



Asian Pacific Journal of Tropical Medicine

journal homepage: www.apjtm.org



doi: 10.4103/1995-7645.268165

Impact factor: 1.77

Survey of vitamin A nutrition status of primary and middle school students in poverty-stricken areas in tropical region from 2014 to 2017

Li Cao, Bing Zhang, Xiao-dan Wang[✉]

School of Public Health, Hainan Medical University, Haikou, Hainan, 571199, China

Objective: To understand the levels and intake of dietary vitamin A by the primary and secondary school students in poverty-stricken areas in tropical region, and provide suggestions for the follow-up implementation of students' nutrition improvement.

Methods: A multi-stage cluster sampling method was adopted to extract 3 junior high schools and 3 primary schools in Qiongzong county of Hainan province, and students of 1 or 2 classes were selected as subjects for investigation. Fasting venous blood was collected. The level of serum vitamin A (retinol) was determined by high performance liquid chromatography. Excel 2007 and SPSS 20.0 software were used for the one-way ANOVA and χ^2 tests.

Results: The vitamin A deficiency rates from 2014 to 2017 were 1.6%, 1.5%, 2.0%, and 0.8% respectively, and the difference was not statistically significant ($\chi^2=3.544$, $P=0.315>0.05$). The subclinical deficiency rates of vitamin A were 22.3%, 31.6%, 27.9%, 18.0% respectively, and the difference was statistically significant ($\chi^2=40.240$, $P=0.00<0.05$). There was no statistically significant difference between the genders in vitamin A deficiency and vitamin A subclinical deficiency from 2014 to 2017. The subclinical deficiencies of primary vitamin A in primary school students were higher than those in middle school students ($P<0.05$).

Conclusion: The nutritional status of vitamin A in primary and secondary school students of the "Student Nutrition Improvement Program" in Hainan Province has been significantly improved, and this program can be recommended in the whole province.

Keywords: Poverty area; Student; Vitamin A; Nutritional status

Article history:

Received 17 September 2019

Revised 25 September 2019

Accepted 25 September 2019

Available online 7 October 2019

[✉]Corresponding author: Wang Xiao-dan, School of Public Health, Hainan Medical University, Haikou, Hainan, 571199, China.

E-mail: 1037822186@qq.com; 794804246@qq.com

Foundation project: This study is supported by National Natural Science Foundation of China (No. 81860577).

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

For reprints contact: reprints@medknow.com

©2019 Asian Pacific Journal of Tropical Medicine Produced by Wolters Kluwer- Medknow. All rights reserved.

How to cite this article: Cao L, Zhang B, Wang XD. Survey of vitamin A nutrition status of primary and middle school students in poverty-stricken areas in tropical region from 2014 to 2017. Asian Pac J Trop Med 2019; 12(Suppl 1): 36.