

Usage patterns of personal care products: important factors for exposure assessment

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Introduction

To assess potential health risks for consumers, it is necessary to conduct aggregate exposure assessments. A common approach is to aggregate deterministic worst case assessments for all sources and routes, which results in unrealistic and conservative exposure levels. Refined information is needed, such as frequency and amount of use of single personal care products (PCPs), as well as specific information about the circumstances of use.

Objective

To create a database containing information regarding the patterns and circumstances of individual PCP use.

Methods

Study population: A random sample of 2700 Dutch adults 18-70 years of age were invited for the study.

Data collection: Web-based questionnaires containing questions on a broad range of PCPs used in the last six months were filled out by 516 respondents.

Data analysis: Frequency distributions, Chi-square tests and Cohen's kappas using SPSS version 18.0.

Results

Highlights:

- The prevalence, frequency and amount of products used as well as the area of application on the body vary by gender and age
- Approximately 10% of the respondents did not use deodorant or toothpaste in the last six months.

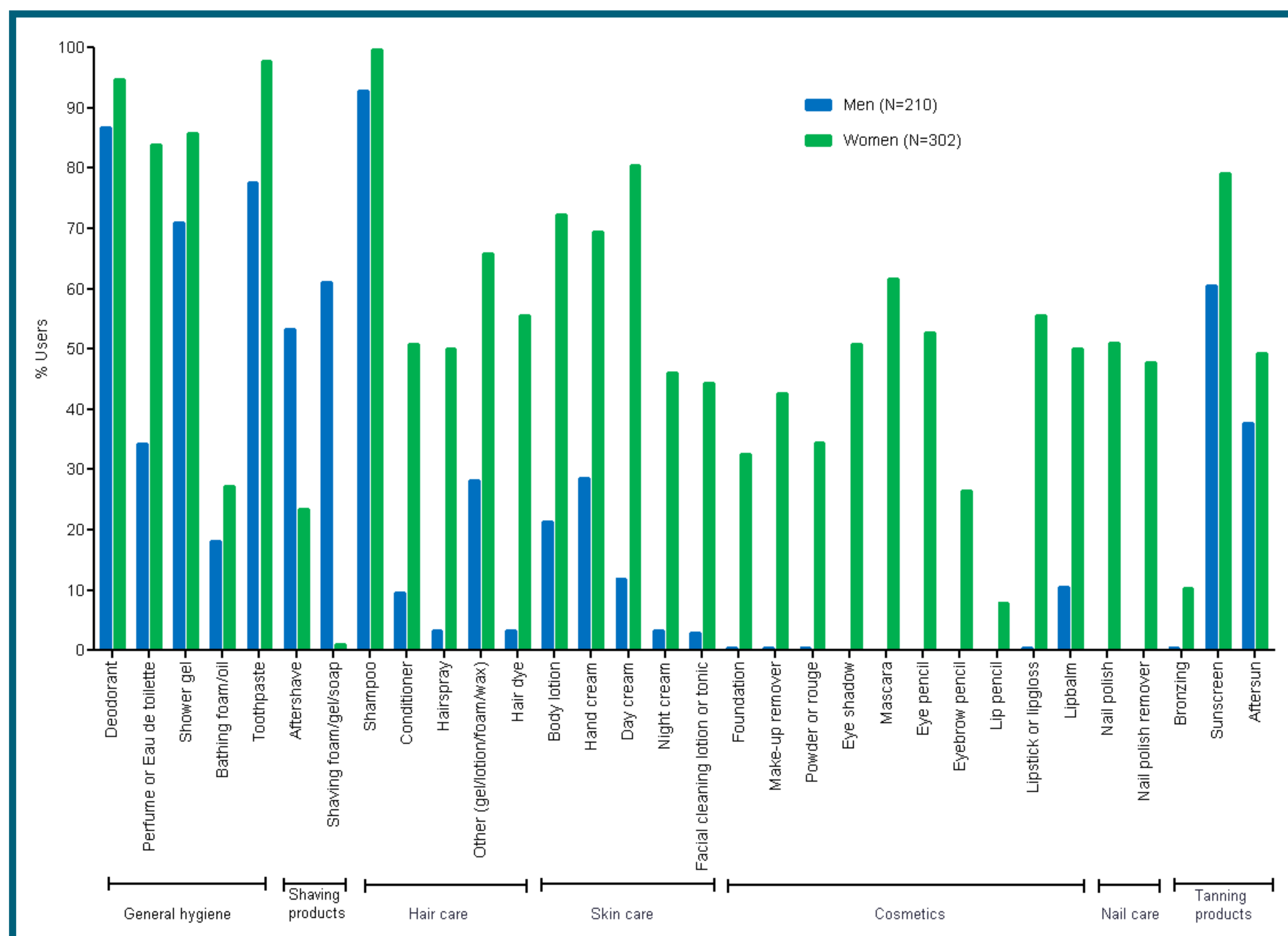


Fig 1. Percentages of users by gender for all PCPs studied.

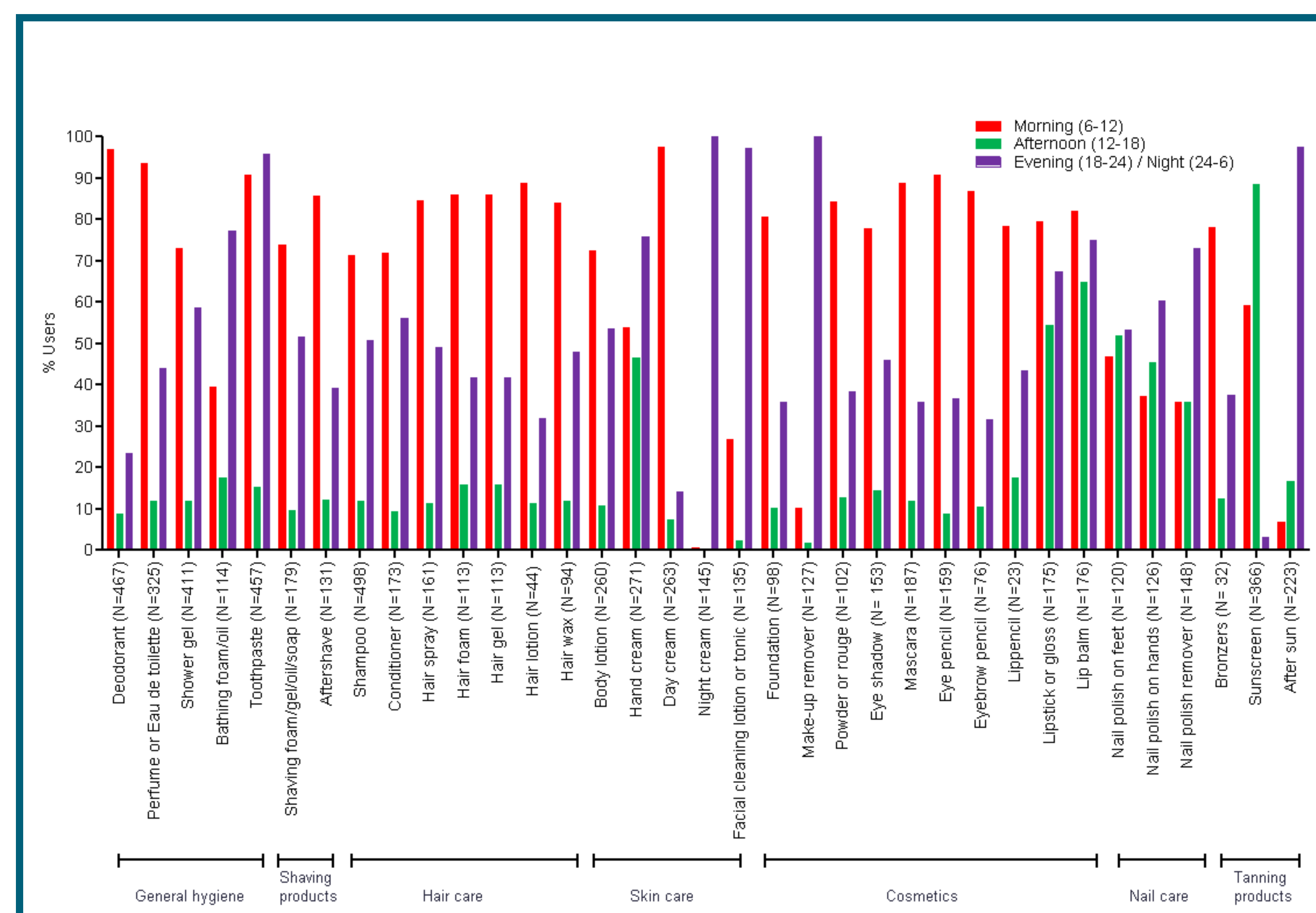


Fig 2. Frequency of use by time of application (morning, afternoon, evening/night) for all PCPs studied.

Results

Highlight:

- Young users (age 18-39) use shaving foam/gel/soap less frequently compared to senior users (age 55-71).

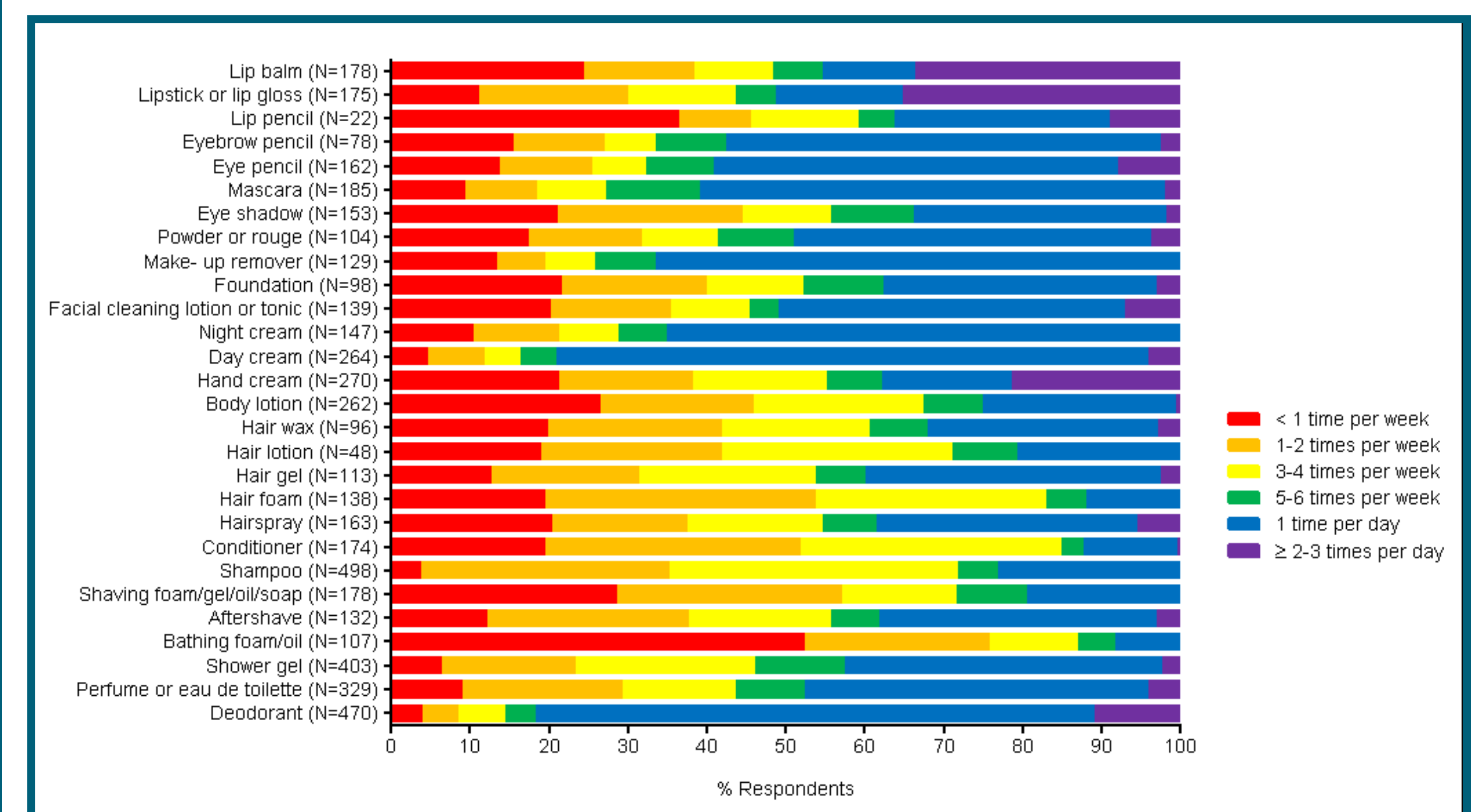
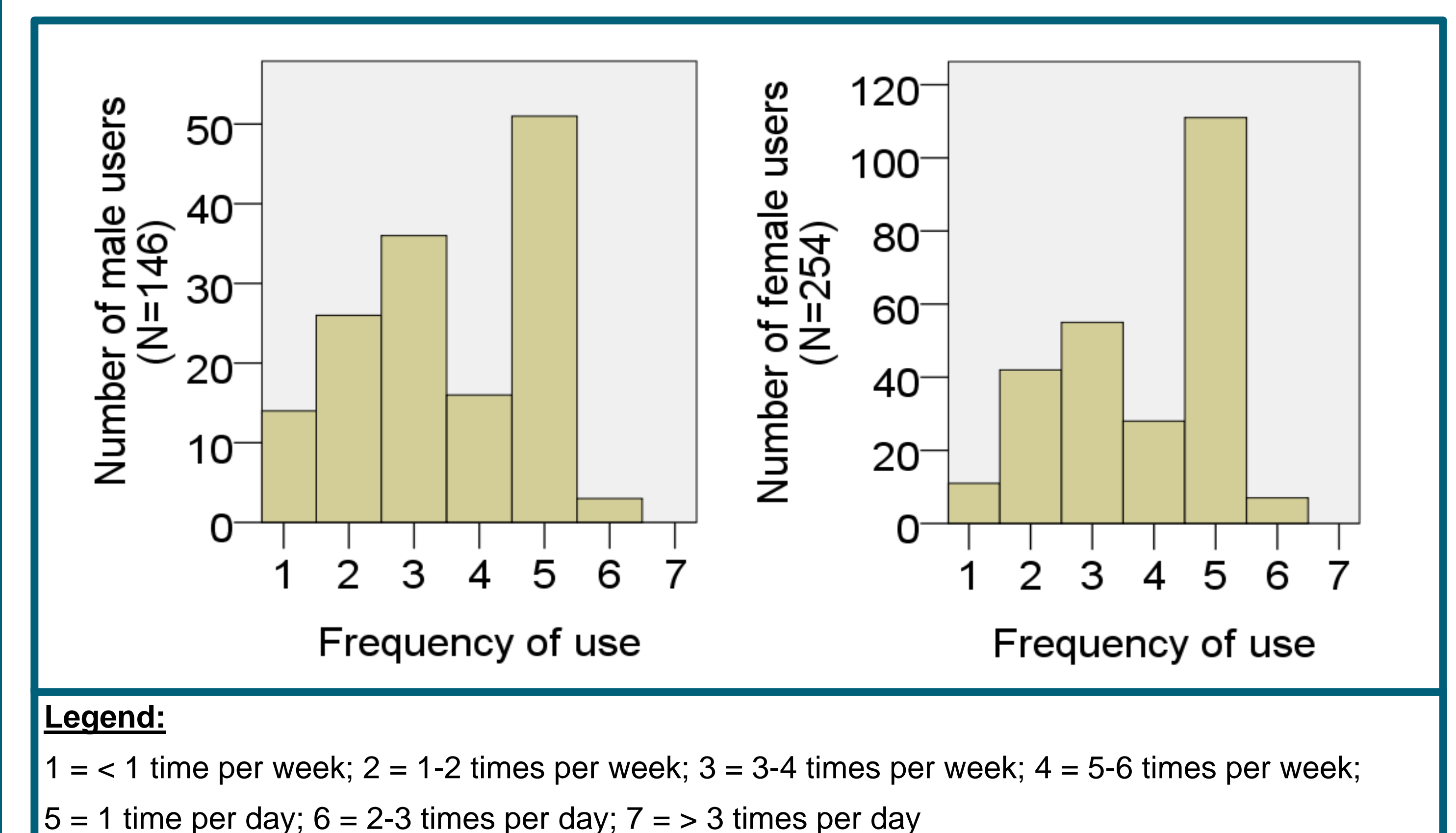


Fig 3. Frequency of use among respondents (n=516) for the majority of PCPs studied.



Legend:

1 = < 1 time per week; 2 = 1-2 times per week; 3 = 3-4 times per week; 4 = 5-6 times per week; 5 = 1 time per day; 6 = 2-3 times per day; 7 = > 3 times per day

Fig 4. Example of a distribution of the frequency of use (shower gel) for male and female users.

Discussion & Conclusion

This study is the first comprehensive study providing information on the patterns and circumstances of individual PCP use. Despite the relatively low response rate (19.3%), the results are fairly representative for the Dutch adult population. Therefore, the database yields important personalized exposure factors which can be used in aggregate consumer exposure assessment for substances that are components of PCPs.