ABSTRACT

The used facial whitening cream containing mercury is harmful to health. This study aimed to analyze mercury levels within facial whitening cream and urine to undergraduate students of Faculty of Public Health Airlangga University. Laboratory tests of levels mercury in urine and questionnaires were given to 20 undergraduate students of FKM Unair as samples by simple random sampling method. Moreover, facial whitening cream measurement used by undergraduate students of Faculty of Public Health Airlangga University.

Mercury levels in urine was positively containing mercury ranged from 6,783 ppm to 23,912 ppm. While the levels of mercury urine of respondents ranged from 2 μg/g creatinin to 44 μg/g creatinin. Seven from eleven people experienced health complaints of exfoliation and redness. The result of statistical test showed correlation between mercury cream levels (p=0.000; r=0.871), age (p=0.614), duration cream usage (p=0.000; r=0.844), and weekly frequency of cream usage (p=0.000; r=0.883) with mercury level within urine as well as a difference in mercury levels between facial whitening cream users and non-users (p=0.000). Correlation between mercury cream levels and mercury level within urine with age (r=0.818), duration cream usage (r=0.547), and weekly frequency of cream usage (r=0.506).

The conclusion of this study is that there is a strong positive correlation between mercury levels within facial whitening cream, duration of cream usage, and weekly frequency of cream usage with levels mercury within urine. Whereas there is no correlation found between age and mercury levels within urine. There is a difference in urine mercury levels between facial whitening cream users and non-users. Four users of facial whitening cream should stop use facial whitening cream containing mercury and replace them with natural products.

Keywords: whitening cream, mercury urine, undergraduate students of FPH Unair