



Parental Occupation in Relation to Obesity in Rural-to-Urban Migrant Children in China

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Dear Editor-in-Chief

Intensification of reforms and speeding of urbanization, as well as increasing income gap between urban and rural residents in China dramatically influenced rural-urban migration of labor workers. In the last two decades the number rural-to-urban migrant workers increased from 40 million in 1985 (1) to 247 million in 2015 (2). Many rural children and adolescents moved from rural to urban areas with their parents. The number of migrant peasant workers' children aged less than 14 yr old was estimated at 15 million, and about 530,000 of those children were in Shanghai City in 2012 (3).

Many people have conducted research on rural-to-urban migrant children (4-6). On the one hand, studies showed rural-to-urban migrant children to have dysplasia and many common diseases (7, 8), on the other hand, they are experiencing overweight and obesity in these individuals (9, 10). Parental occupation influenced development of obesity in rural-to-urban migrant children in China, which is likely to be the result of the eating habits of children and family income.

We aimed to study the relationship between the obesity in rural-to-urban migrant children and the children's parental occupation in Shanghai China.

The final sample included 7-12 yr old children (n=3707), 1917 boys and 1790 girls, with 3154 having normal weight and 553 being obese.

Informed consent was obtained from the parents of all subjects. The study was approved by the Ethics Committee of School of Physical Education and Health of East China Normal University. We conducted anthropometric measurements and questionnaire investigation in Apr 2018 in Shanghai, China. Chi-square analyses were used to compare the differences between the group of obese and normal weight in gender and age; the associations between obesity and parental occupation were tested using multivariable logistic regression models. Odds ratios (ORs) and 95% confidence intervals (CIs) were calculated. All statistical analyses were performed using SPSS 22.0 (IBM, Armonk, NY, USA).

Table 1 shows Baseline characteristics of the study population. We found that male obese ratio was nearly twice higher than that of females. In respect of age, while regardless of gender, obesity incident was the highest in 10 yr-olds.

We conducted logistic regression for both obesity and parental occupation while controlling for children's gender and age.



Table 1: Baseline characteristics of the study population

<i>Variable</i>	<i>Normal weight N=3154(%)</i>	<i>Obesity N=553(%)</i>	χ^2	<i>P</i>
Gender			51.82	0.000
Male	1553 (49.2)	364 (65.8)		
Female	1601 (50.8)	189 (34.2)		
Age(yr)			19.34	0.002
7	199 (6.3)	33(6.0)		
8	469 (14.9)	69 (12.5)		
9	420 (13.3)	75 (13.6)		
10	796 (25.2)	177 (32.0)		
11	691(21.9)	129(23.3)		
12	579 (18.4)	70 (12.7)		

In father’s occupation, children whose fathers were businessmen were more likely to be obesity (OR=1.72, 95%CI=1.41-2.67), compared with those whose fathers were farmers. Children whose fathers were civil servants and company employees were less likely to be obese (civil servant: OR=0.34, 95%CI=0.17-0.72; company employee: OR=0.50, 95%CI=0.38-0.86), compared with those whose fathers were farmers. As for mother’s occupation, the finding was the same as the

fathers. Children whose mothers were businesswomen were more likely to be obese (OR=1.92, 95%CI=1.27-2.76), compared with those whose mothers were farmers. Children whose mothers were civil servants and company employees were less likely to be obese (civil servant: OR=0.73, 95%CI=0.32-0.94; company employee: OR=0.57, 95%CI=0.11-0.81), compared with those whose mothers were farmers (Table 2).

Table2: Parental Occupation associated with obesity in Rural-to-Urban Migrant Children by logistic regression

<i>Variable</i>	<i>OR</i>	<i>Obesity 95% CI</i>	<i>P-value</i>
Parental occupation			
Father			
Civil servant	0.34	0.17-0.72	0.004
Worker	0.58	0.41-0.82	0.062
Company employee	0.50	0.38-0.86	0.001
Businessman	1.72	1.14-2.67	0.031
Farmer	1	-	-
Mother			
Civil servant	0.73	0.32-0.94	0.048
Worker	0.92	0.63-1.34	0.660
Company employee	0.57	0.11-0.81	0.025
Businesswoman	1.92	1.27-2.76	0.039
Farmer	1	-	-

In conclusion, the prevalence of obese males was higher than that of females and the prevalence of obesity in 10 yr-olds was the highest in all age range in rural-to-urban migrant children. Without

consideration of gender, those children whose parental occupation was businessman, they were more likely to be obese, compared with those whose parental occupation was farming.

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Conflict of interest

The authors declare that there is no conflict of interest.

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