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Title: The correlation between urbanization and mortality of common respiratory diseases in China

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Body: Background Urbanization is associated with the mortality of respiratory diseases. This study aimed to analyze the relation between urbanization and the mortality of common respiratory diseases in China. Methods 10 representative urbanization indicators (Total industrial output, Energy consumption, Civilian automobile, Length of Railways and Civil aviation routes, Paper, Cement, Plastic and Cigarette production, Selling area of commodity house) were retrieved from the State Statistical Database (2003-2009). Mortality of the common respiratory diseases were retrieved from the Health Statistics Yearbook of China. The correlation between the 10 indicators and mortality of common respiratory diseases was analyzed by Spearman rank correlation. Results Both levels of the 10 indicators and mortality of pneumonia, pneumoconiosis and lung cancer increased constantly, the mortality of chronic lower respiratory disease was downtrend from 2003 to 2009. The 10 indicators were positively correlated to mortality of pneumonia, pneumoconiosis and lung cancer ($RS>0, P<0.05$), but not to chronic lower respiratory disease in city ($P>0.05$).

The 10 indicators significantly correlated with the mortality of pneumonia, pneumoconiosis and lung cancer in large city ($RS>0, P<0.05$), but not in small and medium city ($P>0.05$). Conclusion Urbanization may contribute to the increasing mortality of pneumonia, pneumoconiosis and lung cancer in China.