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Risk Factors for Malnutrition of Rural-to-Urban Migrant’s Children (<5 years) in Comparison to Urban Children in two Kindergartens in Beijing, China

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Abstract

OBJECTIVE: To investigate risks factors that influence the health- and nutritional status of rural-to-urban migrant- and local children in Beijing.

METHODS: Assessment included height, weight, MUAC, dietary intake and a questionnaire to explore family background and (breast) feeding practices. 103 migrant- and 108 local children and their mothers were recruited.

RESULTS: Migrant children are more likely to suffer from mild/moderate (<-1 SD) stunting (30.1% vs 12.0%), underweight (28.2% vs 9.3%), and wasting (22.3% vs 3.3%) than local children while local children had a higher prevalence of mild/moderate (>+1 SD) overweight (14.8% vs 9.7%). Migrant girls are at higher risk than local girls for mild/moderate stunting (37.5% vs 18.8%), underweight (33.3% vs 12.5%), and wasting (27.1% vs 4.2%). Local boys have a higher prevalence than migrants boys of overweight (20% vs 12.7%), and local girls are also more likely than migrant girls to be overweight (8.3% vs 6.3%). According to 24-hour dietary recalls, migrant children lack age-specific energy intake and fall short of micronutrients like calcium, iron, zinc, potassium, vitamin B2 and folic acid. The calcium and folic acid intake of local children also did not reach age-specific recommendations. Migrant mothers were younger (28.1 ± 3.6 vs 30.7 ± 3.2 , $p < 0.05$), received less education (3.9% vs 46.3% attended higher education) and had more children (1.2 ± 0.5 vs 1.009 ± 0.09 , $p < 0.05$) than local mothers. Migrant families had lower income (715.6 ± 508.8 vs 1580.2 ± 834.7 RMB per person/month, $p < 0.05$), and lived in smaller rooms (7.7 ± 6.1 vs 23.6 ± 8.9 m², $p < 0.05$) often without private water pipe and toilet. For both migrant and local children, initiation of breastfeeding was delayed up to 3 days after birth, more than half of the newborns received pre-lacteal feedings. The duration of exclusive breastfeeding (4.7 ± 3.1 vs 4.3 ± 2.8 months) as well as total duration of breastfeeding (15.1 ± 6.0 vs 14.4 ± 5.4 months) was short in comparison to WHO recommendations.

CONCLUSION: Migrant children (especially girls) are a risk group for undernutrition while local children (especially boys) are more likely to be overweight. Feeding habits, dietary intake and family factors strongly influence nutritional status of migrant and local children.

Keywords: Migrant children, infant feeding, nutritional status, dietary intake, kindergarten, China, Beijing