

The Inappropriate Usage and Marketing of Laundry Sanitizers in Infantile Atopic Dermatitis: A Cross-Sectional Study

Appendix B

Sample size estimation

Step 1

Aim: to obtain a representative sample for infantile AD

Formula:
$$N = \frac{Z_{\alpha/2}^2 \times P \times (1 - P) \times D}{E^2} \approx 652$$

Explanations and values:

N - sample size

P - prevalence of event = 30.48%

E - margin of error = 0.05

D - design effect reflects the sampling design = 2

$Z_{\alpha/2}$ - 1.96 for alpha 0.05

Sample size: **652**

Step 2

Aim: to investigate the relationship between the use of laundry sanitizers and infantile AD

Software: G*Power 3.1 (Logistic regression function)

Reference value was obtained from a 150-caregiver presurvey, which showed an increased risk of self-reported infantile AD among children whose caregivers used laundry sanitizers (OR 2.95, 95%CI 1.01-8.45)

Results: A sample size of **394** could achieve 95% power at a 5% significance level. Final sample size was doubled to **788** to reduce the impact of unknown factors on estimation

Final sample size:
788

Sample size: **788**