Comparing Medication Adherence, Persistence, and Discontinuation Rates to Pregabalin and Duloxetine Among Type 2 Diabetic Patients

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Background

- For type 2 diabetics undergoing treatment for pain, pain is an important limitation in their daily lives with over 50% of patients experiencing pain.
- Pregabalin and duloxetine are commonly used to treat pain but are associated with a high rate of discontinuation due to side effects.
- Little research has been done on the persistence and discontinuation rates to pregabalin and duloxetine in type 2 diabetic patients.

Methodology

- Data inclusion and subject identification period: January 1, 2013 to October 1, 2014.
- Subjects included: Type 2 diabetic patients prescribed pregabalin or duloxetine.
- Exclusion criteria: Patients with a history of substance abuse, previous discontinuation due to adverse effects.
- Data sources: Prescription databases, electronic medical records.
- Measures: Medication adherence, persistence, and discontinuation rates.

Results

- Baseline characteristics of pregabalin and duloxetine users:
  - Pregabalin: Mean (SD) age: 51.8 (11.7), female: 51.9%.
  - Duloxetine: Mean (SD) age: 51.8 (11.7), female: 51.9%.
- T-test comparison of mean adherence: Pregabalin vs. Duloxetine (p-value: 0.2951).
  - Mean (SD) adherence: Pregabalin: 91.7 (18.3), Duloxetine: 92.1 (18.4).
- Chi-square comparison of proportion of pregabalin and duloxetine discontinuers:
  - Pregabalin: 72/236 (30.55%), Duloxetine: 48/236 (20.26%).
- Frequency of patients who discontinued 30 days (or less) of pregabalin and duloxetine:
  - Pregabalin: 74.6%, Duloxetine: 59.5%.

Summary of Study Results

- The study found no significant difference in adherence, persistence, and discontinuation rates between pregabalin and duloxetine in type 2 diabetic patients.
- Mean adherence to both medications was high, indicating good tolerability and efficacy.
- However, a higher proportion of patients discontinued pregabalin compared to duloxetine.

Study Limitations

- The study was conducted in a single center and may not be generalizable to other populations.
- The sample size may limit the statistical power of the study.
- The study did not account for potential confounders such as medication adherence tools and patient preferences.

Conclusion

- The study suggests that both pregabalin and duloxetine are effective in treating pain in type 2 diabetic patients.
- Further research is needed to explore the reasons for discontinuation and how to improve adherence.

References

- The primary study included 236 patients, and the study period was from January 1, 2013, to October 1, 2014.
- Patients were stratified into two groups based on medication adherence, persistence, and discontinuation rates.
- The study used chi-square tests and t-tests to compare the groups.
- The results showed no significant difference in adherence, persistence, and discontinuation rates between pregabalin and duloxetine.

Study Design

- Retrospective cohort design.
- Pregabalin and duloxetine were selected for their common use in pain management in type 2 diabetic patients.
- The study population was composed of patients with at least 6 months of follow-up.

Operational Definition of Study Variables

- Medication possession rates (MPR): MPR = (Total prescribed days - Total days of non-therapy)/Total prescribed days.
- Adherence: Adherence was calculated as the percentage of days covered by the medication.
- Persistence: Persistence was calculated as the percentage of patients who continued taking the medication for at least 90 days.
- Discontinuation: Discontinuation was calculated as the percentage of patients who stopped taking the medication before the end of the study period.

Chi-Square Comparison of Proportion of Pregabalin and Duloxetine Discontinuers

- The chi-square test was used to compare the proportion of discontinuers between the two groups.

Frequencies of Adherence (MPR) 30-60% Pregabalin and Duloxetine

- The frequencies were calculated for the adherence rates of 30-60%.

Frequency of Patients Who Discontinued (30 days or less) of Pregabalin and Duloxetine

- The frequencies were calculated for the discontinuation rates within 30 days.

Discontinuation Rates

- The discontinuation rates were calculated as the percentage of patients who discontinued within 30 days.

Data Collection and Subject Identification Period

- Study period: January 1, 2013 to October 1, 2014.
- Subjects included: Type 2 diabetic patients prescribed pregabalin or duloxetine.
- Exclusion criteria: Patients with a history of substance abuse, previous discontinuation due to adverse effects.