ASSESSING PATIENT-REPORTED OUTCOMES AND PHARMACIST INTERVENTIONS IN NEUROLOGY SPECIALTY DISEASE STATES

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BACKGROUND
- Patient reported outcomes (PROs), a measurement of any aspect of a patient's health status that comes directly from the patient, are useful in assessing patient response to therapy and need for therapeutic adjustments.1
- Vanderbilt Specialty Pharmacy assesses PROs through monthly refill questionnaires (MRQs), which guide pharmacist interventions.2
- Identifying the correlation between PROs and pharmacist interventions can help improve the allocation of resources.

STUDY OBJECTIVE
To assess PROs in neurology specialty disease gathered via MRQs within an integrated care center

METHODS
DESIGN
Single-center retrospective analysis

INCLUSION
All patients prescribed a neurology specialty medication by center’s outpatient neurology clinics with:
- 2+ fills through the center’s specialty pharmacy, and
- 2+ MRQ responses from Jan – March 2020

OUTCOMES
- Patient-reported missed doses
- Patient-reported adverse effects
- Patient-reported medication effectiveness
- Specialty pharmacist interventions

RESULTS

TABLE 1. Cohort demographics (n=168)

<table>
<thead>
<tr>
<th>Age, years, median (IQR)</th>
<th>51 (18-72)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender, male</td>
<td>95 (57)</td>
</tr>
<tr>
<td>Race</td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>150 (89)</td>
</tr>
<tr>
<td>Black or African American</td>
<td>15 (9)</td>
</tr>
<tr>
<td>Other Asian</td>
<td>3 (2)</td>
</tr>
<tr>
<td>Insurance type</td>
<td></td>
</tr>
<tr>
<td>Medicare</td>
<td>83 (49)</td>
</tr>
<tr>
<td>Medicaid</td>
<td>48 (29)</td>
</tr>
<tr>
<td>Commercial</td>
<td>29 (17)</td>
</tr>
<tr>
<td>Tricare</td>
<td>8 (5)</td>
</tr>
</tbody>
</table>

FIGURE 1. Neurology specialty medications

- Cannabidiol (n=5; 7.2%)
  - leg cramps
  - agitation
  - decreased appetite
  - insomnia
  - increased seizures
- Deutetretabazine (n=2; 7.4%)
  - ocular burning
  - nausea
- Droxidopa (n=1; 5.2%)
  - fall
- Pimavanserin (n=1; 4.0%)
  - confusion

94.6% of patients reported no adverse events

FIGURE 2. Patient-reported reasons for missed doses (n=19)

91% of patients reported NO missed doses

FIGURE 3. Patient-reported adverse events (n=9)

- Cannabidiol (n=5; 7.2%)
  - leg cramps
  - agitation
  - decreased appetite
  - insomnia
  - increased seizures
- Deutetretabazine (n=2; 7.4%)
  - ocular burning
  - nausea
- Droxidopa (n=1; 5.2%)
  - fall
- Pimavanserin (n=1; 4.0%)
  - confusion

5.4% of patients reported had at least 1 adverse event

FIGURE 4. Patient-reported medication effectiveness (n=499)

- Excellent: 54
- Good: 425
- Fair: 11

FIGURE 5. Specialty pharmacy interventions (n=86)

- ED / HOSPITAL VISIT
- ADHERENCE
- MEDICATION LIST CHANGE
- EXACERBATION
- SIDE EFFECT / TOXICITY
- NEW CONDITION / DIAGNOSIS
- CHANGE IN DOSE
- OTHER DRUG INFO NEEDED
- SAFETY MONITORING
- DOZING QUESTION

Number of interventions per patient: 67% had 0, 24% had 1, 8% had 2, 1% had 3.

CONCLUSIONS

- There was a high rate of patient-reported adherence at 91%. Of the patients that reported a missed dose, the majority was due to running out of medications. This could be from a variety of reasons including but not limited to unpreparedness, forgetting to order refills, or not picking up their refills.
- Neurology integrated specialty pharmacists perform targeted interventions to ensure safe and effective medication use, with most of the interventions addressing recent emergency department or hospital visits.