months. Due to the risks of rectal perforation and cross infection in this age group, the use of rectal measurement is certainly not recommended by guidelines, pediatric associations of different countries and by us as well. Because of the development of autonomic nervous system has not been completed in this age group, it should be noted that axillary measurement provides more realistic measurements, despite all the disadvantages.

Sincerely yours.

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The Role of the Micronutrients; Vitamin A, Vitamin B_{12}, Iron, Zinc, Copper Levels of Children with Lower Respiratory Tract Infections

Dear Editor,

I read the article by Fidancı İ. et al. (1) "The Role of levels of Vitamin A, Vitamin B12, Iron, Zinc and Cooper in Lower Respiratory Tract Infections in Children" with great interest (1). Micronutrients are necessary for an effective immune system. These contribute to the natural defense system of the body through physical barrier support, provision of cellular immunity and antibody growth. Micronutrient deficiency causes sensitivity towards infections by pressurizing the patient's immune response. Micronutrient deficiency is increased through the hindrance of their use as a result of the loss of food intake and increases in losses (2, 3). I would like to congratulate the authors for highlighting the deficiency of micronutrients in lower respiratory infections that are the important causes of morbidity and mortality in children especially in a developing country like Turkey.

I would like to emphasize the following points in the article:

1. The importance of respiratory tract infections (LRTI) in children below 5 years old has been emphasized in the article. As the deficiency of micronutrients such as vitamin A, zinc (Zn), copper (Cu), iron (Fe) and vitamin B12 may trigger these infections, it was stated that the authors aimed to determine the level of these micronutrients in children with lower respiratory tract infections. For this purpose, it was stated that 98 children diagnosed with LRTI and 47 healthy children in the control group were included in the study. It was concluded that there were no differences between the patient and control groups regarding age and gender (1). I am of the opinion that it should be stated and statistically demonstrated whether there is a difference between the two groups regarding the anthropometric measurements and malnutrition assessment between the two groups as they will affect the micronutrient levels.

2. It was stated in the article that the vitamin A level and Fe level in the patient group was significantly lower in comparison to control group, and no significant difference was found between the two groups although the Zn level in the patient group was lower. Table 3 presents the statistical analysis through the average micronutrient levels between the two groups (1). I am of the opinion that it will be more appropriate to determine the limit level of micronutrients level and that it should be revealed whether there is a difference between the groups below this limit level (for instance, vitamin A deficiency exists/does not exist). Serum vitamin A level will be lower in the protein energy and zinc deficiency. Besides, as the retinol binding protein is a negative acute phase protein, the serum retinol level may be found lower during the infection (4). Therefore, I think that examining the micronutrient levels after the disease will contribute to the assessment of the definition of deficiency. Similarly, it is stated that the serum Zn level is not sensitive enough to demonstrate Zn deficiency, but measurements on the tissue level will produce more sensitive results (5).

In conclusion, this study is important as it highlights the deficiency of micronutrient levels in children with LRTI. However, I am of the opinion that future prospective randomized controlled LRTI studies will help us to be better informed about the micronutrient support in LRTIs.

Best regards.

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DOI:10.5152/ced.2014.0013

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Dear Editor,

I read the article by Fidancı İ. et al. (1) "The Role of levels of Vitamin A, Vitamin B12, Iron, Zinc and Cooper in Lower Respiratory Tract Infections in Children". According to the data of the World Health Organization, every year more than 10 million children under 2 years of old lose their lives all over the world due to preventable and treatable diseases. Respiratory tract infections account for the majority of these losses of lives (2). In childhood, 23% of outpatient cases and 29-38% of hospitalized patients are diagnosed with pneumonia (2). These data demonstrate that pneumonia is an important community health care problem in children under 2 in the developing countries and in Turkey leading to high rate of mortality and morbidity. Although there exist many agents in the etiology of pneumonia, it is commonly known that since they are preventable, zinc has an important duty especially in the developing countries (2).

Since the lack of zinc and trace element has an importance in developing countries, three big studies have so far been carried out particularly in Ethiopia, India and Bangladesh.

Umeta et al. (3) in Ethiopia investigated the effects of zinc supplements in 6-12 month-old well-nourished and undernourished infants. At the end of the study, it was revealed that the group that took zinc statistically increased in length and weight, worked up an appetite, had lower chance of getting a cough and diarrhea, fever and vomiting declined significantly in comparison to the group that took placebo. In Bangladesh, on the other hand, Brooks et al. (4) gave one group of patients 20 mg zinc daily in addition to antimicrobic therapy to children under 2 suffering from severe pneumonia, and placebo to another group. The researchers realized at the end of the study that the period of hospital stay during the period of severe pneumonia recovery diminished through adjuvant zinc therapy. In India, Kumart et al. (5) measured the blood zinc levels of 50 children aged 2month-5 years hospitalized due to pneumonia and found that statistically the plasma zinc amount measured in patients with pneumonia were significantly low when compared with the control group cases. In all these three studies, there was no any side effect of the zinc given to the patients; and this is important with respect to the safe use of this drug for patients and in studies.

In our study (6), we obtained similar results as well. These studies demonstrated that adjuvant zinc therapy accelerated the recovery period of severe pneumonia in children, could help to diminish the development of antibiotic resistance by reducing the multiple antibiotic use and lessen infection-related complications and mortality. In the study done by Fidancı İ. et al. (1), it was found that vitamin A and Fe levels were significantly low in comparison to control group; but, Zn level in the patient group was lower than control group, but statistically not significant. No difference was found between the groups with regards to Cu and Vit B12 levels. It was found that the results of other studies were compatible with our study.

Many reasons such as children's mortality in developing countries and Turkey still occupying the top of the list, low socioeconomic levels, low level of per capita income, carbonate-rich, low protein diet, and family and population planning may explain pneumonia-related mortality. Although there are many factors causing the development of pneumonia, the preventable of these factors are important for us. The lack of zinc, which is a serious problem for our country since it seriously leads to mortality and morbidity, can be overcome through zinc-rich diet or external zinc supplements and elevated immunity.

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