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The impact of Early Application of Three-layer tubular bandage as compression therapy to venous leg ulcer patients in primary care setting

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Introduction

General out-patient clinics (GOPCs) provide public wound care service in primary care setting in Hongkong. Leg ulcers contributed 14.5% of wound types in KCC GOPC wound clinic during Dec 2018-Dec 2021 and require longer healing time and more dressing attendances. Venous leg ulcer accounts for 70% of the leg ulcer (Olin et al., 1999). Three-layer compression bandaging therapy is one of the treatment to promote wound healing of venous ulcer with less cost, higher compliance (Bale and Harding, 2003) and patient tolerance (Weller et al., 2012). In this study, the effectiveness of early application of Three-layer tubular bandage in GOPC general dressing service will be evaluated in terms of clinical outcomes, including ankle circumference, wound size, pain level, and treatment compliance in four-week study period.

Objective

To evaluate the effectiveness of early application of Three-layer tubular bandage for patients with venous leg ulcers in GOPC general wound care service.

Methodology

70 new cases of venous leg ulcer attending one of the 10 KCC GOPCs general wound care service during the 3-year recruitment period, would be recruited by triage nurses, if fulfilling inclusion and exclusion criteria with written consent obtained. Patient education on three-layer tubular bandage application and related daily care information will be given by GOPC nurses after usual leg ulcer wound care in GOPC general dressing service. Data will be retrieved by researchers on CMS for Week 0, week 2 and Week 4 on clinical outcome parameters and demographics.

Results

Data collection of 31 cases were completed by July 2021 on the half way of the whole patient recruitment period, statistical tests were done and an interim report on the finding was discussed below.



1st Layer

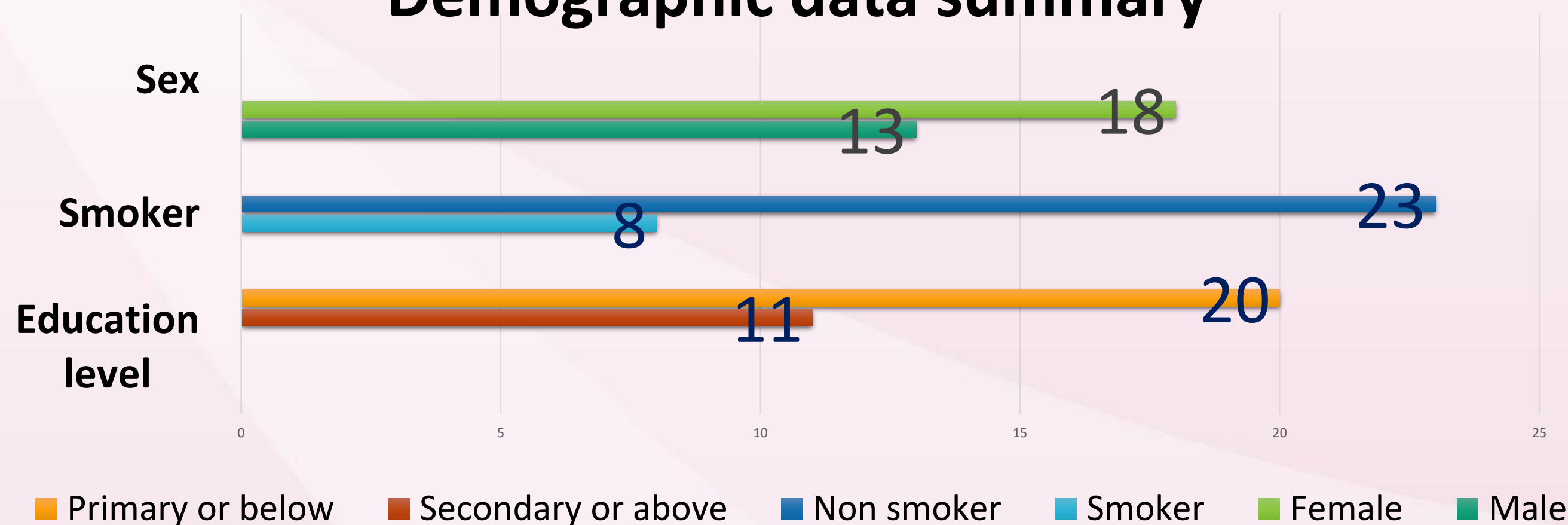


2nd Layer



3rd Layer

Demographic data summary



COMPLETED THREE LAYER APPLICATION
*Colours are only shown to identify the 3 layers

Conclusion

The preliminary study results suggested that with application of the three-layer tubular bandage, clinical outcomes in terms of ankle circumference, wound size and pain score among patients with venous leg ulcers were significantly improved, while patient compliance were maintained over the 4-week study period. In conclusion, early application of the 3-layer tubular bandage in primary care setting could be beneficial to patient outcomes, promoting patient engagement in self-care as well as alleviate clinical service attendances.

References:

- Bale, S. & Harding, K.G. (2003). Managing patients unable to tolerate therapeutic compression. *British Journal of Nursing*, 12 (19), S4-13
Weller, C.D., Evans, S.M., Staples, M.P., Aldons, P., & McNeil, J.J. (2012). Randomized clinical trial of three-layer tubular bandaging system for venous leg ulcers. *Wound Repair Regeneration*, 20 (6), 822-829.

Paired sample tests performed on 4 Clinical outcomes on Week 0 and Week 4

1. Ankle circumference
0.7125, p=0.022

2. Wound size
2.362, p=0.001

3. Pain Score
2.933, p=0.000

4. Compliance on Week 2 and Week 4
p<1.000

Results from paired t-test