



## Cost-effective analysis of genotyping using oral cells in the geriatric population

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Genet. Mol. Res. 9 (3): 1886-1895 (2010)

Received May 28, 2010

Accepted July 16, 2010

Published September 21, 2010

DOI 10.4238/vol9-3gmr939

**ABSTRACT.** We evaluated the cost-effectiveness of using buccal swab brushes in comparison with blood samples for obtaining DNA for large epidemiological studies of the elderly population. The data reported here are from the third phase of the Integral Study of Depression among the Elderly in Mexico City's Mexican Institute of Social Security, conducted in 2007. The total cost of the two procedures was determined. The measurement of effectiveness was the quality and quantity of DNA measured in ng/ $\mu$ L and the use of this DNA for the determination of *apolipoprotein E (APO E)* polymorphism by PCR. Similar rates of amplification were obtained with the two techniques. The cost of the buccal swab brushes, including sample collection and DNA extraction,

was US\$16.63, compared to the cost per blood sample of US\$23.35. Using the buccal swab, the savings was US\$6.72 per patient ( $P < 0.05$ ). The effectiveness was similar. Quantity and quality of DNA obtained were similar for the oral and blood procedures, demonstrating that the swab brush technique offers a feasible alternative for large-scale epidemiological studies.

**Key words:** Buccal swab brushes; DNA extraction; Elderly; Epidemiologic studies