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Title: The birth of EKIK - the early years

ABSTRACT

Healthcare-associated infections remain a significant global challenge. In Europe, approximately 7% of hospitalized patients acquire an infection during their stay, many of which are preventable through proper hand hygiene. However, studies indicate that around 30% of healthcare workers do not perform hand hygiene adequately.

We hypothesize that one contributing factor to suboptimal hand hygiene is the use of an inappropriate volume of hand rub. Currently, there is no clear guidance on the optimal amount; even the widely accepted WHO guideline refers only to a “palmful” of product.

Our study demonstrated a strong correlation between the volume of hand rub used and the hand coverage. However, practical constraints - such as prolonged drying time and product spillage - limit the feasibility of using larger volumes. We propose the concept of a “relative amount,” which defines the optimal hand rub volume based on individual hand size.

For liquid hand rubs, we recommend a relative amount of 4 $\mu\text{l}/\text{cm}^2$. In addition, we developed an automated method for measuring hand size. This advancement may enable the implementation of dispensers capable of delivering personalized volumes of hand rub in clinical practice.