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Research Article

A CLINICAL EVALUATION OF TRYPACE VERSUS ACTON OR: PAIN REDUCTION, RECOVERY TIME, AND ADVERSE DRUG REACTIONS

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Abstract:

Pain is a complex Sensory and inflammatory response that significantly impact individuals quality of life and functional capacity. The goal of this prospective observational study was to see how Acton OR and Trypace worked in a teaching hospital for tertiary care. There were 350 people in the trial and they were all between the ages of 19 to 60. There were 175 people in each group, Group A (Trypace) and Group B (Acton OR). We also looked at how long it took each group to get better. The data demonstrated a statistically significant reduction in the mean pain scores for both groups overtime ($p < 0.001$). At the start, the Trypace group's average pain score was 6.96. At follow-up 1, it was 4.09, and at follow-up 2, it was 1.58. The Acton OR group's average pain scores dropped from 6.86 at the start to 4.92 at follow-up 1 and 3.02 at follow-up 2. Trypace on the other hand, showed a bigger drop in pain intensity, which means it works better. Medication adherence was high in both groups (98.9% for Trypace and 96.6% for Acton OR), with no statistically significant difference. While both medications relieved pain, Trypace was more effective with shorter recovery time, whereas Acton OR was safer and had no reported adverse reactions. Thus, Acton OR may be optimal for safety focused patients, whereas Trypace suits those needing immediate relief. Further randomised controlled trials are recommended to validate these findings.

Keywords: Pain management, analgesics, anti-inflammatory drugs, medication adherence, adverse drug reactions, Visual analogue scale, Recovery time.

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INTRODUCTION:

Age affects the sensitivity of neuropathic pain, which is defined as pain resulting from damage to the nerves. Research indicates that all animals— young, mature, and old—develop greater temperature sensitivity following sciatic nerve injury. However, older animals have the longest duration of this sensitivity, suggesting persistent discomfort. Certain studies, like as partial sciatic nerve ligation, demonstrate that older animals experience hyperalgesia that is more severe and lasts longer than younger ones.

However, other research indicates that very old animals have decreased sensitivity to pain, indicating that extreme aging may lower feeling of pain. In a similar vein, several studies indicated that older animals were more sensitive to mechanical pain but that there was no difference in heat sensitivity between younger and older animals.

Differences in animal age, damage models, and testing techniques—the majority of which rely on reflex-based responses—may be the cause of these contradictory results. Neuropathic pain and aging are associated with similar neurological system biochemical changes.

Both aging and neuropathic disorders are frequently associated with increased sensitivity to cold, most likely as a result of alterations in peripheral nerves and the spinal cord. Heat sensitivity, on the other hand, acts differently; it rises with age but does not always follow nerve damage. This implies that rather than only using peripheral or spinal mechanisms, heat hyperalgesia in aging may engage higher brain centers (supraspinal pathways). In general, aging has a complex and variable impact on neuropathic pain; depending on the situation, it may increase, decrease, or have no effect on pain sensitivity ⁽¹⁾.

Because systemic inflammation rises with age, inflammatory pain also rises.

Both central and peripheral nociceptors are made more sensitive by persistent inflammation.

Aged animals are more sensitive to pain than adults, according to studies utilizing complete Freund's adjuvant (CFA). Older animals' dorsal horn neurons are more excitable, yet inflammation might not make them even more so. Pain sensitivity may peak in middle age rather than old age, according to some

research. Studies using formalin injections reveal that older animals had higher levels of neural activity and pain responses. Additionally, older animals show more intense hyperalgesia in response to heat and cold stimuli. Operant behavioral tests show these disparities more clearly than reflex-based assessments.

In elderly animals, inflammation raises spinal dynorphin, which improves pain perception.

Age-related changes in the nervous system have an impact on pain, a complicated sensory and emotional experience. The way that pain is perceived and modulated changes significantly as we age. These alterations affect the higher brain regions, spinal cord, and peripheral nervous system. Increased systemic inflammation is another factor linked to aging that increases pain sensitivity.

The two main forms of pain that are impacted by aging are neuropathic and inflammatory.

According to studies, elderly people may have more intense or protracted pain following an injury. However, aging-related pain reactions vary depending on the stimuli and condition.

Neural plasticity and central sensitization appear to be important factors based on experimental data. Variations in pain sensitivity outcomes have been found using various assessment techniques ⁽²⁾.

AIMS AND OBJECTIVES:**AIMS:**

To evaluate the efficacy, safety and medication adherence of trypace against acton or for patients undergoing treatment in tertiary care teaching hospital.

OBJECTIVES:

- To assess the clinical effectiveness of trypace with acton or in patients who are in need of anti - inflammatory and analgesic medications and to evaluate medication adherence among patients receiving trypace and acton or.

METHODOLOGY:

STUDY DESIGN: The study was a prospective observational study.

STUDY SITE: The study was done at multispecialty third-concern instruction facility. Mamata Academy of Medical Sciences [MAMS] facility, Bachupally, Hyderabad.

STUDY PERIOD: The study was carried out for 6 months. From October to March.

STUDY CRITERION:

Inclusion Criteria: Patients who are aged from 19 years till 60yrs including both the genders. Patients who are prescribed with tablets Trypace and Acton OR. Patients who have two follow ups. Patients with comorbid conditions are also included in the study.

Exclusion Criteria: Patients who are not willing to participate in the study and didn't give their consent. Pregnant women, children and elderly patients are not included in the study.

Patients who don't have more than one follow ups. Patients who were unconscious.

METHODOLOGY:

To compare the efficacy and medication adherence between tab Trypace and tab Acton OR the data were acquired from the patient's outpatient and case sheets. The prospective non randomized technique was applied for allocating the patients into two groups that is group A and group B. The patients pain score, medication adherence, safety of the drugs and recovery time was determined. Google forms were used to collect the data of patient's pain score, medication adherence, recovery time and determine the adverse drug reactions of drugs.

Group A for the patients who were prescribed by the tab Trypace and the Group B for the patients who are prescribed by the tab Acton OR, to assess the safety, efficacy and medication adherence of two medicines, along with recovery time these two groups are monitored for 14 days through two follow up visits. Initially, patients are asked to fill out a patient data collection form in order to provide baseline data. The first and second follow ups visits are conducted to assess the decrease in pain for patients who are taking the drugs, the safety of drugs along with recovery time and medication adherence. The data which were collected for group trypace and group Acton OR are compared with each other for the efficacy, safety and medication adherence.

RESULTS:

AGE ANALYSIS AMONG THE GROUPS OF TRYSPACE & ACTON – OR

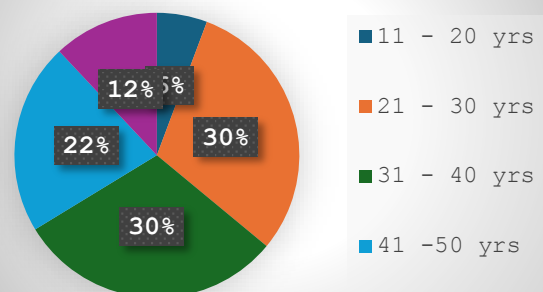
TRYSPACE

Category (Years)	No Of Subjects
11 – 20	5
21 – 30	13
31 – 40	25
41 – 50	42
51 – 60	90
Total	175

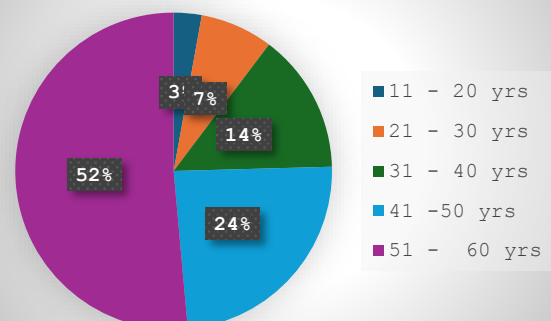
ACTON OR

Category (Years)	No Of Subjects
11 – 20	10
21 – 30	53
31 – 40	53
41 – 50	38
51 – 60	21
Total	175

AGE ANALYSIS FOR TRYSPACE



AGE ANALYSIS OF ACTON OR



Efficacy Analysis Among The Groups Of Trypace & Acton – Or
COMPARISION OF MEAN SCORES AT DIFFERENT TIME INTERVALS
FOR TRYPACE:

Group	Count	Mean	Variance
Baseline	175	6.96	1.08
Follow up 1	175	4.09	0.85
Follow up 2	175	1.58	0.70

ANOVA TEST FOR TRYPACE:

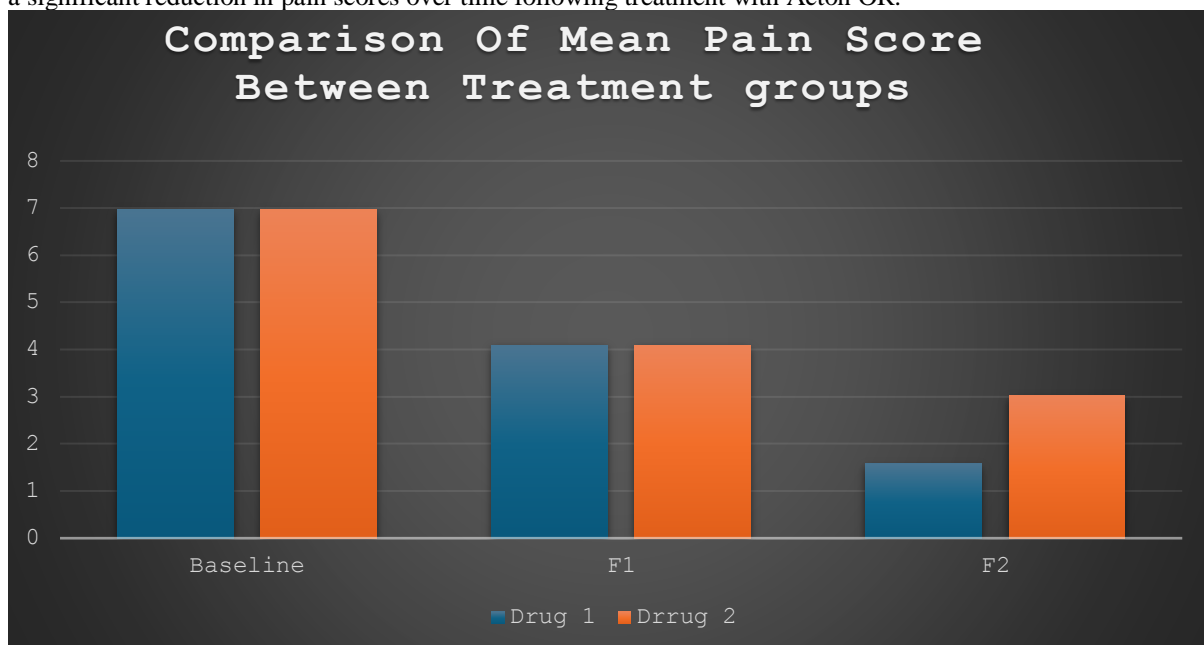
Source of variation	SS (Sum of squares)	Df (Degree of Freedom)	MS (Mean Squares)	F	P - value	F - crit
Between groups	2533.72571	2	1266.86286	1438.22139	4.4456E-213	3.0129906
Within groups	459.805714	522	0.88085386			

One-way ANOVA was performed to compare the mean pain scores at baseline, follow-up 1, and follow-up 2 among the study participants (n = 175). The mean pain score at baseline was 6.96, which reduced to 4.09 at follow-up 1 and further decreased to 1.58 at follow-up 2. The ANOVA test showed that the difference in mean pain scores between the three time points was statistically significant ($F = 1438.22$, $p < 0.001$). This indicates that there was a significant reduction in pain scores over time following treatment.

ANOVA TEST FOR ACTON OR:

Source of variation	SS (Sum of squares)	Df (Degree of Freedom)	MS (Mean Squares)	F	P - value	F - crit
Between groups	1290.27429	2	645.137143	789.313163	1.513E-158	3.0129906
Within groups	426.651429	522	0.8173399			

One-way ANOVA was performed to compare the mean pain scores at baseline, follow-up 1, and follow-up 2 among the patients receiving Drug 2 (n = 175). The mean pain score decreased from 6.86 at baseline to 4.93 at follow-up 1 and further reduced to 3.02 at follow-up 2. The ANOVA analysis showed a statistically significant difference in mean pain scores across the three time points ($F = 789.31$, $p < 0.001$). This indicates that there was a significant reduction in pain scores over time following treatment with Acton OR.



The bar graph shows the comparison of the mean pain score between the two treatment groups:

BASELINE:

- The two groups (trypace and acton or) shows an indential mean pain score that is 6.96
- This indicates that both treatment groups begin with the same intensity of pain.

FOLLOW UP – 1:

- Both the treatment groups shows an significant reduction of pain compared to baseline, trypace shows reduction of mean pain score from 6.96 to 4.09.
- Acton or also shows the reduction of mean pain score from 6.96 to 4.09.

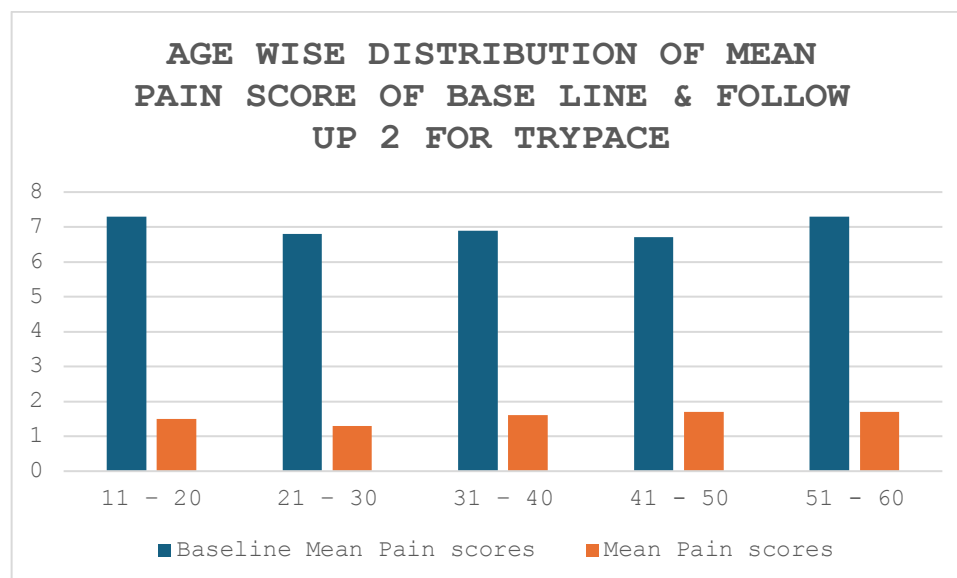
FOLLOW UP – 2:

- There is a clear reduction of pain compared to first follow up for trypace.
- Acton or shows a decrease in pain 3.02 but not as reduction with trypace that is 1.58

Age Wise Distribution Of Mean Pain Score Of Base Line And Follow Up 2 Among Trypace And Acton Or:

TRYPACE:

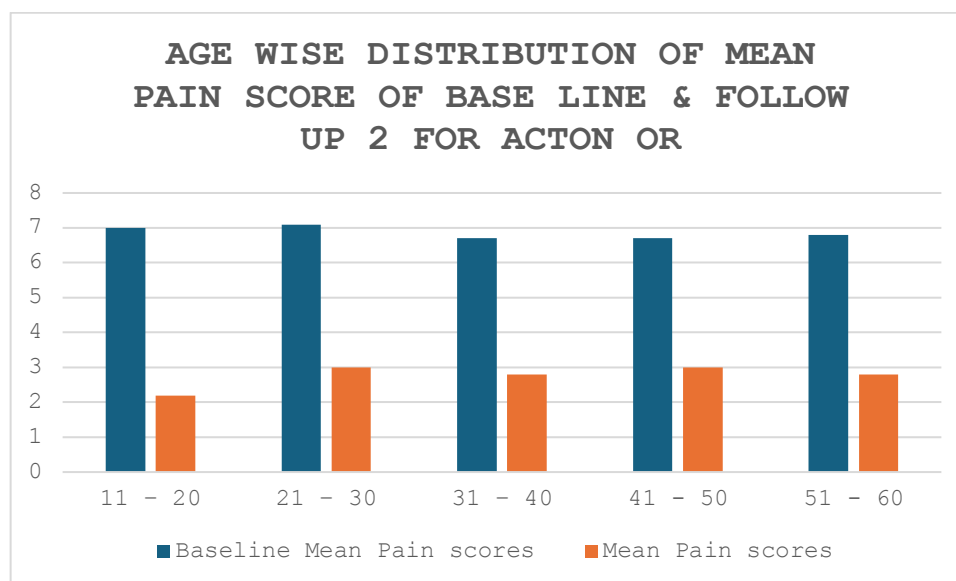
Category (years)	Baseline Mean Pain scores	Mean Pain scores (F2)
11 – 20	7.3	1.5
21 – 30	6.8	1.3
31 – 40	6.9	1.6
41 – 50	6.7	1.7
51 – 60	7.3	1.7



The mean pain scores were analyzed across different age groups at baseline and follow-up 2. At **baseline**, the mean pain score was highest in the **11–20 years and 51–60 years age groups (7.3)**, followed by **31–40 years (6.9)**, **21–30 years (6.8)**, and **41–50 years (6.7)**. At **follow-up 2**, the mean pain scores showed a considerable reduction in all age groups after treatment. The **lowest mean pain score was observed in the 21–30 years age group (1.3)**, indicating better pain reduction in this group. This was followed by the **11–20 years group (1.5)** and **31–40 years group (1.6)**. Slightly higher mean pain scores were observed in the **41–50 years and 51–60 years age groups (1.7)**.

ACTON OR:

Category (years)	Baseline scores	Mean Pain	Mean Pain scores (F2)
11 – 20	7.0		2.2
21 – 30	7.1		3.0
31 – 40	6.7		2.8
41 – 50	6.7		3.0
51 – 60	6.8		2.8



The mean pain scores were analyzed across different age groups at baseline and follow-up 2. At **baseline**, the mean pain score was highest in the **21–30 years age group (7.1)**, followed by the **11–20 years group (7.0)**. The **31–40 years and 41–50 years age groups** showed similar baseline mean pain scores of **6.7**, while the **51–60 years group** had a mean score of **6.8**. At **follow-up 2**, a noticeable reduction in mean pain scores was observed across all age groups. The **lowest mean pain score was observed in the 11–20 years age group (2.2)**, indicating better pain reduction in this group. The **31–40 years and 51–60 years groups** had mean pain scores of **2.8**, while slightly higher mean scores were seen in the **21–30 years and 41–50 years age groups (3.0)**.

Safety Analysis Among The Groups Of Trypace & Acton – Or:

TRYPACE:

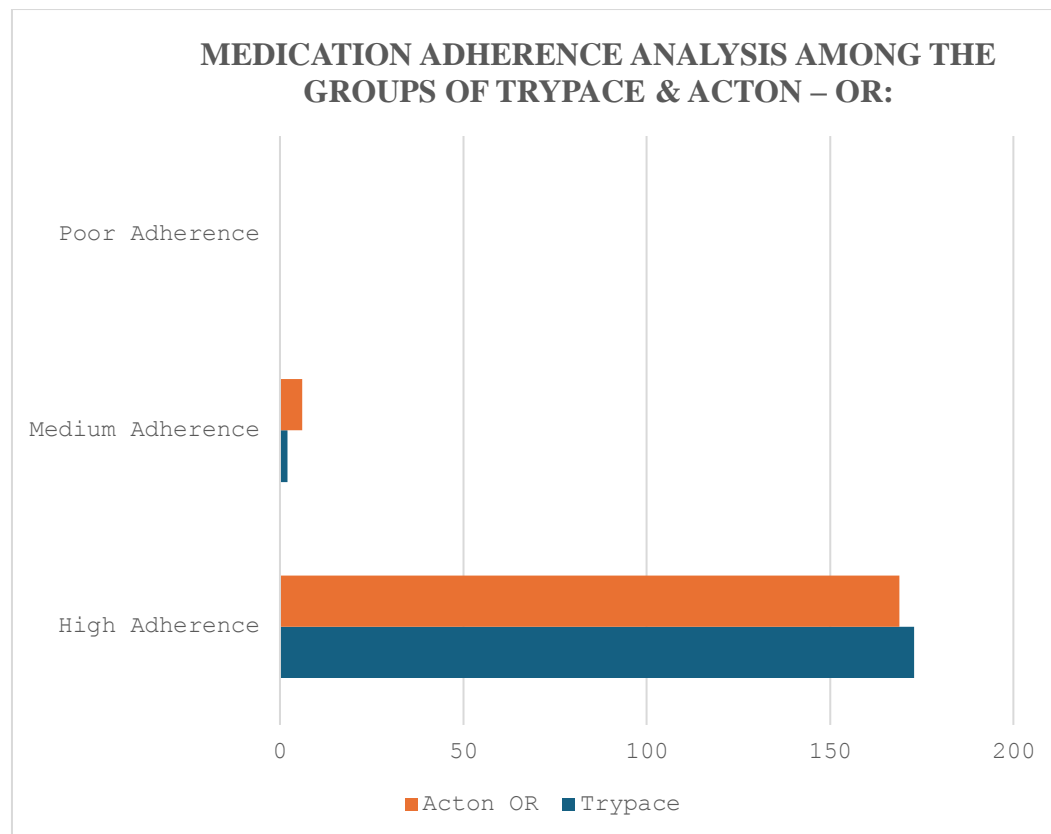
Out of 175 patients for trypace only 3% patients experienced Adverse Drug Reactions for trypace that includes:

ADVERSE DRUG REACTIONS	Number of Subjects
Dizziness	1
Drowsiness	1
Stomach upset	1
Burning Sensation in Stomach	1
Shortness of Breath	1
No ADR'S	170

ACTON OR:

Out of 175 patients for Acton or there are no ADR'S experienced by patients.

Medication Adherence Analysis Among The Groups Of Trypace & Acton – Or:



Medication adherence was assessed using the MARS scale. High adherence was observed in 173 patients (98.9%) in the trypace group and 169 patients (96.6%) in the acton or group, while medium adherence was observed in 2 patients (1.1%) and 6 patients (3.4%) respectively. Chi-square analysis showed that the difference in adherence between the two groups was **not statistically significant ($p = 0.152$)**. This indicates that both trypace and acton or showed **similar levels of medication adherence among patients**.

DISCUSSION:

The effectiveness, safety, and medication adherence of Acton OR and Trypace in the treatment of pain were assessed in this study. The efficacy of both medications was confirmed by a statistically significant decrease in pain scores over time ($p < 0.001$). But at follow-up 2, Trypace showed more pain reduction than Acton OR, suggesting better effectiveness. Age-wise study revealed that younger patients recovered more quickly and had better pain relief, whereas older patients showed comparatively slower improvement, maybe as a result of delayed healing and age-related physiological changes.

Acton OR had no documented adverse drug reactions (ADRs), indicating a higher safety profile than Trypace, which was linked to a limited number of moderate ADRs (3%). In spite of this, Trypace's ADRs were negligible and controllable. Both groups had high medication adherence, and there was no statistically significant difference ($p = 0.152$), suggesting that patients accepted both therapies.

Overall, both medications work well, but Acton OR shows more safety while Trypace provides better pain relief and a quicker recovery.

CONCLUSION:

According to the study's findings, individuals who need anti-inflammatory and analgesic medication can effectively reduce their pain with both Acton OR and Trypace. Nevertheless, Trypace outperformed Acton OR in terms of effectiveness, as evidenced by a higher decrease in pain levels and a quicker recovery period. Trypace's overall safety profile is still satisfactory even if it was linked to a modest number of moderate adverse medication events. Acton OR shown a significant safety advantage with no documented adverse drug reactions. Both groups had excellent and similar rates of medication adherence, indicating strong patient compliance with both treatments. Acton OR has a safer profile with no documented adverse drug reactions, however Trypace offers superior therapeutic results in terms of pain relief and recuperation. Therefore, the choice of therapy

should be based on a balance between efficacy and safety, tailored to individual patient needs.

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