Implementation of an Evidence-Based Drug Screening Tool for Inpatient Behavioral Health Admissions

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Recommended Citation
Kress, Kurtis J. and Johnson, Mary, "Implementation of an Evidence-Based Drug Screening Tool for Inpatient Behavioral Health Admissions" (2022). *Graduate Publications and Other Selected Works - Doctor of Nursing Practice (DNP).*
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IMPLEMENTATION OF AN EVIDENCE-BASED DRUG SCREENING TOOL FOR INPATIENT BEHAVIORAL HEALTH ADMISSIONS

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The University of Tennessee, Knoxville
OVERVIEW OF CLINICAL PROBLEM

• Of all psychiatric inpatient stays, 30.3% are solely related to substance abuse disorders

• Behavioral health hospitals in the United States underutilize evidence-based substance abuse screening procedures

• Behavioral health patients are more likely to suffer from substance abuse disorders

• Behavioral health patients are more likely to use multiple substances concurrently

(OWens et al., 2019; Zhu & Wu, 2020)
OVERVIEW OF CLINICAL PROBLEM

• Only 11% of those exhibiting signs of substance abuse receive effective treatment.

• 47% of patients who tested positive for opiates in 2018 also tested positive for amphetamines.
  • By comparison, only 12% tested positive for both in 2014.

• Most facilities rely upon single question drug abuse screening. Current research displays that single question screening has a low evidence quality (C).

(Mahoney et al., 2021; PEA, 2010; Shapiro et al., 2013)
CLINICAL PROBLEM

Though public health initiatives argue for the routine implementation of evidence-based drug screening tools, assessments like the DAST-10 are underutilized.

- 2/3 of individuals receiving treatment for substance abuse found help through self-referrals or criminal justice systems
- Though standardized drug abuse screening tools take an average 10 minutes, the average U.S. physician only spends 17 minutes with each patient
- Routine drug abuse screening procedures are often minimal in length and depth

(Elflein, 2019; Healthy People, 2020; PEA, 2010; Shapiro et al. 2013)
PURPOSE AND GOAL

• Purpose
  • To implement an evidence-based screening tool for substance abuse among patients presenting for behavioral health inpatient treatment.

• Goal
  • To increase the identification and treatment of substance abuse disorders among individuals receiving behavioral health inpatient care.
GUIDING FRAMEWORK: PROCESS

IOWA Evidence-Based Practice to Promote Excellence in Health Care Model

Figure 1. Iowa Model of Evidence-Based Practice to Promote Quality Care. From “Iowa Model of Evidence-Based Practice to Promote Quality Care,” by Titler, M.G., Kleiber, C., Rakel, B., Budreau, G., & Everett, L.Q., 2001, Critical Care Nursing Clinics of North America, 13, pp. 491-509. Reprinted with permission.
GUIDING FRAMEWORK: THEORETICAL

Barker & Buchanan-Barker’s Tidal Model of Mental Health Nursing

Figure 2. Tidal Model of Mental Health Recovery. From “The tidal model of mental health recovery” by Brooks, N., 2017, NurseKey. Reprinted with permission.
PICOT Question

“Among adult populations receiving care from an east TN behavioral health inpatient facility, how does routine administration of DAST-10 during patient admission affect the identification and treatment of substance use disorders over a 3 month period?”
Literature Search

Figure 3: Adapted PRISMA Diagram

Synthesis

• Four different applications of the Drug Abuse Screening Test (DAST) were addressed across the referenced studies
  • The use of DAST-2
  • The use of DAST among emergent psych patients
  • The use of DAST in outpatient populations
  • The use of DAST-10

• All studies displayed clinically and statistically significant results concerning the use of DAST to identify substance use disorders

• The DAST is a clinically significant (P<.001) drug abuse screen for emergent populations

• The DAST-10 is a clinically significant (P<.001) substance abuse screen for patients exhibiting signs of psychosis

(Cassidy et al., 2008; Giguère et al., 2017; Tiet et al., 2017; Yudko et al., 2007)
RECOMMENDATIONS FOR PRACTICE

• Psychiatric inpatients should be screened with DAST during admission to promote the identification of comorbid substance abuse disorders and potential for withdrawal (strong, consistent)

• DAST-10 should be used instead of longer DAST tools to reduce patient/provider burden and increase compliance (strong, consistent)
IMPLEMENTATION TIMELINE

• May- September 2021: PDSA cycles

• October- December 2021: Implement Intervention

• January- February 2022: Evaluate EBP Process/ Outcomes

• February- May 2022: Dissemination of Findings & Institute Practical Change
DAST – 10 SCREENING

Adapted from (Skinner, 1982)

<table>
<thead>
<tr>
<th>In the past 12 months...</th>
<th>Circle</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Have you used drugs other than those required for medical reasons?</td>
<td>Yes</td>
</tr>
<tr>
<td>2. Do you abuse more than one drug at a time?</td>
<td>Yes</td>
</tr>
<tr>
<td>3. Are you unable to stop abusing drugs when you want to?</td>
<td>Yes</td>
</tr>
<tr>
<td>4. Have you ever had blackouts or flashbacks as a result of drug use?</td>
<td>Yes</td>
</tr>
<tr>
<td>5. Do you ever feel bad or guilty about your drug use?</td>
<td>Yes</td>
</tr>
<tr>
<td>6. Does your spouse (or parents) ever complain about your involvement with drugs?</td>
<td>Yes</td>
</tr>
<tr>
<td>7. Have you neglected your family because of your use of drugs?</td>
<td>Yes</td>
</tr>
<tr>
<td>8. Have you engaged in illegal activities in order to obtain drugs?</td>
<td>Yes</td>
</tr>
<tr>
<td>9. Have you ever experienced withdrawal symptoms (felt sick) when you stopped taking drugs?</td>
<td>Yes</td>
</tr>
<tr>
<td>10. Have you had medical problems as a result of your drug use (e.g. memory loss, hepatitis, convulsions, bleeding)?</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Scoring: Score 1 point for each question answered “Yes,” except for question 3 for which a “No” receives 1 point.

Score:
### DAST-10 SCORING

**Interpretation of Score**

<table>
<thead>
<tr>
<th>Score</th>
<th>Degree of Problems Related to Drug Abuse</th>
<th>Suggested Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>No problems reported</td>
<td>None at this time</td>
</tr>
<tr>
<td>1-2</td>
<td>Low level</td>
<td>Monitor, re-assess at a later date</td>
</tr>
<tr>
<td>3-5</td>
<td>Moderate level</td>
<td>Further investigation</td>
</tr>
<tr>
<td>6-8</td>
<td>Substantial level</td>
<td>Intensive assessment</td>
</tr>
<tr>
<td>9-10</td>
<td>Severe level</td>
<td>Intensive assessment</td>
</tr>
</tbody>
</table>

Adapted from (Skinner, 1982)
EVALUATION OF INTERVENTION

Outcome Measures

• Orders for subsequent screening protocols (Clinical Opiate Withdrawal Scale- COWS, Clinical Institute Withdrawal Scale- CIWA)

• Orders for medication-assisted treatment (MAT) protocols

Significance

• Determined via retrospective chart review
  • Adult inpatients from October to December, 2020
RESULTS
• Mean age was 43.32 for the study group and 41.11 for the retrospective group. There was no significant difference between patient age between groups ($p < 0.225$).

• Among the study group, 61.8% of the sample identified as male, while 38.2% identified as female. Among the retrospective group, 60.9% identified as male, while 39.1% identified as female. There was no significant difference between groups by gender ($p < 0.890$).

<table>
<thead>
<tr>
<th>Table 1. Patients by Age and Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category</td>
</tr>
<tr>
<td>----------</td>
</tr>
<tr>
<td>Age</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Gender</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
There was a significant difference between the study group and the retrospective group concerning primary diagnoses. \((p<0.002)\)

Two primary diagnoses changed noticeably:

1. “Schizoaffective Disorder” - 12 patients in the study group vs. 1 patient in the retrospective group.
2. “Psychosis-unspecified” - 6 patients in the study group vs. 24 patients in the retrospective group.

These rates are addressed later in this presentation.

### Table 2. Participants by Primary Diagnosis

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Group</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUD</td>
<td>Study</td>
<td>12</td>
<td>10.9%</td>
</tr>
<tr>
<td></td>
<td>Retrospective</td>
<td>9</td>
<td>8.2%</td>
</tr>
<tr>
<td>MDD</td>
<td>Study</td>
<td>32</td>
<td>29.1%</td>
</tr>
<tr>
<td></td>
<td>Retrospective</td>
<td>37</td>
<td>33.6%</td>
</tr>
<tr>
<td>GAD</td>
<td>Study</td>
<td>1</td>
<td>0.9%</td>
</tr>
<tr>
<td></td>
<td>Retrospective</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>BPD</td>
<td>Study</td>
<td>31</td>
<td>28.2%</td>
</tr>
<tr>
<td></td>
<td>Retrospective</td>
<td>24</td>
<td>21.8%</td>
</tr>
<tr>
<td>Schizophrenia</td>
<td>Study</td>
<td>13</td>
<td>11.8%</td>
</tr>
<tr>
<td></td>
<td>Retrospective</td>
<td>10</td>
<td>9.1%</td>
</tr>
<tr>
<td>Schizoaffective Disorder</td>
<td>Study</td>
<td>12</td>
<td>10.9%</td>
</tr>
<tr>
<td></td>
<td>Retrospective</td>
<td>1</td>
<td>0.9%</td>
</tr>
<tr>
<td>Psychosis (unspecified)</td>
<td>Study</td>
<td>6</td>
<td>5.5%</td>
</tr>
<tr>
<td></td>
<td>Retrospective</td>
<td>24</td>
<td>21.8%</td>
</tr>
<tr>
<td>Mood Disorder (unspecified)</td>
<td>Study</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td></td>
<td>Retrospective</td>
<td>1</td>
<td>0.9%</td>
</tr>
<tr>
<td>PTSD</td>
<td>Study</td>
<td>3</td>
<td>2.7%</td>
</tr>
<tr>
<td></td>
<td>Retrospective</td>
<td>4</td>
<td>3.6%</td>
</tr>
</tbody>
</table>

SUD= substance use disorder; MDD= major depressive disorder, GAD= generalized anxiety disorder, BPD= bipolar disorder; PTSD = post-traumatic stress disorder
SCREENING PROTOCOLS

• There was a slight increase concerning the number of CIWAS and COWS administered between the groups.

• There was no significant difference between the rates. ($p<0.669$)
MEDICATION ASSISTED TREATMENT (MAT) PROTOCOLS

- There appeared to be a slight shift towards the use of opiate MAT protocols.
- Clonidine use increased by 300%.
- There was no significant difference between the rates. ($p<0.055$)
• The Drug Abuse Screening Test- 10 question screening may be administered with minimal provider burden but was not determined to be significantly effective for routine implementation.

• The use of a standardized screening tool may be difficult with psychotic and/or violent patients, and sampling by convenience may result in the targeted selection [and avoidance] of certain patient groups.

• While there appeared to be a slight increase in the number of CIWAs and COWS administered, these results were not significant.

• While the number of opiate MAT protocols increased, the results were not significant.
MOVING FORWARD: RECOMMENDATIONS

• It is recommended that this study should be repeated with a larger sample.

• It is recommended that this study be repeated with a randomly sampled study group.

• It is recommended that the retrospective and study groups should be assessed by the same admissions team.
LIMITATIONS

• Sample Size

• Sampling Method

• Patient Population
CONCLUSION
DISSEMINATION PLAN

(1) Presentation of results to stakeholders - (April 2022)

(2) Recording of scholarly project presentation for social media upload - (April 2022)

(3) Manuscript Submission - Journal of the American Psychiatric Nurses Association (JAPNA) - (May 2022)
QUESTIONS?
REFERENCES


REFERENCES- CONTINUED


REFERENCES- CONTINUED


