IDD status of school age children (8 -10 years) after introduction of iodine supplementation program : a study in Solok District West Sumatra

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Abstrak

A cross-sectional study was conducted in eight villages of Paninggahan Puskesmas catchment area in Solok district, West Sumatra province during March 1996. Its main objective was to investigate the relationship between iodine supplementation and IDD status among school age children in endemic goiter area.

A total of 238 children aged between 8 - 10 years from 8 public elementary schools were recruited into the study. Methods of assessment were palpation of thyroid gland, measurement of UIE level, determination of iodine level in salt and drinking water, weight and height, and interviews to determine the actual iodized oil capsule coverage. In addition, samples of environmental water was collected to assess its iodine content.

The survey area was categorized as mild 1DD area based on goiter rate, i.e. 19% (all were in grade 1). Median UIE level indicated that the subjects had been in iodine-replete condition (13.1 pg/dl). Iodine in salt was 14.4 t 9 ppm and iodine in drinking water was 11.7 t 8.2 pg/L. Mean of iodine level in the environmental water (river, well, and lake) was relatively high (12.2 t 4.7 pgfL). Iodized oil capsule coverage was 61%, and 55% of those children received their latest capsule less than one year at the time of the study. The surveyed children had low nutritional status based on anthropometric measurement, which was shown by the -high prevalence of stunting (36%), underweight (31%), and wasting (5%). There was no association between anthropometric indices and goiter.

The three types of iodine supplementation, i.e.: iodized oil capsule, iodized salt, and iodinated water were not associated with goiter rate, while iodine level in salt - although below the recommended level - was significantly associated-with -UiE level, suggesting that efforts to -attain the universal-salt iodization should be encouraged. The relatively high iodine level in environmental water implied sufficient iodine sources in the area, therefore factors other than iodine deficiency might play an important role in the 1DD status of the surveyed population.