

health centers serving a low-income minority population in Washington DC. The interventions included family reminders, education, expanding immunization access, reminders and feedback for providers, and coordination of activities with community stakeholders. These interventions were shown to cause a 16% overall increase in immunization rates and a 14% increase in on-time immunization by 24 months of age at all six health centers.

It is an ongoing challenge for pediatricians around the globe to get their patients vaccinated on time. Utilization of better quality improvement strategies will hopefully help us prevent an outbreak of vaccine-preventable diseases.

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## Complications of Varicella in Healthy Children

Dear Editor,

We read the article titled "Evaluation of Hospitalized Varicella and Zona Patients who were followed up in our Pediatric Clinic" by Çalıřkan et al. (1) with great interest. This particular case that we encounter usually in the pediatric practice has been studied and the importance of varicella vaccine was emphasized once again. Even though varicella is known to be a disease with a benign course, it may cause serious complications not only in immunosuppressed, but in immunocompetent patients as well (2). In the study we carri-

ed out between 1997 and 2009, previously healthy 426 patients (patients who did not have an underlying immune deficiency or who did not have immunosuppressive therapy) who were hospitalized and treated in the pediatric clinic due to varicella complications were evaluated. It was found in this study that varicella complications were often seen in children under 5 years old, and infectious complications such as impetigo, cellulite, skin abscess, pneumonia were the most frequent ones (42.5%). Sepsis developed in five patients. In their blood culture, Group A streptococci were isolated in three patients and staphylococcus aureus isolated in two patients. The second most frequent one was the neurological complications (37.7%); 38 patients were diagnosed with encephalitis. It was found that the third most frequent ones were hematological complications such as thrombocytopenia and pancytopenia. 192 patients were included in Çalıřkan et al.'s study (1) and 68% of these cases were immunocompetent patients. They found that the most frequent one was neurological complications and the second most frequent infectious ones. Similar to our study, the age medium of the complication-developing patients was 5.2±3.5 year. While average hospital stay of the patients in our study was 5.5±3.4, it was found 9.4±8.0 in Çalıřkan et al.'s study. The fact that the longer hospital stay did not cause the development of complications may be put down to the hospitalization of immunosuppressed patients for treatment. Three patients died in our study. One of those patients was followed up for purpura fulminans, the other for encephalitis and the last one for pneumonia complication. No immune deficiency was present in any of the patients who died. While 3 patients died due to immune deficiency in Çalıřkan et al.'s study (1), 3 patients who developed encephalitis complication recovered with a neurological sequellae. Both studies had a similar seasonal distributions; the period of January and March was the peak period for hospitalizations.

There was no routine administration of the varicella vaccine in our country during the time of both studies. Both studies emphasized that varicella could cause serious complications and mortality, and how important the varicella vaccine was. As is commonly known, the varicella vaccine was included in the national vaccination calendar as a single doze in 2013. After the administration of the single doze varicella vaccine, following up varicella cases and hospitalizations, and evaluating the data before and after the vaccination will be enlightening for the necessity of the second doze. In this connection, we are of the opinion that for the comparison of the data before and after vaccination, these two studies in question will be helpful just like the other before-vaccination studies done in our country (3).

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## Reply to the Editor

To the Editor;

We would like to inform you that we read the article titled "Complications of varicella in healthy children" by

Kurugöl et al. with great interest in which they emphasized once again that varicella known to be a disease with a benign course may cause serious complications not only in immunosuppressed, but in immunocompetent patients as well, and that the varicella vaccines employed as a single doze now needed to be investigated further to highlight the necessity of the second doze for further studies, and we also would like to express our gratitude for their valuable contributions.

Best regards,

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