



## Impact of Aloe Vera gel on Pressure Ulcers: An interventional study

Dayana\*, Suvetha J

Department of Medical Surgical Nursing, Saveetha College of Nursing, Saveetha Institute of Medical and Technical Sciences, Thandalam, Chennai, Tamil Nadu, India

### Article History:

Received on: 22 Nov 2020

Revised on: 22 Dec 2020

Accepted on: 24 Dec 2020

### Keywords:

Pressure Ulcers,  
Aloe Vera Gel,  
Unconscious and Critical  
Ill Patients

### ABSTRACT

Pressure ulcers are agonizing and hard to treat. Forestalling pressure ulcers is essential in keeping up solace and treating them is rapidly fundamental. Aloe vera is a trademark source which can be of huge points of interest it isn't simply functional and besides viably open, yet the examination is done to notice the abatement in the recuperating time with the usage of aloe vera gel. The present study aims to assess the impact of aloe vera gel on pressure ulcers. A quantitative approach with one group pre-test-posttest research design was used to conduct the study in Thiruvallur District Head Quarter Government Hospital. 60 samples were chosen by using a convenient sampling technique. Semi-structured questionnaire was used to assemble the in sequence regarding demographic variables. The pre-assessment of the pressure ulcer was measured using PUSH Scale using the ruler and the trace paper. The wound assessment consists of wound size, exudates amount and tissue type. Routine wound dressing procedure was done using aloe vera gel and the post assessment was done on 1<sup>st</sup>, 5<sup>th</sup> and 10<sup>th</sup> day. The study results show significant improvement in the level of wound healing after the intervention at the level of  $p < 0.001$ . This demonstrates that utilization of aloe vera gel is the savvy and simple technique to improve twisted recuperating of pressure ulcers.



### \*Corresponding Author

Name: Dayana

Phone:

Email: [diana.joann@gmail.com](mailto:diana.joann@gmail.com)

ISSN: 0975-7538

DOI: <https://doi.org/10.26452/ijrps.v11iSPL4.3823>

Production and Hosted by

IJRPS | [www.ijrps.com](http://www.ijrps.com)

© 2020 | All rights reserved.

### INTRODUCTION

Pressure ulcers are excruciating and hard to treat. Forestalling pressure ulcers is fundamental in keeping up solace and treating them is rapidly basic. (Ghane and Gavami, 2010) The headway of weight ulcer is a standout amongst other preventive complexities for the subjects who are kept to the

couch for a significant while. A lone carelessness in consideration can incite constant or reiterated ulceration which achieve hospitalization, loss of liberty and absolute aggravation of any social change. (Jiang *et al.*, 2014)

Skin treatment of Pressure ulcers is to arrange in which the best quantity of progress in management have happened. Munro began that as elongated as the ulcer is kept desiccated and liberated from defilement it can mend well. (Soozani *et al.*, 2012)

Aloe vera is a trademark source which can be of titanic preferences it isn't simply reasonable and moreover successfully open, yet the examination is done to notice the abatement in the mending time with the usage of aloe vera gel. It has a strong relationship with the characteristic prescription. It is gotten by breaking or cutting a leaf, which contains supplements, nutrients, enemies of oxidants and has wound mending and immunomodulating impacts. (Simon *et al.*, 2010)

Pressure ulcers are brought about by supported weight being put on a specific piece of the body. (Repić and Ivanović, 2014) While pressure is the primary causative factor, numerous other, for example, shear, grating denervation, helpless nourishment, age and smoking can likewise accord. Examines have proposed that, at some random time, 3-10% of hospitalized people have pressure ulcers and 2.7% grow novel bed ulcers. (Aydin and Karadag, 2010) Among a picked people, the recurrence rate for the progression of another pressure ulcers has been shown to be significantly higher, with an extent of 7-30%. (Hekmatpou *et al.*, 2018) Overall, subjects with pressure ulcers are critical customers of clinical resources. They need half all the more nursing time, remain hospitalized for altogether longer periods, and acquire higher clinic charges. (Aqsa *et al.*, 2019)

Predominance fluctuates in Europe somewhere in the range of 3 and 28%, and the areas with the most elevated frequencies administrations and serious consideration medicine. (Yin *et al.*, 1999) The assessment construed that a plan of request of bed ulcers in their type of classes and the differential determination with wounds, mugginess diminishes the misclassification of bed ulcer. (Zagórska-Dziok *et al.*, 2017)

The purpose of the study [1] To assess the level of wound healing among patients with pressure ulcers. [2] To assess the effectiveness of aloe vera gel in wound healing among patients with pressure ulcers. [3] To associate the level of wound healing with selected demographic variables.

## MATERIALS AND METHODS

A quantitative research with one group pre-test post-test research design was chosen to conduct the study in Thiruvallur District Head Quarter Government Hospital. 60 samples were elected by means of a convenience sampling technique. The criteria for sample selection were clients who are having pressure ulcers, clients who were willing to Participate, prolonged bed ridden patients who has pressure ulcers, clients who can read, write and understand Tamil/ English. The exclusion criteria for the samples were clients who are suffering from chronic illness, clients who had more than 4 comorbidities, clients who do not have pressure ulcers and clients who are not willing to Participate and clients who were mentally challenged. The data collection period was done with prior permission from head of the Department of Thiruvallur District Head Quarter Government Hospital.

The intention of the examination was detailed to

the samples and written informed approval was got from them. Semi-structured questionnaire was used to collect information regarding demographic variables and variables related to personal hygiene. The pre-assessment of the wound was done using PUSH Scale using the ruler and the trace paper. The wound assessment consists of wound size, exudates amount and tissue type. Routine wound dressing practice was done using aloe vera gel and the post assessment was done on 1<sup>st</sup>, 5<sup>th</sup> and 10<sup>th</sup> day. The data were analyzed using descriptive and inferential statistics.

## RESULTS AND DISCUSSION

### Sample characteristics

Most of the patients with a pressure ulcer, 27(45%) were in the age cluster of 40 – 49 years, 40(66.7%) were male, 36(60%) were married, 30(50%) were Hindus, 35(58.4%) belonged to nuclear family, 21(35%) had higher secondary education, 29(48.3%) were employed, 25(41.6%) were residing in sub-urban area and 40(66.7%) had mixed dietary pattern.

Most of the patients with pressure ulcer, 31(51.7%) were confined to bed for <1 month, 31(51.7%) had adopted sponging method to maintain personal hygiene, 34(56.7%) had turning schedule for every 6 hrs, 26(43.3%) had used soap & water for back care and 27(45%) changed bed linen once in 2 days.

### Level of wound healing among patients with pressure ulcers

The major conclusion of the investigation states that the mean score of wound curing on Day 1 was  $10.13 \pm 1.66$  with minimum score of 6.0 and maximum score of 14.0. The mean score on Day 5 was  $7.25 \pm 1.94$  with minimum score of 4.0 and maximum score of 13.0. The mean score on Day 10 was  $4.0 \pm 1.92$  with minimum score of 1.0 and maximum score of 9.0 (Table 1).

The current examination is upheld by Moore *et al.* (2013) who led a survey of PU commonness & rate. Mean commonness in Norway was 17% (4.8-29%) in Ireland was 16% (4-37%), in Denmark was 15% (2.2-35.5%) and in Sweden was 25%, (0.04-42.7%). Predominance in Iceland was 8.9%. In intense consideration, mean occurrence was 21% (0-42.7%) and in stretched remain was 12% (2.4-23.7%).

Mean incidence in intense consideration location was 17.6%, (1.4-49%); in extensive remain was 6.63% (3.1-8.4). Outcome were reliably most noteworthy in intense consideration and hospice settings, and lowest under the watchful eye of the more established individual setting.

**Table 1: Level of wound healing among patients with pressure ulcers N = 60**

Wound Healing Process	Variable	Day 1	Day 5	Day 10
Overall Score	Minimum	6.0	4.0	1.0
	Maximum	14.0	13.0	9.0
	Mean	10.13	7.25	4.0
	S.D	1.66	1.94	1.92

**Table 2: Effectiveness of aloe vera gel in wound healing among patients with pressure ulcers N = 60**

Test	Mean	S.D	Paired 't' test Value
Day 1	10.13	1.66	t = 28.520 p = 0.0001 S***
Day 5	7.25	1.94	
Day 5	7.25	1.94	t = 23.237 p = 0.0001 S***
Day 10	4.00	1.92	
Day 1	10.13	1.66	t = 39.139 p = 0.0001 S***
Day 10	4.00	1.92	

\*\*\*p<0.001, S — Significant

### Effectiveness of aloe vera gel on wound healing among patients with pressure ulcers

The efficacy of the aloe vera gel in wound healing is depicted by paired 't' test value of t = 28.520 between Day 1 and Day 5, t = 23.237 between Day 5 and Day 10 and t = 39.139 between Day 1 and Day 10 shows that there was significant improving in the level of wound healing which was established to be statistically significant at p<0.001 level. This clearly infers that administration of Aloe Vera Gel on wound curing was found to be effective in wound healing among patients with pressure ulcer. (Table 2)

The study portrays that none of the demographic variables and personal hygiene variables had shown statistically significant association with level of wound healing among patients with pressure ulcer.

The examination is upheld by [Khorasani et al. \(2011\)](#) Who researched the outcome of Aloe Vera Cream on Split-thickness Skin Graft Donor Site Management. This examination indicated a fundamentally more limited injury care time for skin join benefactor destinations in clients who were cured with aloe vera and fake treatment creams. The sodden support impact of these creams may add to wound curing.

### CONCLUSIONS

Application of aloe vera gel is the cost effective and easy method to improve wound healing of pressure ulcers. Aloe vera gel additionally helps in forestalling further disease of the injury with its enemy of microbial activity. Use of aloe vera gel advances fast mending of the pressure ulcers.

### Conflict of Interest

The authors declare that they have no conflict of interest for this study.

### Funding Support

The authors declare that they have no funding support for this study.

### REFERENCES

- Aqsa, T., et al. 2019. Efficacy of Aloe Vera Cream for Healing Diabetic Foot Ulcers. *Journal of Rawalpindi Medical College*, 23(2):113–115.
- Aydin, A. K., Karadag, A. 2010. Assessment of nurses' knowledge and practice in the prevention and management of deep tissue injury and stage I pressure ulcer. *Journal of Wound Ostomy & Continence Nursing*, 37(5):487–494.
- Ghane, R., Gavami, H. 2010. Pressure ulcer in intensive care unit. *Bimonthly J Urmia Nurs Midwifery Fac*, 8(2):90–103.
- Hekmatpou, D., et al. 2018. The effect of Aloe Vera gel on prevention of pressure ulcers in patients hospitalized in the orthopedic wards: a randomized triple-blind clinical trial. *BMC Complementary and Alternative Medicine*, 18(1):264.
- Jiang, Q., et al. 2014. The incidence, risk factors and characteristics of pressure ulcers in hospitalized patients in China. *International journal of clinical and experimental pathology*, 7(5):2587.
- Khorasani, G., et al. 2011. The effects of Aloe Vera cream on split-thickness skin graft donor site management: a randomized, blinded, placebo-controlled study. *Wounds*, 23(2):44.

- Moore, Z., *et al.* 2013. A review of PU prevalence and incidence across Scandinavia, Iceland and Ireland (Part I). *Journal of Wound Care*, 22(7):361–368.
- Repić, G., Ivanović, S. 2014. Pressure ulcers and their impact on quality of life. *Acta medica medianae*, 53(4):75–80.
- Simon, M., *et al.* 2010. Pressure ulcer prevention as an indicator of nursing care quality: A comment on Jull and Griffiths (2010). *International Journal of Nursing Studies*, 47(9):1194–1195.
- Soozani, A., *et al.* 2012. The Effect of Education on Knowledge and Performance of Nurses in Prevention And Control Of Pressure Sore. *Modern Care Journal*, 9(1(33)):16–23.
- Yin, H. Q., *et al.* 1999. Comparative Evaluation of the Antimicrobial Activity of Acticoat Antimicrobial Barrier Dressing. *Journal of Burn Care & Rehabilitation*, 20(3):195–200.
- Zagórska-Dziok, M., *et al.* 2017. Evaluation of clinical effectiveness of Aloe vera – a review. *Journal of Pre-Clinical and Clinical Research*, 11(1):86–93.