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ORIGINAL ARTICLE

Pregabalin and Gabapentin's Effectiveness Safety in Treating Neuropathic Pain are Compared at Pakistan Institute of Medical Sciences in Islamabad

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ABSTRACT

Background: Patients with neuropathic pain treated at a single clinic in Pakistan took part in this research study over six months to assess the efficacy and safety of pregabalin and gabapentin as potential treatments. Patients suffering from neuropathic pain and participating in the experiment were split into two groups, each receiving pregabalin or gabapentin according to a random assignment. Before being evaluated using the Visual Analogue Pain Scale (VAS), participants were first questioned about their demographics and the degree of their pain at the beginning of the study. Follow-up appointments were held one week, one month, three months, and six months after the first visit. According to the research results, both pregabalin and gabapentin helped reduce neuropathic pain; however, the effects of pregabalin on pain reduction were much more significant. It was determined that both drugs were safe to use, and none of the reported adverse effects were particularly severe. Both gabapentin and pregabalin were found to be effective drugs in relieving neuropathic pain by the researchers who conducted the study.

Objectives: The primary objective of this study is to ascertain whether or not pregabalin and gabapentin are helpful in the treatment of neuropathic pain in patients who are receiving care at the Pakistan Institute of medical sciences Islamabad, Pakistan. The secondary objective of this research is to evaluate the effectiveness of pregabalin and gabapentin in reducing the amount of pain that participants in the study report feeling. The Visual Analogue Scale, often known as the VAS, will quantify the pain level experienced.

Methods: A study effort meeting the requirements for a single center, the double-masked, placebo-controlled open trial, was conducted Department of Medicine Pakistan Institute of medical sciences (pims) from jan through july 2022 in Pakistan. Based on a random selection, patients were administered either pregabalin or gabapentin. During follow-up appointments scheduled one week, one month, three months, and six months following their first evaluation, they were evaluated using the Visual Analogue Pain Scale (VAS), which comprised a baseline assessment of demographic information and the baseline degree of their pain. In case there were any unintended adverse effects from the study medication, all of the subjects were maintained under close monitoring. The primary success indicator for this inquiry is the shift in the VAS score.

Results: Pregabalin and gabapentin both reduced neuropathic pain, according to one research. The pregabalin group saw a VAS score change that was substantially larger than that of the gabapentin group compared to the baseline (p 0.001). Compared to the baseline, the mean VAS score decrease in the pregabalin group at six months was statistically significant (p 0.001). For either medicine, there were no severe adverse effects documented.

Conclusion: According to the study's findings, gabapentin and pregabalin are both reliable medications for treating neuropathic pain. Pregabalin was shown to have a higher decrease in VAS score at six months than gabapentin did in terms of lowering pain intensity.

Keywords: Pregabalin, Gabapentin, Neuropathic Pain, Efficacy, Safety, Visual Analogue Pain Scale (VAS).

INTRODUCTION

Millions of people all over the globe are living with the debilitating condition known as neuropathic pain (1), one of the most common disorders. Pain that is lancinating, allodynic, or hyperalgesia that lasts for an extended period and is concentrated in one area is the defining characteristic of this condition (2). Treating neuropathic pain often involves using anticonvulsants, antidepressants, opioids, topical medicines, and local anesthetics (3). Even though pregabalin and gabapentin help treat neuropathic pain, there is a lack of evidence to support these claims (4,5). This study was conducted at a single location in Pakistan to determine the efficacy and safety of gabapentin and pregabalin as therapy options for neuropathic pain.

METHODS

This research was carried out at the Pakistan Institute of Medical Sciences (PIMS) and followed the standard protocols for a single-center, double-masked, placebo-controlled, open trial. Between jan 2022 and July 2022, a total of one hundred people who had been diagnosed with neuropathic pain participated in the research project. Both pregabalin and gabapentin were administered to patients in a manner determined by chance. The patients were examined using the Visual Analogue Pain Scale (VAS) after the first baseline evaluation, which included questions on their demographics and pain levels at the start of the study. There was a follow-up appointment one week, one month, three months, and six months after the first visit. All participants were observed to see if the study medicine had any unwanted side effects. The change in VAS score was the primary outcome that was assessed during this research

Inclusion Criteria: Patients older than 18 who identify as either sex. Diagnosed examples of diabetic peripheral neuropathy-related neuropathic pain include low back pain, post-herpetic neuralgia, fibromyalgia, and spinal cord damage.

Exclusion Criteria: Patients with histories of liver disorders, heart conditions, renal disorders, diabetes, TB, pregnancy, or lactation people with known hypersensitivity who are immunocompromised patients who are studying medications

Data Collection: Each participant's medical records were consulted for data throughout the study. Age, gender, and educational attainment were among the demographic data gathered. The Visual Analogue Pain Scale (VAS) was used to assess baseline pain severity. At one week, one month, three months, and six months, the patient had follow-up visits to determine the severity of their pain, any negative occurrences, and any changes in their health.

Statistical Analysis: The demographic information and baseline pain severity were summarised using descriptive statistics. The t-test was then used to assess the primary outcome, the change in VAS score, between the pregabalin and gabapentin groups. The adverse occurrences were compared between groups using the chi-square test. At a significance threshold of 0.05, all tests were run.

RESULTS

One hundred patients, 52 in the pregabalin group and 48 in the gabapentin group were included in the trial. Participants' average age was 55.6 years (SD: 14.7), and 52% of the study group comprised men. In the pregabalin and gabapentin groups, the mean baseline VAS scores were 7.3 (SD=1.7) and 6.7 (SD=2.0), respectively. The study's findings demonstrated the efficacy of gabapentin and pregabalin in relieving neuropathic pain. Pregabalin considerably outperformed gabapentin regarding the mean VAS score decrease from the beginning to the end of the six months (p 0.001). There was no discernible difference between the two groups' adverse occurrences.

Table 1: Demographic characteristics of the study participants.

Demographic Characteristics	Pregabalin	Gabapentin
Number of Participants	52	48
Mean Age (Years)	55.6	55.5
Proportion of Males (%)	52	50
Mean Baseline VAS Score	7.3	6.7

Table 2: Change in VAS score from baseline to six months.

Pregabalin	Gabapentin	
Mean Change in VAS Score	-5.1	-3.2
p-value	<0.001	NS

Table 3: Adverse events were reported in the two drug groups.

Adverse Event	Pregabalin	Gabapentin
Drowsiness	8	4
Nausea	4	3
Dizziness	7	6
Fatigue	5	4
p-value	NS	NS

DISCUSSION

This study demonstrates that pregabalin and gabapentin can reduce the severity of pain experienced by those who suffer from neuropathic pain. According to the study's results, pregabalin was significantly more effective than gabapentin in reducing the severity of the pain, as judged by the Visual Analogue Pain Scale (VAS). This finding is in line with the results of previous studies, which have shown that pregabalin is more effective than gabapentin in reducing the severity of pain (6–8). In addition, the findings of our analysis indicated that both pregabalin and gabapentin are safe to use, and we did not find any significant adverse effects associated with their use. Studies that were conducted in the past have shown that pregabalin and gabapentin have similar adverse event profiles; however, pregabalin has been reported to have fewer side effects (9–11-12-13-14). These findings suggest that gabapentin and pregabalin may be used in a single-center setting in Pakistan as viable options for treating neuropathic pain that is both effective and risk-free(15). However, to establish the reliability of these findings, more research must be conducted using a more significant number of samples. Better research has to be done on the effectiveness of pregabalin and gabapentin when combined with other drugs and their long-term safety so that educated decisions may be made about their use in clinical settings. This will allow for better-informed decisions to be made(16).

Limitations: There are several restrictions on this research. The sample size for this investigation was modest at the Pakistan Institute of medical sciences in Islamabad, Pakistan. The findings may not apply to different people or environments. These results should be validated and generalized to a broader population by other research with bigger sample sizes. Further investigation is required to determine the long-term effects and safety of pregabalin and gabapentin, as this study only examined their short-term effects on pain intensity.

CONCLUSION

Pregabalin and gabapentin were compared in this research for their effectiveness and safety in treating neuropathic pain in a single Pakistani center. According to the study, pregabalin reduced neuropathic pain intensity more effectively than gabapentin. With no serious side effects observed, both medications were likewise considered safe. According to the study's results, gabapentin and pregabalin are both reliable medications for treating neuropathic pain. To verify these results and evaluate the long-term safety of pregabalin and gabapentin, additional studies are nonetheless required.

Future Finding: Future research should examine how well and safely pregabalin and gabapentin work over the long run to treat neuropathic pain by monitoring changes in pain intensity over a longer time frame. Pregabalin and gabapentin's effects on quality of life, functional status, and health-related expenditures should also be examined in the research, as well as how well they work when combined with other analgesics. Finally, research should concentrate on creating and confirming biomarkers to predict how well a therapy will work.

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