Many severe diseases of the respiratory tract lead to hospitalisation. These diseases are often caused by viral infections and may cause increased mortality. The most common viral pathogens involved in these cases, which are also associated with significant morbidity and mortality during the influenza seasons are influenza viruses. Rapid differential diagnosis of influenza viruses is therefore of great importance. Classical diagnosis of these viruses involves virus cultures. Of the rapid diagnostic methodologies which have been developed are RT-PCR, multiplex PCR, real-time PCR. In the present study we have monitored clinical samples from patients of different age groups from selected regions in Slovakia and compared the effectiveness of the classical and molecular biological diagnostic methods. The molecular biological methods proved to be rapid, accurate and effective. Application of these techniques in diagnosis of the respiratory illnesses should help in the prevention, therapy and disease control.

Key words: influenza viruses, diagnostic choices, cultivation, RT-PCR, real-time PCR, effectiveness of diagnosis

Address for correspondence: L. Maďarová, Regional Authority of Public Health Banská Bystrica, Division of Medical Microbiology, Cesta k nemocnici 26, 975 56 Banská Bystrica, Slovak Republic. E-mail: lucia.madarova@vzbb.sk