

Aim

Patients with compromised skin integrity face an increased likelihood of skin damage or developing wounds, potentially leading to a challenging cycle of slow-healing when underlying factors are present (Beeckman et al, 2020). These difficult-to-heal wounds contribute to the overall burden on patients, clinicians, families, caregivers, and healthcare systems (Guest et al, 2020). Emollients play a crucial role in replenishing the skin's barrier function, alleviating itching, and enhancing hydration levels (Callaghan et al, 2018). Emollients are a fundamental component of daily skincare, especially for individuals with delicate, aging skin, or those prone to, or at an elevated risk of, developing wounds (Beeckman et al, 2020). Application of emollients is recognised as immediate and necessary care by the National Wound Care Strategy Programme (NWCSP Leg Ulcer Recommendations).

Hyper-oxygenated fatty acids (HOFA) with a high level of linoleic acid have shown promising results around improving the skin hydration, sensation and reducing the possibility of creating microtrauma linked to itching (Federici et al 2014), while improving skin condition and increasing transcutaneous oxygen pressure (Lazaro-Matilla et al 2011). We wanted to investigate if HOFA containing products (LV Oil & LV Emulsion) are a suitable alternative for emollient skin care compared to our current practice of paraffin-based products, and therefore evaluated the efficacy in both acute and community settings

Method

The Skin Integrity Team (SIT) at Doncaster and Bassetlaw Teaching Hospitals NHS Foundation Trust (DBTH) and the Tissue Viability and Lymphoedema Service (TVALS) at Rotherham, Doncaster and South Humber Foundation Trust (RDaSH) enrolled patients from their caseload onto the evaluation. SIT recruited patients with at least 1 leg ulcer/diabetic foot ulcer without lymphoedema or patients receiving leg compression therapy on intact skin. TVALS recruited patients with intact skin with lymphoedema including patients with leg, arm, breast, head and neck oedema.

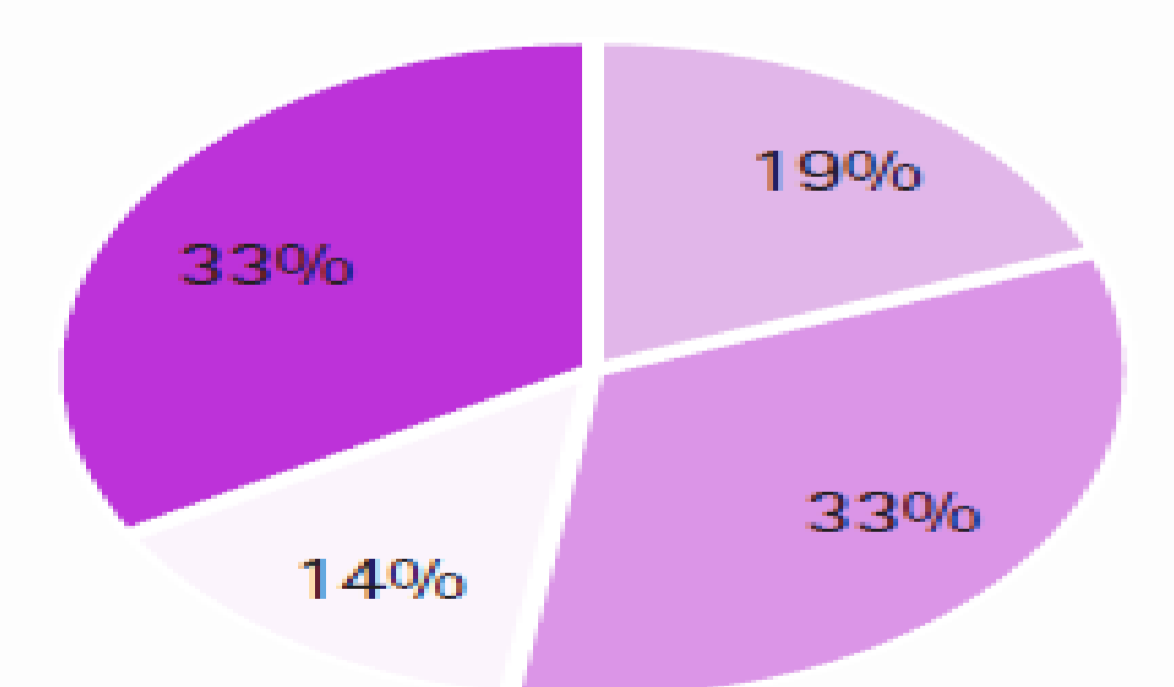
LV Oil or LV Emulsion was applied to patient's skin in line with treatment objectives and current clinical practice. The clinicians visually assessed the patient's skin after each treatment and recorded their clinical opinions and skin assessment. The patient was reassessed at each dressing change, or where no dressings were required (e.g. Lymphoedema patients) via a phone call review, using the product evaluation form.

The data collection consisted of clinical and patient feedback: Clinical perspective (current skin condition to the area being evaluated; What the treatment objective was; comparison to previously used emollients; skin condition at each review; skin moisture appearance; overall product performance), and patient perspective (patient experience; patient comfort; overall product performance).

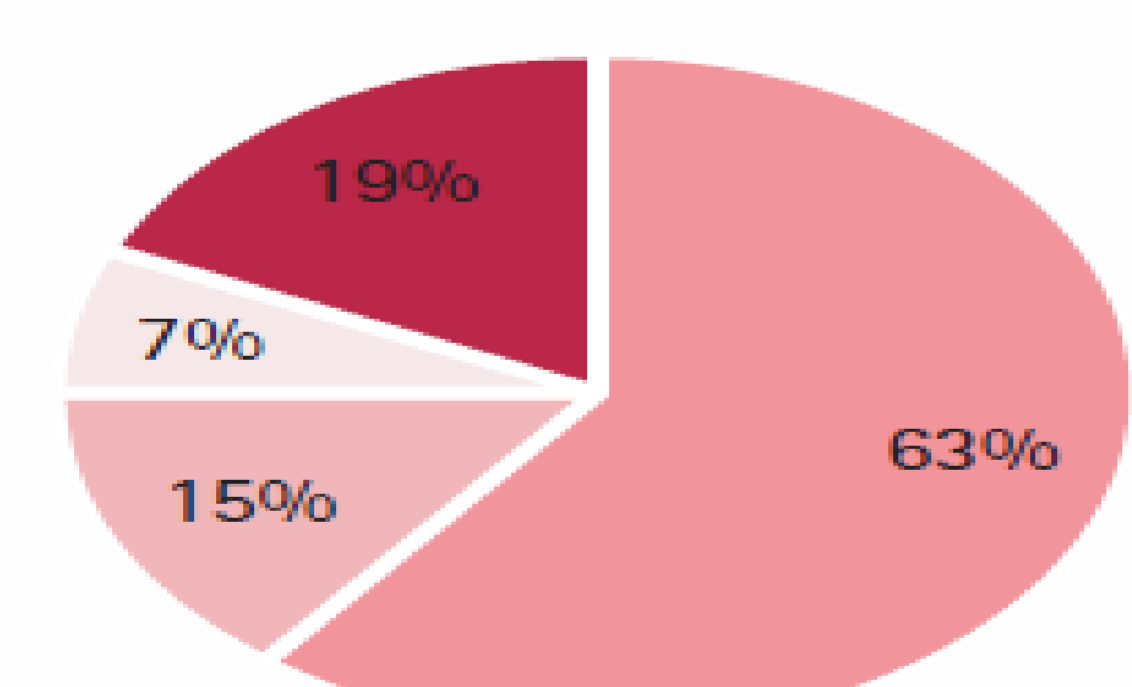
Results

- LV Oil and LV Emulsion were used on 36 patients in total, with 27 of them having two evaluation for multiple limbs, resulting in 63 evaluations being completed. The split between the products was 27 using LV Emulsion and 36 using the LV Oil.
- LV Oil was used predominantly on patient's legs with intact skin or lymphoedema, 19% had a wound and 14% had dry skin. The main treatment objective of patients using LV Oil was to hydrate and soften the skin, 94% (34/36) patients met their treatment objective which also included: improving appearance, removing plaques, easier application of compression.

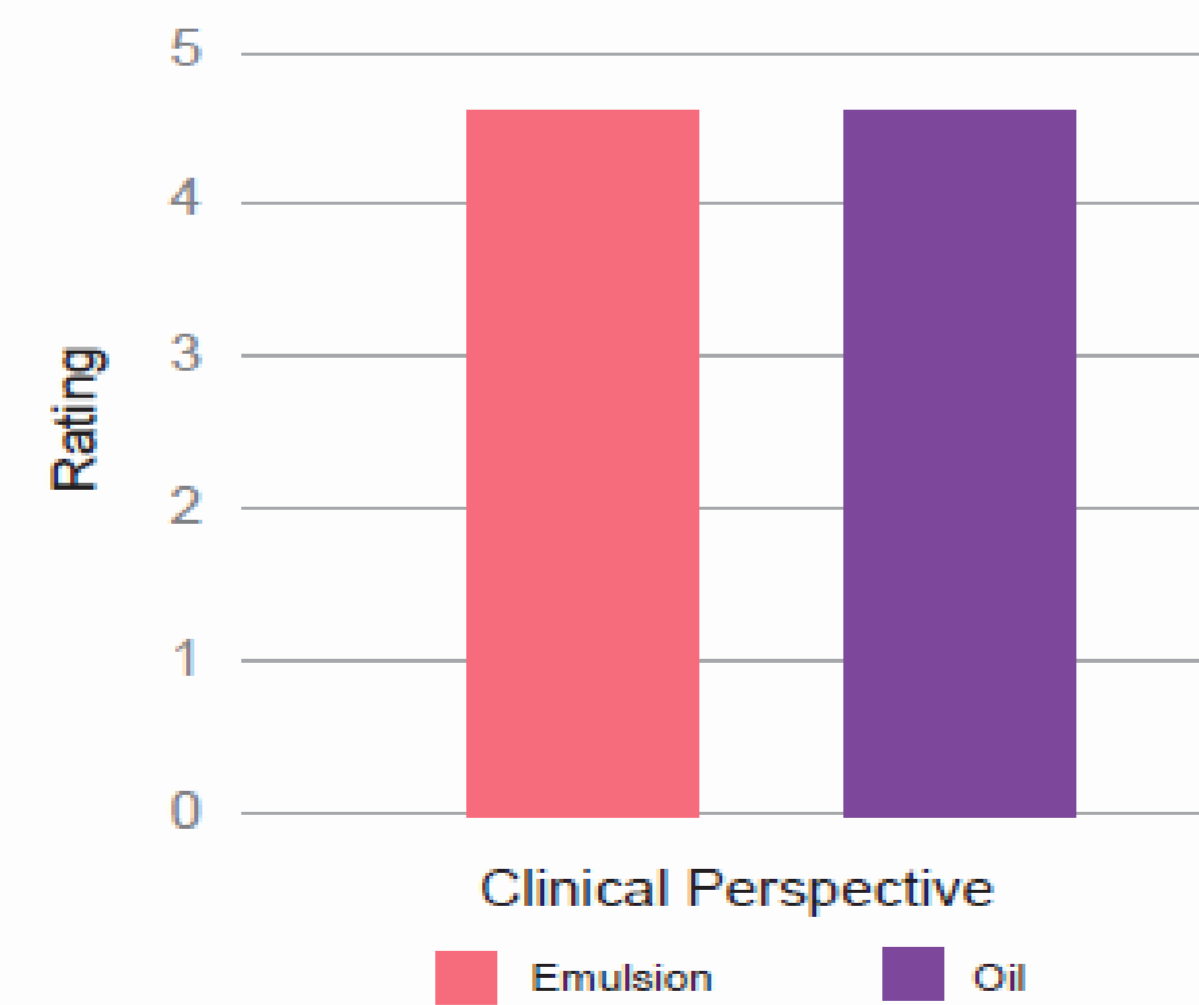
Included skin condition - LV Oil:



Included skin condition - LV Emulsion:



Average overall product performance



- LV Emulsion was used mainly on patients with a wound (63%), 19% had intact skin followed by 15% had lymphoedema and 7% had dry skin.
- The main treatment objective for patients using the emulsion was to maintain the skin's integrity, 96% (26/27) met their treatment objective and results demonstrated hydration and softening of the patient's skin.

The perception of the patient's care was recorded by the nurse treating the patient, they rated the LV Oil as 83% positive and 85% for the LV Emulsion. Comments included: smell, ease of application, absorbency, and coverage. 100% of nurses rated LV Oil and LV Emulsion as better/much better than the previous product used. These outcomes were measured across repairing skin barrier, retaining moisture, preventing skin breakdown and improving skin texture. The skin condition of patients did not worsen at any stage of the treatment, this included excoriation, erythema, thickening and itching. The perception of the patient's comfort on average was rated as good using both products, skin moisture appearance was also rated as good. Overall the average performance of LV Oil and Emulsion was rated as excellent.

The evaluations also found that considerably less product was required to cover the same surface area compared to previous practice. The unique formulation of both LV products allowed for easier application and coverage; absorbing into the skin was noted to be much quicker compared to previous used products, allowing for the donning of hosiery/compression without delay. LV Oil dispenses 0.06 ml per pump and LV Emulsion dispenses 0.81g per pump, the average pumps needed, as part of this evaluation, for each treatment was 6 for LV Oil (0.36 ml) and 7 for LV Emulsion (5.67g) meaning a full bottle would sufficiently last 83 and 18 applications respectively.

**Patient X - Left Leg:
Following 1 application of LV Emulsion**



**Patient X - Right Leg:
Following 1 application of LV Oil**



Conclusion

Paraffin based emollients are widely prescribed for lower limb care, however do not provide a restorative effect on the skin's barrier (Danby et al, 2022). This case study on LV Oil and LV Emulsion shows that HOFA containing products are a suitable alternative to standard practice, evaluating better/much better than standard care. LV Oil and LV Emulsion both allow patients to meet their treatment objectives and improve any skin conditions present. It is also worth noting that patient choice is a key factor for emollient skin care. LV Oil and LV Emulsion were shown to have a pleasant odour, quick absorption time and excellent coverage; it was also observed that these products improve patient compliance and fit patient lifestyle more appropriately, however, further evidence is required to assess the quality of life impact.

LV Oil = Linovera Oil
LV Emulsion = Linovera Emulsion

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