

The advantage of this study is that it included a large sample size. However, behaviors and activities in the European population may not be representative of the U.S. population, and results were not broken out by age groups.

17.3.12. Loretz et al. (2008)—Exposure Data for Cosmetic Products: Facial Cleanser, Hair Conditioner, and Eye Shadow

Loretz et al. (2008) used the data from a study conducted in 2005 to estimate frequency of use and usage amount for facial cleanser, hair conditioner, and eye shadow. The study was conducted in a similar manner as Loretz et al. (2006; 2005). A total of 360 women, ages 18 to 69 years, were recruited by telephone to provide diary records of product use during a 2-week period. The study subjects were representative of four U.S. Census regions (i.e., Northeast, Midwest, South, and West). A total of 295, 297, and 299 women completed the study for facial cleanser, hair conditioner, and eye shadow, respectively.

The participants recorded daily in a diary whether the product was used that day, the number of applications, and the time of applications during a 2-week period. Products were weighed at the start and completion of the study to determine the amount used. A statistical analysis of the data was conducted to provide summary distributions of use patterns, including number of applications, amount used per day, and amount of product used per application for each product. Table 17-51 provides data on the number of applications per use day. Table 17-52 shows the average amounts of product applied per use day, while Table 17-53 shows the average amounts of product applied per application.

The advantages of this study are that it is representative of the U.S. female population for users of the products studied, it provides data for frequency of use and amount used, and it provides distribution data. A limitation of the study is that the data were not provided by age group. In addition, the participants were regular users of the product, so the amount applied and the frequency of use may be higher than for other individuals who may use the products. According to Loretz et al. (2008), "...variability in amount used by the different subjects is high, but consistent with the data from other cosmetic and personal care studies." The authors also noted that it was not clear if the high-end users of products represented true usage. Data were also collected over a 2-week period and may not be representative of long-term usage patterns.

17.3.13. Sathyanarayana et al. (2008)—Baby Care Products; Possible Sources of Infant Phthalate Exposure

Sathyanarayana et al. (2008) investigated dermal exposure to phthalates via the dermal application of personal care products. The study was conducted on 163 infants born between 2000 and 2005. The products studied were baby lotion, baby powder, baby shampoo, diaper cream, and baby wipes. Infants were recruited through Future Families, a multicenter pregnancy cohort study, at prenatal clinics in Los Angeles, CA; Minneapolis, MN; and Columbia, MO. Although the study was designed to assess exposure to phthalates, the authors collected information on the percentage of the total participants who used the baby products. Data were collected from questionnaire responses of the mothers and at study visits. Table 17-54 shows the characteristics and the percentage of the population using the studied baby products. Of the 163 infants studied, 94% of the participants used baby wipes, and 54% used infant shampoo.

The advantages of this study are that it specifically targeted consumer products used by children, it captured the percentage of the study population using these products, and it collected the data from a diverse ethnic population. The limitation is that these data may not be entirely representative of the U.S. population because the study population was from only three states and the sample size was small. Also, this study did not contain any information on amount or frequency of product use.

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Chapter 17—Consumer Products

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