Management of acute alcohol withdrawal at a community hospital in an area with a high prevalence of alcoholism
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I. Background
A. Alcohol is the fourth leading preventable cause of death in the United States.
   1. Montana had the second highest rate of alcohol-related deaths in the country in 2014.
B. Diagnosis of acute alcohol withdrawal syndrome
   1. Recent decrease/discontinuation in alcohol intake
   2. Signs/symptoms: Anxiety, nausea, tachycardia, seizure/DT
C. Assessment of symptom severity: CIWA-Ar
D. Symptom management: Benzodiazepines remain the staple

II. Objectives
A. Evaluate BHDH’s alcohol withdrawal management processes/protocols in comparison to current guidelines.
B. Evaluate adherence to protocols.
C. Determine if interventions made for identified treatment gaps result in fewer hospital admissions to the ICU.

III. Methods
A. Phase I: retrospective review (January – June, 2016)
   1. Patients > 16 years of age
   2. Age, gender, hospital admission areas, initial BAC, CIWA-Ar scores, benzodiazepine administration
B. Phase II
   1. Interventions
      a. Update ED alcohol withdrawal protocol/order set
      b. Provide ED nursing education
   2. Retrospective review (March – April, 2017; same criteria)

IV. Results

<table>
<thead>
<tr>
<th></th>
<th>Patient Characteristics</th>
<th>Phase I (n = 50)</th>
<th>Phase II (n = 12)</th>
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</thead>
<tbody>
<tr>
<td>Male</td>
<td></td>
<td>38 (76%)</td>
<td>11 (91.7%)</td>
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<tr>
<td>Age (mean)</td>
<td></td>
<td>45.8 years</td>
<td>38.4 years</td>
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<tr>
<td>Patients with ≥ 2 admissions for alcohol withdrawal in specified time frame</td>
<td>7 (14%)</td>
<td>1 (8.3%)</td>
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<tr>
<td>Admission BAC (mean)</td>
<td></td>
<td>93.9 mg/dL</td>
<td>180.1 mg/dL</td>
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<thead>
<tr>
<th></th>
<th>Phase I (n = 50)</th>
<th>Phase II (n = 12)</th>
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<tbody>
<tr>
<td>Patients initially presenting to ED</td>
<td>50 (100%)</td>
<td>11 (91.7%)</td>
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<tr>
<td>Length of stay (mean)</td>
<td>6.6 days</td>
<td>2.1 days</td>
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<tr>
<td>BAC not measured</td>
<td>14 (28%)</td>
<td>4 (33.3%)</td>
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<tr>
<td>ICU admissions</td>
<td>15 (30%)</td>
<td>1 (8.3%)</td>
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<tr>
<td>Direct ED to ICU admissions</td>
<td>10 (20%)</td>
<td>0</td>
</tr>
<tr>
<td>Direct ICU admissions</td>
<td>66.7%</td>
<td>0%</td>
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<tr>
<td>Total ICU admissions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patients in ED with no documented CIWA-Ar score</td>
<td>26 (52%)</td>
<td>2 (16.7%)</td>
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V. Discussion

A. Areas improved: hospital length of stay, ICU admissions, direct ED to ICU admissions, CIWA-Ar score administration and documentation, medications given for symptom management increased

B. Areas in need of improvement: measurement of BAC, order set build still in process

C. Limitations: Phase II results are based on a limited amount of data

VI. Conclusions

A. Phase I results of this study identified gaps in BHDH’s processes for assessing and treating patients in acute alcohol withdrawal

B. Nursing education and protocol updates improved the rate of symptom severity and assessment and treatment in the ED and decreased hospital length of stay and ICU admissions.

VII. References


