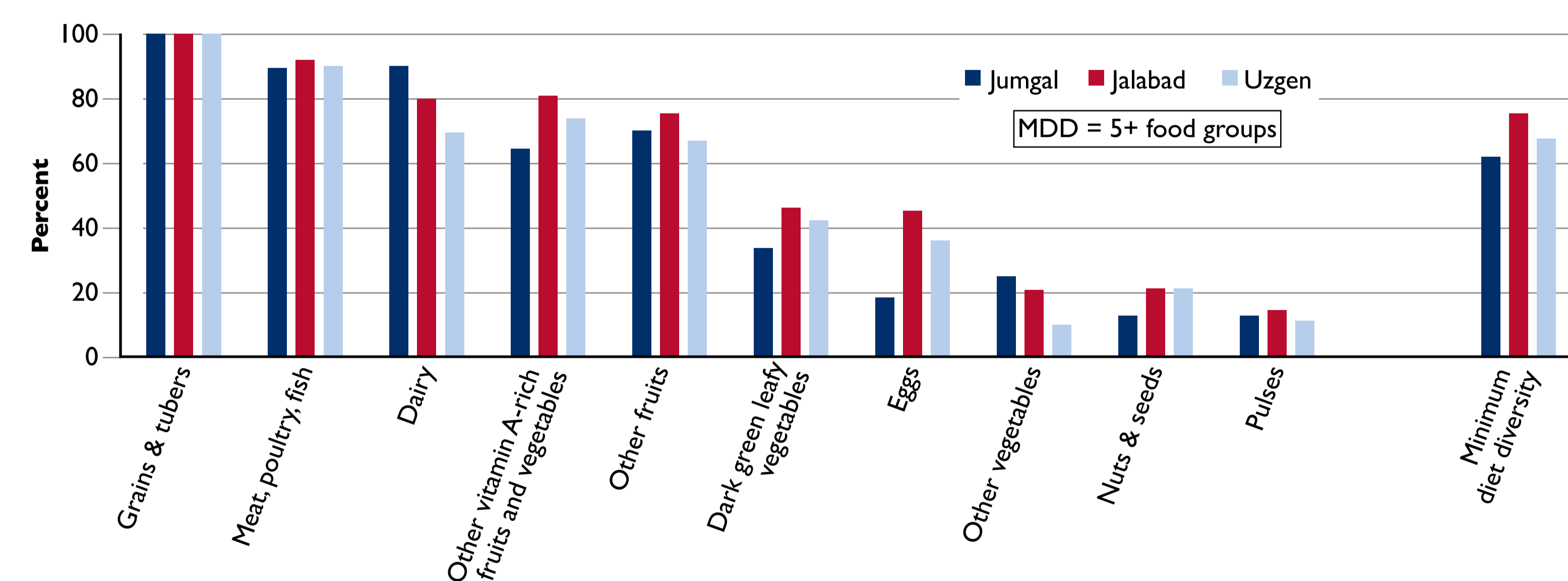
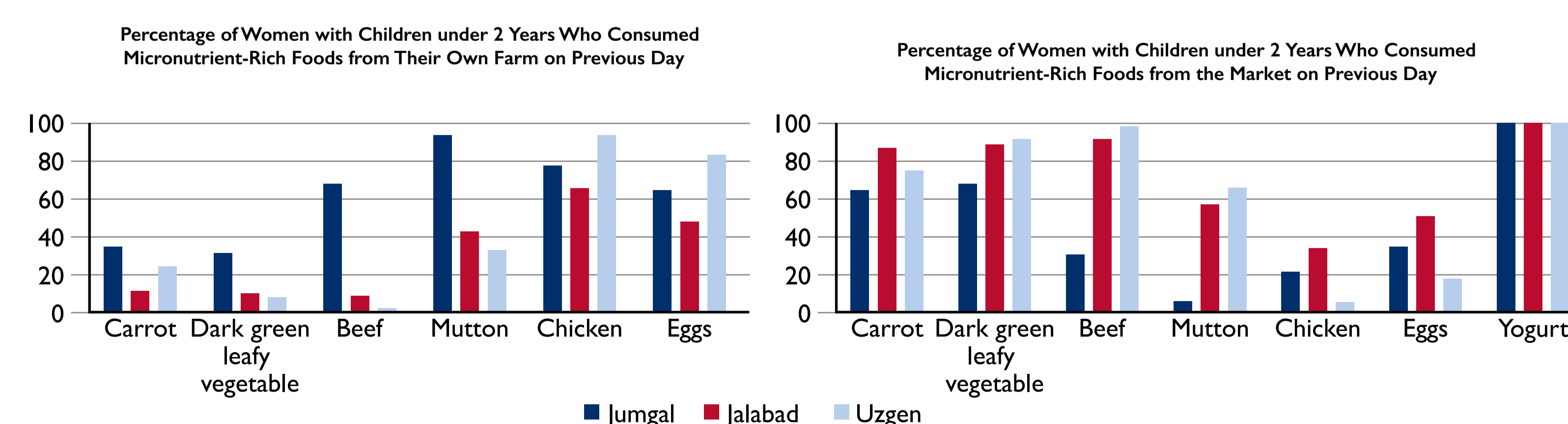


Figure 2. Source of Foods Consumed



Encouraging do-able actions to increase food access and increasing knowledge of good nutrition practices improved women's diets in the Kyrgyz Republic.

CONCLUSION

Promoting do-able actions to increase access to a variety of healthy foods while improving knowledge and awareness of better nutrition practices improved women's diets. These practices include consuming more micronutrient-rich foods and properly storing and preserving food. Fall storage and food preservation in the Kyrgyz Republic influenced

MDD-W positively. Where seasonality strongly affects food availability, increasing home processing and local food purchases promoted consumption of micronutrient-rich foods. Although we recommend further studies to demonstrate generalizability, these results are promising for changing women's diets in the Kyrgyz Republic.

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Table 1. Sample Description

Variable	Jumgal	Jalalabad	Uzgen/Comparison
Age (mean)	29.6	28.5	27.3
HH size (mean)	6.2	5.7	6.3
Mothers' level of education	%	%	%
8–9 years	4.9	5.9	7.3
10–11 years	56.3	51.4	57.4
Vocational/technical or some higher education	13.7	16.1	15.9
Completed post-secondary education	25.2	26.2	18.8
Main sources of income	%	%	%
Raising livestock	29.5	12.7	37.7
Raising crops	1.6	9.8	19.2
Labors/migrant workers	7.8	24	18
Business/commerce	5.2	11.3	6
Salaried professionals	15.8	22.5	12
Others	40.3	19.8	7
Has a smallholding, garden, or land that is owned/rented	66.5%	44.4%	55%
Ethnicity	%	%	%
Kyrgyz	99.3	79.6	82.9
Uzbek	0	19.3	3.5
Tatar	0.7	1.1	13.3

Figure 3. Percentage of Women with Children under 2 Years Who Stored and Preserved Food during Late Winter (February/March 2017)

