ABSTRACT

Fluid consumption, hydration status, and its associated factors: a cross sectional study among medical students in Palembang, Indonesia

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Background: Adequate fluid consumption and hydration status of students become a special concern because being dehydrated by just 1%-2% can impair cognitive performance. The objectives of this study were to assess the daily fluid consumption, and analyze the correlation of fluid consumption and other associated factors with hydration status of medical students in Universitas Sriwijaya.

Methods: A total of 93 medical students in Universitas Sriwijaya were recruited to complete a 7-day cross-sectional study. Subjects were asked to complete a self-administered 7-day-24-hours fluid record and provide first morning urine sample on the last day. Gender information was collected. Physical activity was evaluated by self-administered long version of IPAQ. Body mass index was calculated using body weight and body height measurement. Urine specific gravity was determined by urinometer. The 7-day-24-hours fluid record and 1-day-24-hours urine specific gravity were calculated and analyzed.

Results: Majority of the subjects were well hydrated, while 10.8% were slightly hydrated, 6.5% were moderately hydrated and 9.7% were severely dehydrated. The average of daily fluid consumption was 1789.28 (989.3-2930) mL. Coefficient correlation of fluid consumption from beverages with urine specific gravity was -0.651 (p=0.00) by Pearson correlation test. The hydration status showed no association with gender, physical activity and body mass index.

Conclusions: Most subjects in this study were well hydrated. A strong association was found between fluid consumption and hydration status. It was feasible to use daily fluid consumption from beverages to predict hydration status.

Keywords: fluid consumption, urine specific gravity, hydration status

Conflicts of Interest: No potential conflicts of interest to declare in relation to this publication.

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