IMPACT

ACEP Study (2008) – 1400 ED Medical Directors
79% reported that many of the boarded patients in their ED are BH patients
62% indicated a lack of available psychiatric services for BH patients boarded in ED
89% reported that many of the psychiatric patients are transferred due to unavailable beds in their hospitals
23% reported no community psychiatric resources.
72% stated that BH patients require more resources, including added nursing time, than many BH patients
85% said the wait time for all ED patients would improve if better psychiatric services were in place


IMPACT – Schumacher Group study (2010) – Hospital Administrators
>70% reported behavioral health patients boarding in the ED for 24 h or longer
10% reported that behavioral health patients are boarding one or more weeks

NURSING ROLE FOR BOARDED PATIENTS

Safety
Management of acute conditions and prevention of complications
- Complete medication list for patient home medications including OTC, herbal, prn—name of med, dose, route, frequency, last time taken
- Discuss with ED or admitting physician need for continuing home medications without delays or gaps while boarding

Basic needs—Compassion, human contact, food, comfort, privacy, elimination, sleep/rest, hygiene (skin, hair, teeth), activity,

CATEGORIES OF PSYCHIATRIC DISORDERS

Mood disorders—depression, bipolar
Anxiety disorders—anxiety, panic, PTSD, OCD
Psychotic disorders—schizophrenia, schizoaffective disorder

Medical conditions may trigger or exacerbate psychiatric conditions.

THE STRUCTURES OF NEUROTRANSMITTERS

- Norepinephrine: motor arousal, vision, anxiety, focus
- Dopamine: motivation, attention, reward, movement
- Serotonin: mood, appetite, sleep
- Acetylcholine: memory, learning, attention
- GABA: inhibition, learning, memory, anxiety
- Glutamate: excitation, memory, learning, movement
- Gamma-aminobutyric acid (GABA): inhibition, learning, memory, anxiety
CHEMICAL IMBALANCE

• Chemical imbalances responsible for many psychiatric disorders
• Estimated 50% of patients with 1 mental illness diagnosis also meet criteria for multiple disorders

CATEGORIES OF PSYCHIATRIC MEDICATIONS

<table>
<thead>
<tr>
<th>Antidepressants</th>
<th>Depression, anxiety, panic, bipolar, OCD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anxiolytics</td>
<td>Anxiety, Panic, PTSD, OCD</td>
</tr>
<tr>
<td>Mood stabilizers</td>
<td>Bipolar</td>
</tr>
<tr>
<td>Antipsychotics</td>
<td>Schizophrenia, Bipolar</td>
</tr>
</tbody>
</table>

ANTIDEPRESSANTS

SSRI - Selective Serotonin Reuptake Inhibitors
SNRI - Serotonin and Norepinephrine Reuptake Inhibitors
NRAs - Norepinephrine and Dopamine Reuptake Inhibitors
Tricyclics - Decrease reuptake of serotonin and norepinephrine
MAOIs - Monoamine Oxidase Inhibitors, effects levels of norepinephrine, serotonin, and dopamine
Others - Combination reuptake inhibitors and receptor blockers

<table>
<thead>
<tr>
<th>SSRIs</th>
<th>SNRIs</th>
<th>NDRIs</th>
<th>Tricyclic</th>
<th>MAOIs</th>
<th>Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td>Escitalopram (Lexapro)</td>
<td>Paroxetine (Paxil)</td>
<td>Fluoxetine (Prozac)</td>
<td>Sertraline (Zoloft)</td>
<td>Citalopram (Celexa)</td>
<td>Duloxetine (Cymbalta)</td>
</tr>
<tr>
<td>Venlafaxine (Effexor)</td>
<td>Desvenlafaxine (Pristiq, Khedezla)</td>
<td>Levomilnacipran (Fetzima)</td>
<td>Trazodone (Desyrel)</td>
<td>Trazodone (Desyrel)</td>
<td>Trazodone (Desyrel)</td>
</tr>
<tr>
<td>NURSING CONSIDERATIONS</td>
<td>Side Effects: drowsiness, nausea, dry mouth, insomnia, diarrhea, nervousness, agitation, mouth discomfort, dizziness, sexual problems, breast tenderness, joint pain</td>
<td>Side Effects: nausea, headache, dizziness, dry mouth, fatigue, constipation, sexual problems, constipation, some may increase blood pressure (Cymbalta, Effexor, Prialt), worsening of liver problems (Cymbalta)</td>
<td>Side Effects:</td>
<td>Side Effects:</td>
<td>Side Effects:</td>
</tr>
<tr>
<td></td>
<td>Risks: Not addictive but withdrawal symptoms if stopped abruptly, suicide risk</td>
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<td>Risks:</td>
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</tr>
<tr>
<td></td>
<td>Serotonin syndrome — too much serotonin from new or increased dosing or medication interactions (other antidepressants, pain meds, sleep aids, cough suppressants, anxiolytics, LSD, St. John’s Wort, ginseng)</td>
<td>High fever, abdominal pain, tremors, dilated pupils</td>
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</tr>
<tr>
<td></td>
<td>Treatment: Stop drug, Sx treatment, cyproheptadine (Periactin) to block serotonin production</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
NURSING CONSIDERATIONS

Side Effects - nausea, dry mouth, sore throat, tremors, headache, dizziness, diaphoresis, insomnia, constipation, tinnitus, joint aches, loss of interest in sex,...

Risks - Not addictive, but withdrawal symptoms if stopped abruptly, suicide risk.

Medication interactions with - anti-coagulants, HIV/AIDS medications, anti-convulsants, insulin or other oral diabetes meds, pain meds, steroids, cocaine, theophylline.

Cyclic Antidepressants (Tri, Tetra)

Decrease reuptake of serotonin and norepinephrine

Amitriptyline (Elavil)            Imipramine (Tofranil)
Desipramine (Norpramin)            Nortriptyline (Aventyl, Pamelor)
Clomipramine (Anafranil)

NURSING CONSIDERATIONS

Side Effects - not used as often due to unpleasant side effects, anti-cholinergic side effects (blurred vision, constipation, dry mouth, urinary retention), also drowsiness (take at bedtime), orthostatic hypotension, increased appetite, diaphoresis, tremors, sexual dysfunction, weight gain.

Risks - Not addictive, but withdrawal symptoms if stopped abruptly, suicide risk, confusion (esp. elderly), irregular heart rate, worsening of heart conditions, liver disease, glaucoma, prostate enlargement, extreme risks with overdose.

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MAOIs (1st type developed) - Monoamine Oxidase Inhibitors

effects levels of norepinephrine, serotonin, and dopamine

Isocarboxazid (Marplan)            Phenelzine (Nardil)
Selegiline (Emsam)              Tranylcypromine (Parnate)

NURSING CONSIDERATIONS

Diet restrictions - avoid tyramine-rich foods to prevent severe hypertension - avocado bananas, aged cheeses (not cream cheese or cottage cheese), soy sauce and other process-fermented foods, sauerkraut, cured meats, beer, wine, tea.

Side Effects - not used as often due to unpleasant side effects, dry mouth, nausea, drowsiness, constipation, headache, dizziness, insomnia, diaphoresis, low blood pressure, sexual dysfunction, weight gain, anxiety, confusion, derevinging/taking.

Risks - Not addictive, but withdrawal symptoms if stopped abruptly, suicide risk, serotonin syndrome.

NDRIs - Norepinephrine and Dopamine Reuptake Inhibitors

Buproprion (Wellbutrin)

NURSING CONSIDERATIONS

Side Effects - ... anti-coagulants, HIV/AIDS medications, anti-convulsants, insulin or other oral diabetes meds, pain meds, steroids, cocaine, theophylline.

Cyclic Antidepressants (Tri, Tetra)

Decrease reuptake of serotonin and norepinephrine

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Risks - Not addictive, but withdrawal symptoms if stopped abruptly, suicide risk, serotonin syndrome.
ANXIETY DISORDERS
Generalized Anxiety Disorder (GAD)
Panic Disorder
Phobic Disorder
Obsessive Compulsive Disorder
Post-Traumatic Stress Disorder (PTSD)

ANTI-ANXIETY MEDICATIONS

| Antidepressants | Benzodiazepines | Beta Blockers | Atypical Antipsychotics | Anticonvulsants |
|-----------------|-----------------|--------------|-------------------------|-----------------
| Clomipramine (Anafranil) | Lorazepam (Ativan) | Propranolol (Inderal) | Olanzapine (Zyprexa) | Gabapentin (Neurontin) |
| Fluoxetine (Prozac) | Clonazepam (Klonopin) | Atenolol (Tenormin) | Pregabalin (Lyrica) | Other |
| Escitalopram (Lexapro) | Alprazolam (Xanax) | Propranolol (Inderal) | Olanzapine (Zyprexa) | Clonidine |
| Sertraline (Zoloft) | Alprazolam (Xanax) | Propranolol (Inderal) | Pregabalin (Lyrica) | Other |
| Paroxetine (Paxil) | Alprazolam (Xanax) | Propranolol (Inderal) | Gabapentin (Neurontin) | Other |
| Fluoxetine (Prozac) | Alprazolam (Xanax) | Propranolol (Inderal) | Gabapentin (Neurontin) | Other |
| **For hard to treat bipolar disorder or rapid cycle bipolar disorder (not FDA approved)** - some physicians may use Topiramate (Topamax) Gabapentin (Neurontin) |

BIPOLAR DISORDER

<table>
<thead>
<tr>
<th>Mood Stabilizers</th>
<th>Atypical Antipsychotics</th>
<th>Other (in combination)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lithium</td>
<td>Clozapine (Clozaril)</td>
<td>Risperidone (Risperdal)</td>
</tr>
<tr>
<td>Valproate (Valproic Acid)</td>
<td>Olanzapine (Zyprexa)</td>
<td>Quetiapine (Seroquel)</td>
</tr>
<tr>
<td>Divalproex Sodium (Depakote)</td>
<td>Ziprasidone (Geodon)</td>
<td>Ziprasidone (Geodon)</td>
</tr>
<tr>
<td>Carbamazepine (Tegretol)</td>
<td>Aripiprazole (Abilify)</td>
<td>Gabapentin (Neurontin)</td>
</tr>
<tr>
<td>Lamotrigine (Lamictal)</td>
<td>Valproate (Valproic Acid)</td>
<td>Other</td>
</tr>
<tr>
<td>Oxcarbazepine (Trileptal)</td>
<td>Depakene (Depakene)</td>
<td>Other</td>
</tr>
<tr>
<td></td>
<td>Sertraline (Zoloft)</td>
<td>Other</td>
</tr>
<tr>
<td></td>
<td>Paroxetine (Paxil)</td>
<td>Other</td>
</tr>
<tr>
<td></td>
<td>Fluoxetine (Prozac)</td>
<td>Other</td>
</tr>
<tr>
<td></td>
<td>Venlafaxine (Effexor)</td>
<td>Other</td>
</tr>
</tbody>
</table>

**Note:** The table above includes medications commonly used in the treatment of anxiety disorders and bipolar disorder. Always consult a healthcare professional for personalized treatment plans.
### Mood Stabilizers

<table>
<thead>
<tr>
<th>Lithium</th>
<th>Valproate (Valproic Acid)</th>
<th>Divalproex Sodium (Depakote)</th>
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<tbody>
<tr>
<td></td>
<td>Carbamazepine (Tegretol)</td>
<td>Lamotrigine (Lamictal)</td>
</tr>
<tr>
<td></td>
<td>Oxcarbazepine (Trileptal)</td>
<td></td>
</tr>
</tbody>
</table>

### Nursing Considerations

**Side Effects**
- Nausea, vomiting, diarrhea, tremors, thirst, increased urination, drowsiness, hyponatremia, etc.

**Lithium**
- Lots of side effects, may cause dysfunction of liver, kidneys, thyroid, serotonin syndrome, unmasking of Brugada syndrome, encephalopathy
- Toxic levels (> 1.5 mEq/L) close to therapeutic levels (0.8 - 1.2 mEq/L) - check levels if dosing change or addition of other meds (diuretics, non-steroidal anti-inflammatory drugs, renin-angiotensin system antagonists, or metronidazole), monitor for toxicity (GI, drowsiness, lack of coordination)
- Step down, increase fluid intake, monitor, antimyelophenic, dialysis if severe toxicity
- Diet needs - 3 gm Na diet and 3L fluid intake/day

### Antipsychotic Medications

#### Typical Antipsychotics (1st Gen - FGA)
- Chlorpromazine (Thorazine)
- Perphenazine (Trilafon)
- Fluphenazine (Prolixin)
- Thioridazine (Mellaril)
- Mesoridazine (Serentil)
- Trifluoperazine (Stelazine)
- Haloperidol (Haldol)
- Molindone (Moban)

#### Atypical Antipsychotics (2nd Gen - SGA)
- Clozapine (Clozaril)
- Olanzapine (Zyprexa)
- Risperidone (Risperdal)
- Quetiapine (Seroquel)
- Ziprasidone (Geodon)
- Aripiprazole (Abilify, Aristada injectable)

#### Other (in combination) (3rd Gen)
- Apipiprazole (Abilify, Metadate injectable)

#### Dopamine Blockers for EPS symptoms
- Blockers for dopamine receptors D2, D3, D4
- EPS symptoms
  - Less EPS than FGA

#### Weak Dopamine Blocker at D2: haloperidol: dopamine receptor of serotonergic
- Partial Dopamine agonist by stabilizing and modulating D2 receptor sites
  - Less EPS than FGA
**EXTRAPYRAMIDAL SYMPTOMS**

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Description</th>
<th>Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute dystonia</td>
<td>Muscle rigidity/spasm, torticollis, opisthotonus, stiff tongue, problems swallowing, oculogyric, laryngospasm (rare)</td>
<td>Anti-cholinergics (Cogentin IM, Benadryl IM/IV) Change drug or dose</td>
</tr>
<tr>
<td>Pseudoparkinism</td>
<td>Stopped posture, masklike facial expression, shuffling gait, drooling, tremors, pill-rolling movements of fingers</td>
<td>Anti-cholinergics (Cogentin IM, Benadryl IM/IV) Change drug or dose Add amantadine - MOA unknown, medication used for movement disorders</td>
</tr>
</tbody>
</table>

**EXTRAPYRAMIDAL SYMPTOMS**

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Description</th>
<th>Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Akathisia</td>
<td>Lots of movements, restlessness (RLS), anxiety, agitation</td>
<td>Beta-blocker, anti-cholinergic, benzodiazepine Change drug or dose</td>
</tr>
</tbody>
</table>

**Tardive dyskinesia**

| Permanent and irreversible Tongue-thrusting, lip-smacking, blinking, grimacing | Decrease or reduce dose to arrest progression | Change drug (consider clozapine) |

**NEUROLEPTIC MALIGNANT SYNDROME**

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Other considerations</th>
<th>Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Fever, Muscular rigidity, Autonomy dysfunction Ulcer Blisters, Pallet, Diaphoresis, Dryoglia, Dysphonia, Incontinence Aghstria, progressive altered mental status, Lab studies - metabolic and electrolyte abnormalities, Rest failure, Hypokalemic, Ad, Severe acidosis</td>
<td>Drowsy, potentially fatal Higher risk with D2 receptor antagonists May occur with new or changed medications or dosing Increased risk if dehydration, malnutrition, recurrent medical illness</td>
<td>Discontinue neuroleptic medications immediately Resume underlying issues deliriation, nutrination Supportive and symptom management</td>
</tr>
</tbody>
</table>
### AGRANULOSYTOSIS (WITH CLOZAPINE)

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Other considerations</th>
<th>Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rapid onset</td>
<td>Rare, potentially fatal</td>
<td>Frequent monitoring of WBC and ANC.</td>
</tr>
<tr>
<td>Sore throat</td>
<td>May occur weeks or months after starting med.</td>
<td>Clozantine drug WBC drops by 50% or is less than 1,000.</td>
</tr>
<tr>
<td>Oral ulcerations</td>
<td>Frequent due to potential for agranulocytosis but may be prevented for treatment-resistant or recurrent suicidal behavior as pts w/ schizophrenia.</td>
<td>Use of granulocyte colony stimulating factor (not FDA approved)</td>
</tr>
<tr>
<td>Fever</td>
<td>Decreased WBC and ANC counts</td>
<td>Infrequently due to potential for agranulocytosis but may be prevented for treatment-resistant or recurrent suicidal behavior as pts w/ schizophrenia.</td>
</tr>
</tbody>
</table>

INTRODUCTION

According to the Agency for Healthcare Research and Quality (AHRQ), mental disorders and/or substance abuse are related to one of every eight emergency department cases in the U.S. The estimates are based on 12 million visits to hospital emergency departments in a year. It is important that health care providers are able to identify, document, and treat psychiatric patients in the emergency setting. The finding indicates a critical need for more information about how to care for these patients. It is also important that ongoing research related to the care of psychiatric patients in the emergency care setting be identified.

REFERENCES


