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for pressure ulcer prevention and management

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ABSTRACT BOOK

PS1.1

EVALUATING THE IMPLICATIONS OF PH SUBSTRATE AND MOISTURE-INSULTED SKIN USING TWO DIFFERENT INCONTINENCE PRODUCTS

Nkemjika Abiakam¹, Hemalatha Jayabal¹, Shabira Abbas², Peter Worsley¹, Dan Bader¹

¹ University of Southampton, Southampton, United Kingdom

² Essity AB, Stockholm, Sweden

Introduction: Incontinence-associated dermatitis represents a major clinical challenge with symptoms ranging from erythema to skin breakdown. The main preventive strategies rely on transporting moisture away from the localised skin surface with incontinence products. The study aims to examine the effects of two incontinence pads with different acquisition materials and pH buffering capacities on skin health following exposure to synthetic urine (S-urine).

Methods: Four sites at the sacral region of 6 healthy volunteers, three males and three females (mean age 35.5 ± 2.9 years) were exposed to either incontinent pads in a dry state or saturated with S-urine (pH=8) for 60 minutes, followed by a 1 hour period in the presence of loading created by 45° high sitting. Recovery was then characterised over 30 minutes. At the end of each test phase, transepidermal water loss (TEWL), surface pH, stratum corneum hydration (SCH), erythema, and skin inflammatory biomarkers were measured at each site.

Results: A 2-5-fold TEWL increase was detected at the sites exposed to S-urine saturated pads, exacerbated in some participants during high sitting. SCH increased approximately 2-fold at the sites subjected to S-urine (Figure 1). No remarkable changes in TEWL and SCH were recorded at the control sites with dry pads. In addition, there were no significant trends in the measures of skin pH and erythema, with skin pH in an acidic range throughout the study. Skin parameters returned to baseline following the recovery period.

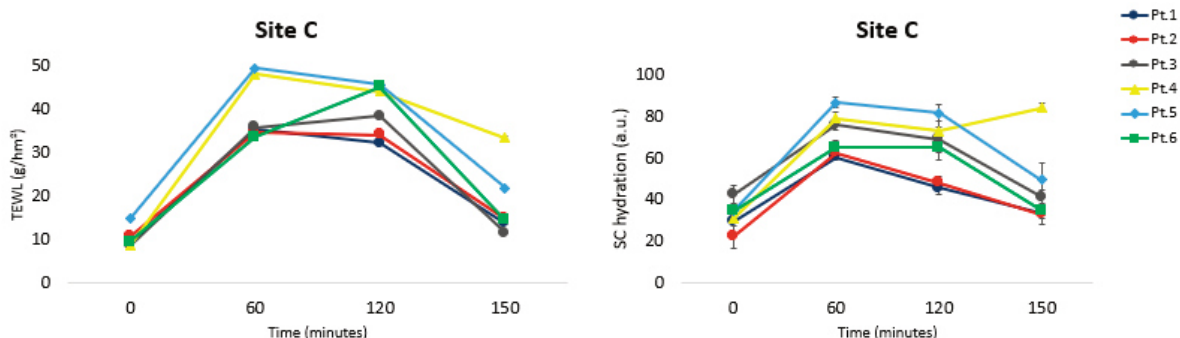


Figure 1. Temporal profiles of TEWL (left) and skin hydration (right) values at a test site subjected to an S-urine saturated pad for each participant.

Conclusions: It is imperative to design incontinence products with the ability to protect skin health and maintain the surface pH when interacting with urine. Future work will include the recruitment of an extended cohort of elderly volunteers and the quantification of inflammatory biomarkers and corneocytes sampled from the skin surface.