

EFFECT OF PUNNAGAVYOSHA CHOORNA PINDASWEDA IN TILATAILA AND PATOLADI GANA KASHAYA IN VRISCHIKA VISHA: A RESEARCH ARTICLE¹Akhila.G, ²Sanjay.M¹Assistant Professor, Dept of Agadtantra, ²Associate Professor, Dept of Panchakarma Kala Ashram Ayurved Medical College, Udaipur, RajasthanCorresponding Author: zanacz185@gmail.com<https://doi.org/10.46607/iamj0212092024>

(Published Online: September 2024)

Open Access

© International Ayurvedic Medical Journal, India 2024

Article Received: 08/07/2024 - Peer Reviewed: 29/07/2024 - Accepted for Publication: 14/08/2024.

**ABSTRACT**

Scorpion envenomation is a major public health problem in many rural areas of India. The annual number of scorpion sting cases exceeds 1.23 million, with over 32,250 (0.27%) potentially being fatal. Scorpion stings are primarily the result of accidental contact. *Vrischika visha* (scorpion envenomation) is of significant clinical importance due to the severity of local and systemic symptoms like *Daha* (Burning sensation), *Ruk* (Pain), *Damsa-sopha* (Oedema), *Jwara* (Fever), *Chardi* (Vomiting), etc. *Acharya Vaghbata* described *Vrischika visha* with predominance of *Vata dosha* & the general line of treatment should be *Vatahara*. In this context, all ayurvedic textbooks have mentioned *Swedana* as the first treatment procedure as it is *Vatahara* and *Shoolahara*. *Choornapindasweda* with *Punnagavyosha choorna* in *Tilataila* is one of the formulations mentioned in *Keetadivisha prakarana* in *Kriyakoumudi*, a traditional *Malayalam Visha Chikitsa* textbook. *Ushna Teekshna gunas* of *Punnagavyosha choorna* can act as *Vatashamana*. *Tilataila* is considered as the *Agryoushadha* for *Vata*. *Patoladigana Kashaya* which is mentioned in *Ashtangahridayam* is widely used in *Visha* conditions. This study was an interventional pre-post study with a sample size of 30. Subjects of the age group 16- 60 years, and those reported by the subject as scorpion sting and within 24 hours of the sting were selected for the study. A detailed case history was taken according to the case proforma that included relevant signs and symptoms of *Vrischika visha* & Class I Scorpion Sting Syndrome. Subjects who have already undergone any other treatment for the same and with any other systemic or infectious diseases which may interfere with the study were excluded. *Punnagavyosha*

choorna Pottali was dipped in warm *Tila taila* and gently applied over the sting site, after confirming the temperature (42°C – 45°C), for 15 minutes to 45 minutes maximum or till symptoms are reduced at the affected site. After completing the procedure, 48 ml of *Patoladigana Kashaya* was given for internal administration. *Chooranapinda sweda* and *Patoladigana Kashaya* were given for 3 days in total. Symptomatic assessment was done on 1st day - before the treatment, after 1 hour from starting of the treatment, on 2nd day, 3rd day and on 5th day (including follow up period of two days). The result shows there is a decrease in the mean score values of *Vedana*, *Daha*, *Sopha* and *raktavarnata* after *Punnagavyosha choorna pinda sweda* in *Tila taila* and *Patoladigana Kashaya pana*

Keywords: *Vrishchika visha*, *Punnagavyosha Choorna*, *Pinda Sweda*, Scorpion

INTRODUCTION

Scorpion envenomation poses an occupational health hazard for farmers, villagers, migrant populations, and workers in various low socio-economic backgrounds across rural areas in Kerala, Tamil Nadu, Maharashtra, Karnataka, and Andhra Pradesh. The most common scorpion species found in South India is *Mesobuthus tamulus*.

Vrishchika visha is classified under *Keeta visha* and presents with symptoms¹ like *Daha*, *Ruk*, *Damsasopha*, *Jwara*, and *Chardi*. According to *Acharya Vaghbata*, *Vrishchika visha* being *Vata* predominant, *Vatahara* treatments are recommended like *Swedana* (sweating) due to its *Vatahara* and *Shoolahara* (pain-relieving) properties. *Punnagavyosha Choornapindasweda* in *Tilataila* is highlighted in *Keetadivisha prakarana* of *Kriyakoumudi*² as an effective formulation. The *Ushna* (hot) and *Teekshna* (sharp) qualities of *Punnagavyosha choorna* help in pacifying *Vata*, while *Tilataila* is best for *Vata* disorders. *Patoladigana Kashaya*³ from *Ashtangahridayam* is commonly used for *visha* conditions.

MATERIALS AND METHODS

Materials Used

1. *Punnagavyosha choorna*

This preparation contains *Punnaga* (*Callophyllum inophyllum*) and *Trayooshana* (*Shunti* – *Zingiber officinale*, *Maricha* – *Piper nigrum*, *Pippali* – *Piper longum*). One part each of all these ingredients are taken in equal quantity, cleaned well, dried and crushed into fine powder.

Preparation of Pottali: 100 gm of *Punnagavyosha choorna* is taken in a square piece of white cotton

cloth measuring 30cm X 30cm and tied with a cotton thread to form a firm bolus.

2. *Tila taila* Fresh and good quality sesame oil is procured from the market.

3. *Patoladigana Kashaya*

This yoga contains *Patola* (*Trichosanthes dioica*), *Katurohini* (*Picrorhiza kurroa*), *Madhusrava* (*Che-nomorpha macrophylla*), *Guduchi* (*Tinospora cordifolia*), *Chandana* (*Santalum album*) and *Patha* (*Cyclea peltata*). All the above drugs are taken in equal quantity, cleaned well, dried and crushed into powder. 48 gm of *Patoladigana Kashaya choorna* was boiled in 768 ml of water and reduced to 96 ml⁴.

Methodology

Study design: Pre and Post interventional study.

Study setting: Considering the large number of cases of scorpion stings reported and managed at *Pappiniseri Visha Chikitsa Kendra* located at Kannur, Kerala as per the previous studies, it has been included in the study setting along with Govt. Ayurveda College Panchakarma Hospital, Thiruvananthapuram.

Study population 30 subjects with complaints as per inclusion criteria were selected. A general examination was carried out in all patients.

Inclusion criteria

- Subjects of age group 16-60 years, suffering from scorpion sting with duration not more than 24 hours.
- Cases reported by the subject as scorpion sting.
- Subject with local manifestation like pain, burning sensation, swelling and erythema (Class 1 scorpion sting syndrome)

Exclusion criteria

- Subjects who have already undergone any other treatment for the same.
- Pregnant women and lactating mothers.

- Subjects with known history of systemic / infectious diseases.
- Subjects who are unwilling for the study

Clinical Interventions

| Particulars | Internal Medicine | External Medicine |
|-----------------------|-----------------------------|--|
| Drug | <i>Patoladigana Kashaya</i> | <i>Punnagavyosha Choorna Pinda Sweda</i> |
| Dosage Forms | <i>Kashaya</i> | <i>Choorna</i> |
| Dose | 48ml bd | 100 gm |
| Duration between Dose | 12 hours | 24 hours |
| Duration | 03 days | 03 days |

Procedure

Eligible subjects are examined, and details are recorded as per the case proforma. The sting site is washed with lukewarm water, examined with a magnifying lens, and any remaining sting is removed using toothed artery forceps, followed by another wash. The affected area is then dried, and the subject is seated comfortably.

A *Pottali* prepared with *Punnagavyosha* choorna is dipped in 100 ml of warm *Tila taila* and applied gently to the sting site, with the temperature maintained between 42°C-45°C⁵. This application is continued for 15 to 45 minutes or until symptoms subside, with the *Pottali* reheated as needed. Afterward, the patient rests for at least 30 minutes and is given 48 ml of *Patoladigana Kashaya* internally. The *Choornapinda Sweda* treatment is performed for three days, and *Patoladigana Kashaya* is administered for three consecutive days, with a dose of 48 ml twice daily before meals. Subjects are advised to follow a *Pathya*, including *Ushna, Snigdha, Amla* and *Madhura ahara*.

Assessment

Assessments were made by observing the changes in Pain, Burning Sensation, Swelling and Erythema before the study, after 1 hour from starting of the treatment, on 2nd day, 3rd day and on 5th day (Including follow up period of 2 days). Total study period was 5 days, which includes treatment period of 3 days and follow up period of 2 days. The assessment was done as follows

- Initial assessment before the commencement of the treatment – BT

- Second assessment on 1st hour of commencement of sweda – DT1
- Third assessment on 2nd day after sweda – DT2
- Fourth assessment on 3rd day after sweda – DT3
- Fifth assessment on 5th day – AF

Statistical Analysis

The data obtained from the study was analyzed statistically. On analyzing the grades of variables, it is found that the normality test is not passed. So here the non-parametric statistical test, Friedman’s test with Dunnett’s multiple comparison test (post-hoc) is used.

The results and findings from the statistical analysis were subjected to scientific discussion for the evaluation of the study. The obtained results were interpreted as:

- Non-significant $p > 0.05$
- Significant $p < 0.05$
- Moderately significant $p < 0.01$
- Highly significant $p < 0.001$

RESULTS

1. Pain

There is considerable difference in the means of decrease in pain after each assessment, which is found to be significant at $p < 0.0001$ and Fr value 118.79 using Friedman’s test. On multiple comparison using Dunnett’s Multiple Comparison Test, BT vs.DT2, BT vs. AT, BT vs. AF, DT1 vs. AT, DT1 vs AF and DT 2 vs. AF are highly significant ($p < 0.001$). BT vs. DT1, DT1 vs.DT2, DT2 vs. AT and AT vs. AF are not significant ($p > 0.05$).

2. Burning Sensation

There is considerable difference between the means of decrease in burning sensation after each assessment, which is found to be significant at $p < 0.0001$ and Fr value 106.67 using Friedman's test. On multiple comparisons using Dunnett's Multiple comparison test, BT vs. DT2, BT vs. AT, BT vs. AF, DT1 vs. AT and DT1 vs. AF are highly significant ($p < 0.001$). DT2 vs. AF is moderately significant. BT vs. DT1 is significant. DT1 vs. DT2 and DT 2 vs. AF are not significant.

3. Oedema

There is considerable difference between the means of decrease in oedema after each assessment, which is found to be significant at $p < 0.0001$ and Fr value 97.22 using Friedman's test. On multiple comparisons using Dunnett's Multiple comparison test, BT vs. DT2, BT vs. AT, BT vs. AF, DT1 vs. AT and DT1 vs. AF are highly significant ($p < 0.001$). DT1 vs. DT2 is moderately significant. DT2 vs. AF is significant. BT vs. DT1, DT 2 vs. AT and AT vs. AF are not significant ($p < 0.05$).

4. Erythema

There is considerable difference between the means of decrease in erythema after each assessment, which is found to be significant at $p < 0.0001$ and Fr value 110.31 using Friedman's test. On multiple comparisons using Dunnett's Multiple comparison test, BT vs. DT2, BT vs. AT, BT vs. AF, DT1 vs. AT, DT1 vs. AF and DT2 vs. AF are highly significant ($p < 0.001$). BT vs. DT1, DT 1 vs. DT2, DT2 vs. AT and AT vs. AF are not significant ($p < 0.05$).

DISCUSSION

1. Pain

Pain is assessed using a Visual Analogue Scale. As per the assessment, before the intervention 6.66% subjects are with pain score 6, 6.66% with score 7, 46.66% with score 8 and 36.66% with score 9. After one hour of intervention with Choorna pinda sweda 6.66% of subjects were presented with pain score of 3, 30% with a score of 4, 26.66% with a score of 5, 13.33% with pain score of 6, 20% with a pain score of 7 and 3.33% score of 8. On the second day of as-

essment 6.66% of subjects were having a VAS score of 1, 36.66% presented with a score of 2, 20% with a score 3, 26.66% with score 4 and 10% presented with a score of 5. On the third day of treatment 16.66% presented with score 0, 50% with score 1, 30% with score 2 and 3.33% with score 3. After the follow up period, on the fifth day 80% of subjects have no pain (score 0) and 20% with a pain score of 1. Analysis of the assessment values clearly shows a decrease in the mean score values of pain.

Vrischika Damsha causes mainly Vata Prakopa and Rasa Rakta vitiation. The vitiated Doshas and Dhatus get accumulated in the Srotas and creates Srotosanga, which in turn results in manifestations like pain, oedema, erythema etc. Acharya Susruta mentions Ushna Prayoga as the primary treatment modality as Vata Prakopa is predominant in Vrischika Damsha. Ushnata by the Choorna pinda sweda helps in Sroto sodhana which removes the Srotosanga caused due to the vitiated Dosha and Dooshyas. The increased Swedana helps in removal of vasodilation and removal of localised toxin. The Vatahara property of Punnaga and Vyosha along with the Snigdha Guna and Vataharatwa of Tila Taila helps in immediate relief of severe pain. Serotonin is responsible for the painful burning sensation of sting. While doing fomentation, temperature helps in denaturation of protein serotonin resulting in relief from pain.

2. Burning Sensation

Burning sensation was assessed based on the severity as absent, occasional, continuous bearable and continuous unbearable. Before treatment 20% of subjects were having continuous unbearable burning sensation, 76.66% were having continuous bearable burning sensation, 3.33% having occasional burning sensation. There were no subjects presented without burning sensation. After one of treatment, no patients were having continuous unbearable burning sensation. 33.3% presented with continuous bearable burning sensation and 66.6% with occasional burning sensation. On the second day of assessment, there were no subjects with continuous bearable and unbearable burning sensation. 83.33% of subjects were having occasional burning sensation and 13.33% were re-

lieved completely from burning sensation. On the third day after treatment, 33.33% were having occasional burning sensation where as 66.66% have got relief. After follow up on 5th day 6.66% presented with occasional burning sensation and 93.33% got completely cured.

On analysing the assessments, there is persistent reduction in burning sensation during the course of treatment. This may be mainly due to the action of *Patoladigana Kashaya* which is administered internally. It is having strong *Pittahara* and *Vishaghna* property. The *Madhura Rasa of Punnaga* which is the chief constituent of *Choorna Pinda Sweda* also contributes to *Pitta Samana*.

3. Oedema

Oedema was assessed by measuring the increase in circumference of the affected limb which is quantified with that of normal limb. Before treatment 66.66% of subjects showed an increase in circumference up to 0.5cm and in 8% there is an increase up to 0.5 – 1 cm. After one hour of treatment, 6.66% of subjects got relief from oedema, and 66.66% were having an increase in circumference only up to 0.5 cm. on the second day of treatment, 40% were not having oedema and 60% were having 0.5 cm increase in circumference only. There were no subjects present with oedema more than 0.5 cm. after treatment on third day, 70% were not having oedema and 30% were having mild oedema upto 0.5 cm. finally after follow up on 5th day, all the subjects got relieved from oedema

The *Kapha Vata Samana* property of *Vyosha* and *Kapha Pitta Samana* property of *Patoladigana Kashaya* together contributed to the relief of oedema.

4. Erythema

Erythema was assessed on severity as absent, mild, moderate and severe. Before the intervention, 53.33% of subjects were presented with severe erythema, 43% with moderate and 3.33% with mild erythema. Before treatment there were no subjects present without erythema. One hour after treatment on the first day, 3.33% presented with severe, 66.66% with moderate and 30% with mild erythema. On the second day of intervention, 23.33% were having moderate

and 76.66% were having mild erythema. No subjects were presented with severe symptoms. On the third day after treatment, 46.66% have got completely relieved from erythema and 53.33% were having only mild symptoms. After follow up on 5th day only 6.6% presented with mild symptoms where as 93.33% got cured from erythema.

On analysing the assessments, it is clear that there is remarkable reduction in mean score values of erythema. This may be due to the *Kapha Pitta Samana* and *Rakta Prasadana* action of *Patoladigana Kashaya* which is administered internally.

CONCLUSION

- In the assessment of pain, reduction severity was found from 1st hour of commencement of treatment. In the later assessments, a highly significant reduction was noticed. After follow up 80% of subjects got complete relief from pain.
- In the assessment of burning sensation, 93.33% got complete relief after full course of intervention.
- In the assessment of oedema, 70% of subjects got relief on 3rd day after treatment and all the 30 patients got 100% relief after follow up.
- In the assessment of erythema, severity slightly increased after the first hour of treatment. Later the severity of erythema got decreased and 93.33% of subjects got complete relief on 5th day after follow up.
- The internal medicine- *Patoladigana Kashaya* due to its *Vishahara Prabhava* and *Vairechanika Swabhava* helps to cure the action of venom in body.
- No complications or adverse drug reactions were noted during the study.
- As a conclusion *Punnagavyosha Choorna Pinda Sweda* showed promising results in relieving the cardinal signs and symptoms of *Vrischika Visha* such as Pain, Burning Sensation, Oedema and Erythema.

ACKNOWLEDGEMENTS

I would like to express my gratitude to Prof.Shiji.R.S, my Guide, Prof.A.K.Muraleedharan, my Co- Guide and Prof.C.K.Krishan Nair Ex HOD, Dept of Agada-

tantra, Govt Ayurveda College, Trivandrum, for his valuable suggestions, inspiring spirits and close involvement with this work gave me considerable confidence to accelerate and complete my work.

REFERENCES

1. Vaghbata, Ashtanga Hrdaya, Sarvangasundara commentary of Arunadatta & Ayurvedarasayana of Hemadri, annotated by Dr. Anna moreswar Kunte & Krishna Ramachandra Sastri Navre, Edited by Pt. Hari Sadashiv Sastri Paradakara, Chaukhamba Sanskrit Sansthan, Varanasi, Reprint 2011, Uttarasthana 37/7 p-915.
2. Kuttikrishna Menon V.M, Kriya Koumudi, 1st edition, Sahitya Pravarthaka Co-operative Society Ltd, Kottayam, Kerala, 1986, Chapter –Keeta visha prakarana, sloka-1,2, p-587.
3. Vaghbata, Ashtanga Hrdaya, Sarvangasundara commentary of Arunadatta & Ayurvedarasayana of Hemadri, annotated by Dr. Anna moreswar Kunte & Krishna Ramachandra Sastri Navre, Edited by Pt. Hari Sadasiva Sastri Paradakara, Chaukhamba Sanskrit Sansthan, Varanasi, Reprint 2011, Uttarasthana 15/15, p-235.
4. Sharngadhara, Sharngadhara Samhita, Translated by Dr P Himasagara Chandra Murthy, 2010, Chaukhambha Sanskrit Series Office, Varanasi, 9th chapter, Sloka-12-18, p-201.
5. National workshop on Standardization of Panchakarma therapy on 17th to 19th 2007 at Kanakakkunnu Palace, Thiruvananthapuram. Organized by dept. of Kayachikitsa and Panchakarma; Govt. Ayurveda College, Thiruvananthapuram, p-15.

Source of Support: Nil

Conflict of Interest: None Declared

How to cite this URL: Akhila.G & Sanjay.M: Effect of Punnagavyosha choorna Pinda Sweda in Tilataila and Patoladi gana Kashaya in Vrishchika visha: A research article. International Ayurvedic Medical Journal {online} 2024 {cited September 2024} Available from: http://www.iamj.in/posts/images/upload/1628_1635.pdf

TABLES

Analysis of effect of intervention on pain

| Pain | Mean | SD | Fr value | P value |
|------|------|------|----------|---------|
| BT | 8.1 | 0.84 | 118.79 | <0.0001 |
| DT1 | 5.2 | 1.34 | | |
| DT2 | 2.9 | 1.15 | | |
| AT | 1.2 | 0.76 | | |
| AF | 0.2 | 0.40 | | |

Analysis of effect of intervention on burning sensation

| Burning sensation | Mean | SD | Fr value | P value |
|-------------------|------|------|----------|---------|
| BT | 2.16 | 0.46 | 106.67 | <0.0001 |
| DT1 | 1.33 | 0.47 | | |
| DT2 | 0.9 | 0.40 | | |
| AT | 0.33 | 0.47 | | |
| AF | 0.06 | 0.25 | | |

Analysis of effect of intervention on Oedema

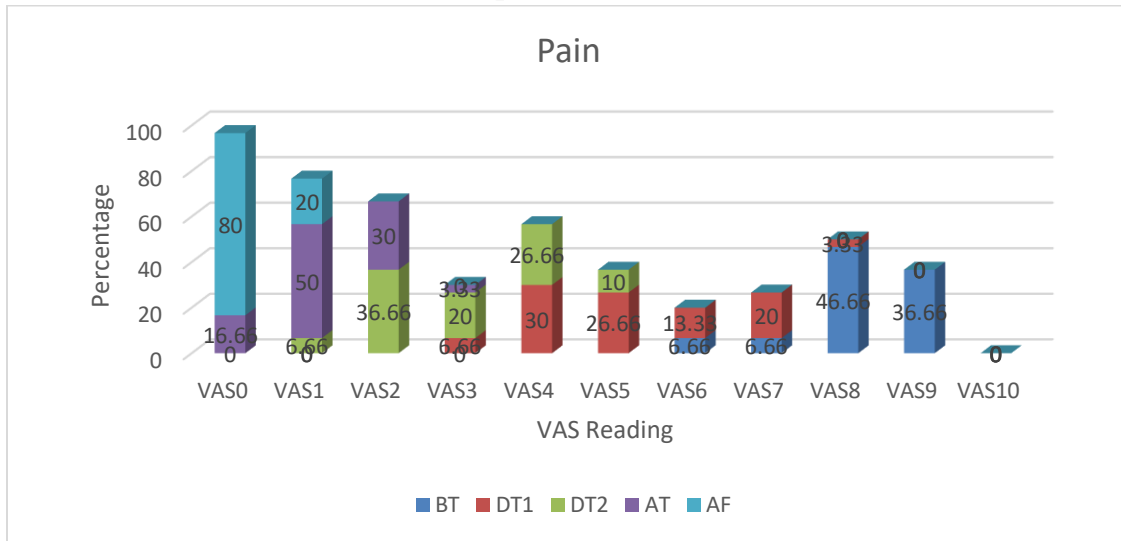
| Oedema | Mean | SD | Fr value | P value |
|--------|------|------|----------|---------|
| BT | 1.36 | 0.49 | 97.22 | <0.0001 |
| DT1 | 1.2 | 0.55 | | |
| DT2 | 0.6 | 0.49 | | |
| AT | 0.3 | 0.46 | | |
| AF | 0 | 0 | | |

Analysis of effect of intervention on Erythema

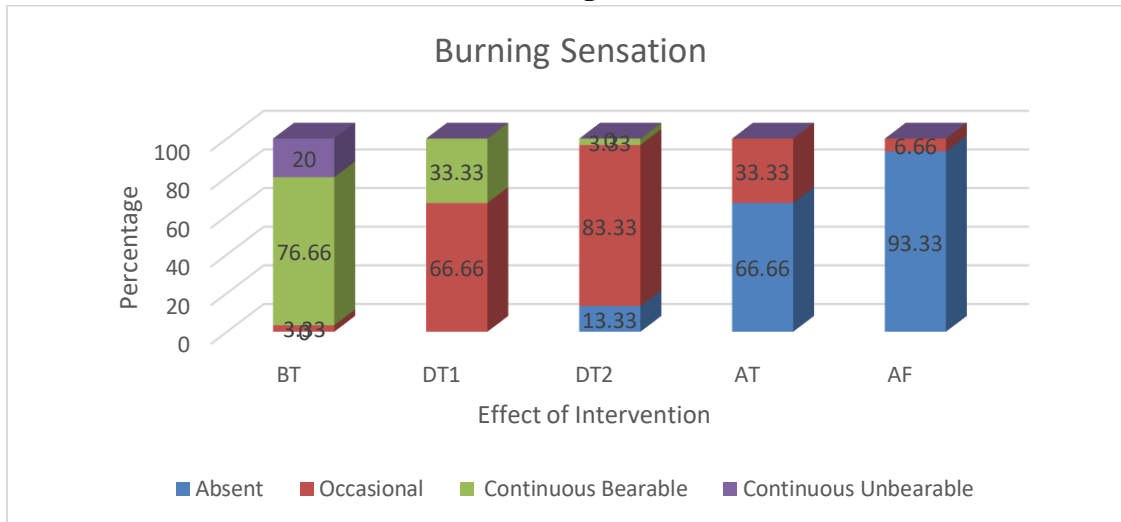
| Erythema | Mean | SD | Fr value | p value |
|----------|------|------|----------|---------|
| BT | 2.5 | 0.57 | 110.31 | <0.0001 |
| DT1 | 1.73 | 0.52 | | |
| DT2 | 1.2 | 0.48 | | |
| AT | 0.53 | 0.50 | | |
| AF | 0.06 | 0.25 | | |

FIGURES

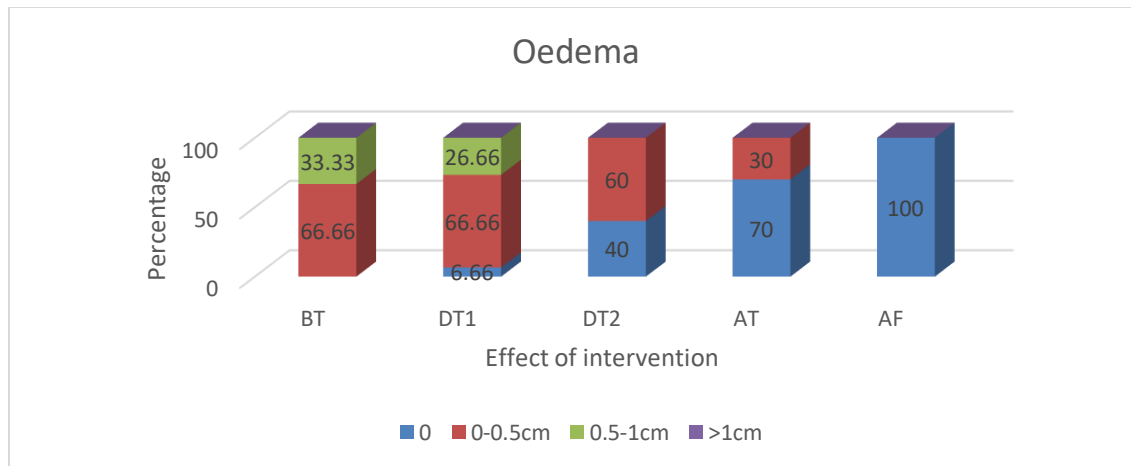
Assessment of effect of intervention on pain



Assessment of effect of intervention on burning sensation



Assessment of effect of intervention on Oedema



Assessment of effect of intervention on Erythema

