ABSTRACT FROM CURRENT LITERATURE

Anemia among children and adolescents in a rural area

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[Paediatr Indones. 2014;54:88-93].

Background: Anemia in children and adolescents affects growth and development. It is a preventable disease, but unfortunately is often ignored until the symptoms occur. There have been limited reports on the prevalence of anemia in children and adolescents in Indonesia, especially from rural areas.

Objective: To describe the prevalence of anemia in children and adolescents in district ofMalinau, a rural area in East Kalimantan Province.

Methods: This cross-sectional study was done in June 2010 using laboratory records between July 2009 to January 2010. Laboratory records of patients aged between 6 months and 18 years which investigated were complete blood count (CBC) from ambulatory, inpatient, and emergency care ofMalinau Public Hospital in East Kalimantan. Mentzer and England & Fraser indices were used to differentiate iron deficiency anemia (IDA) and thalassemia among microcytic hypochromic anemic patients.

Results: This study involved 709 laboratory records. Prevalence of anemia was 53.9% (95% CI 50.2% to 57.5%). The prevalence of IDA among age groups were as follows: 29.4% (95% CI 24.3 to 34.5%) in 6-59 months group, 16% (95% CI 11 to 21 %) in 5-11.9 years, and 15.2% (95% CI 10.2 to 20.2%) in 12-18 years. Children aged 6-59 months tended to have more anemia than those aged 5-11.9 years (OR 2.184, 95% CI 1.398 to 3.413) or aged 12-18 years (OR 2.319, 95% CI 1.464 to 3.674).

Conclusion: The prevalence of anemia in children and adolescents of the Malinau Regency is 53.9% (95% CI 50.2 to 57.5%), quite similar to that of other developing countries. A government program to overcome anemia is recommended, not only for pregnant women, but also for children and adolescents.

Reducing dyspeptic symptoms in children: proton pump inhibitor vs. HZ receptor antagonist

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[Paediatr Indones. 2014;54:198-201.].

Background: Dyspepsia is known as a leading cause of upper gastrointestinal tract morbidity. If left untreated, dyspepsia may become chronic. Dyspeptic symptoms manifest as epigastric pain, heartburn, nausea, hematemesis, or melena. Experimental studies have shown that omeprazole is more effective at reducing heartburn than ranitidine in adults. However, there have been few studies comparing the effects of proton pump inhibitors to Hz receptor antagonists for reducing dyspeptic symptoms in children.

Objective: To compare the effect of omeprazole with ranitidine for reducing dyspeptic symptoms.

Methods: We performed a double-blind randomized controlled trial (RCT) at Sardjito Hospital and three community health centers in the Sleman District from June to November 2012. We recruited children aged 3-18 years with dyspepsia. Subjects were allocated into two groups using block randomization: the proton pump inhibitor (omeprazole) and the Hz receptor antagonist (ranitidine) groups. According to the groups, either omeprazole (0.4-0.8 mg/kg/dose) or ranitidine (2-4 mg/kg/dose), respectively, were taken twice daily for 5 days. Dyspepsia was clinically diagnosed using the new Rome III criteria. Both groups were monitored for 5 days to assess for a reduction of dyspeptic symptoms.

Results: Significantly more subjects in the omeprazole group recovered from dyspeptic symptoms than in the ranitidine group (RR= 4.87; 95%CI 1.5 to 15.3; P=0.005).

Conclusion: Omeprazole was 4.87 (95% CI 1.5 to 15.3) times better than ranitidine in reducing dyspeptic symptoms on children aged 3-18 years with dyspepsia.

Folic acid and acute diarrhea in children

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[Paediatrlndones. 2014;54:273-9].

Background: Diarrhea has been a health problem in children under five year old. Although the mortality caused by acute diarrhea has fallen worldwide, the mortality has increased in developing countries, such as Indonesia.

Objective: To assess the effect of folic acid in reducing the severity of acute diarrhea in children.

Methods This study was a single-blind, randomized control trial in children with diarrhea aged six months to five years at a local goverment clinic in the Secanggang District, Langkat Regency, North Sumatera Province from August 2009 until January 2010. Subjects were recruited by consecutive sampling then randomized into two groups. Of the 112 children who participated, 56 children received oral folic acid and 56 children received placebo, 1 capsule per day for five days. The statistical analyses used were the independent T-test and Chi square test with 95% confidence intervals (95% Cl) and P values < 0.05 considered to be statistically significant.

Results: There were significant differences between the folic acid and placebo groups with regards to stool consistency (P=0.02), diarrheal volume on the second day [147.52 vs. 303.21 ml., respectively, (P=0.001)], frequency of diarrhea on the third day [1.9 vs 2.8 episodes, respectively, (P= 0.001)], duration of initial treatment to recovery [91.3 vs. 117.9 hours, respectively, (P =0.001) and the total duration between initial symptoms and recovery [123.6 vs. 147.4 hours, respectively, (P = 0.001)].

Conclusion: Oral folic acid is clinically beneficial for reducing the severity of acute diarrhea in children under five year old.

Serum transaminase levels and dengue shock syndrome in children

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[Paediatr lndones. 2014;54:181,5].

Background Clinical and biochemical impacts on liver dysfunction, as manifested by an increase in serum transaminase levels, are common in dengue infection. However, an association of elevated serum transaminase and dengue shock syndrome (DSS) has not been well-established.

Objective: To assess for an association between serum transaminase levels and the presence of DSS in children.

Methods: A nested, case control study was conducted on children aged 1 month to 12 years admitted to Sanglah Hospital who were diagnosed with dengue infection. Baseline characteristics and serum transaminase levels were recorded. Patients who were included in the study were observed for the presence of DSS. Those who had DSS were selected as cases, and those who did not develop DSS were selected as controls. Data was analyzed using bivariate and multivariate methods with 95% confidence intervals and P value <0.05 was considered as statistically significant.

Results: Ninety-four children were involeved, 4 7 children in the case group and the other 4 7 were in the control group. Baseline characteristics of the subjects were similar between the case and control groups. Serum aspartate transaminase (AST) level of 2:: 128 U/L and alanine transaminase (ALT) of 2::40 U/L were associated with DSS (OR 10; 95%CI 2.3 to 44.4; P=0.002) and (OR 7.3; 95%CI 1.6 to 32.9; P=0.009), respectively.

Conclusion: Elevated AST and ALT levels were associated with an increased risk of DSS in children with dengue infection.