Understanding and Addressing Medication Adherence in Psychiatry

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Objectives

• Discuss definitions of medication adherence in psychiatry and review current adherence statistics

• Review factors that may influence adherence

• Understand the importance of adherence

• Explore barriers to adherence and tools for addressing medication adherence
## Differentiating Adherence, Compliance, Persistence, and Concordance

### Compliance
- The extent to which a patient conforms to healthcare provider recommendations regarding timing, dosage and frequency of taking medication.\(^1\) Patient agreement with the recommendations is not required.\(^2\)

### Adherence
- The extent to which a patient’s behavior—taking medications, and/or executing lifestyle changes—corresponds with healthcare provider recommendations agreed upon by the patient. Patient agreement with the recommendations is required.\(^2\)

### Persistence
- The act of continuing to take medication for the prescribed duration of time from initiation to discontinuation of therapy. The patient may continue to take any amount of medication and be considered persistent.\(^1\)

### Concordance
- The process of reaching a consensus about medication taking which focuses on adequate communication and the clinician-patient relationship as the cornerstones of the medication-taking process and addresses whether recommendations are “right or wrong”.\(^3\)

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Medication Interest and Follow-through

• In contrast to authoritative models, shared decision making (SDM) is a collaborative, dynamic, interactive process whereby consumers and providers are equal partners, working together to exchange information to reach consensus on health-care decisions¹,²

  – Provider role: to educate patients concerning available, evidence-based treatments; assess and acknowledge their preferences/values; and empower them to take an active role in the decision-making process

  – Patient role: to provide input via their experience with the illness and share their needs, values, life desires, and goals

  – The most important outcome of SDM may not be the decision, but rather the process

• Evidence suggests that use of SDM may lead to greater adherence to treatment regimens, better disease control, and greater patient satisfaction¹

• The concept of medication interest and follow through is more aligned with a shared decision-making approach to treatment

Variations in Defining and Assessing Adherence

Definitions:
- Stopping for a specified period
- Percentage
- Active refusal
- Passive acceptance
- Active participation

MEMS, Microelectromechanical systems

Study population: patients with schizophrenia.
Limitations of Current Adherence Measurement Methods May Be Factors in the Underestimation of Nonadherence

<table>
<thead>
<tr>
<th>Adherence Measurement Methods</th>
<th>Limitations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physician ratings and patient self-report</td>
<td>• Overestimation of adherence(^1)</td>
</tr>
<tr>
<td></td>
<td>• Unreliable(^1)</td>
</tr>
<tr>
<td>Adherence assessment scales/interviews</td>
<td>• Questionable correlation with compliance(^1,2)</td>
</tr>
<tr>
<td>Medication measurement (eg, pill count, weighting)</td>
<td>• Counting inaccuracies may lead to overestimation of adherence(^3)</td>
</tr>
<tr>
<td></td>
<td>• Pills can be stockpiled or discarded(^3,4)</td>
</tr>
<tr>
<td></td>
<td>• Timing of dosage and patterns of missed dosage cannot be captured(^5)</td>
</tr>
<tr>
<td>Pharmacy records/databases (MPR)</td>
<td>• Filling prescription does not indicate ingestion(^3,6)</td>
</tr>
<tr>
<td></td>
<td>• May have obtained the drug elsewhere(^6)</td>
</tr>
<tr>
<td></td>
<td>• Global estimate—no patterns of behavior captured(^3)</td>
</tr>
<tr>
<td>Electronic monitoring (eg, MEMS)</td>
<td>• Missing data if cap is left off(^7)</td>
</tr>
<tr>
<td></td>
<td>• May take more than one pill out of the bottle(^7)</td>
</tr>
<tr>
<td>Directly observed ingestion</td>
<td>• Labor-intensive(^3)</td>
</tr>
<tr>
<td></td>
<td>• May be intrusive(^3)</td>
</tr>
<tr>
<td>Hair analysis</td>
<td>• Specialized lab; some require 3 months’ growth(^8)</td>
</tr>
<tr>
<td></td>
<td>• Does not indicate timing of dosage(^8)</td>
</tr>
<tr>
<td>Therapeutic drug monitoring</td>
<td>• Not available for all drugs(^9)</td>
</tr>
<tr>
<td></td>
<td>• Data only indicates short-term patient behavior(^3)</td>
</tr>
<tr>
<td></td>
<td>• Plasma levels of drug or metabolite can be affected by comediations,(^9)</td>
</tr>
<tr>
<td></td>
<td>intra-individual variability,(^3) timing of sample(^9)</td>
</tr>
</tbody>
</table>

MEMS, Microelectromechanical systems; MPR, medication possession ratio.

DISCUSSION
Multiple Factors Influence Nonadherence

**Social/economic factors**
- Lack of social/family support\(^1,2\)
- Caregiver attitudes to medication and illness\(^1,3\)
- Caregiver ability to supervise/remind patient\(^3\)
- Transportation issues\(^1\)
- Unemployment/Financial constraints\(^1,2\)
- Homelessness\(^1,2\)
- Lack of daily routines\(^2\)
- Illiteracy/low level of education\(^1\)

**Treatment-related factors**
- Effectiveness\(^1-3\)
- Side effects\(^1-3\)
- Dose frequency, formulation and treatment duration\(^1,3\)
- Financial cost to patient\(^2,3\)
- Co-prescribed drugs and complexity of regimen\(^1,3\)
- Past medication experience\(^1,3\)

**Patient-related factors**
- Past history of adherence\(^3,4\)
- Stigma about mental illness\(^1,3\)
- Fear of potential side effects\(^1,2\)
- Belief that medications are not needed\(^1,2\)
- Attitudes to medication and illness\(^2,3\)

**Health care systems/HCT factors**
- Therapeutic alliance\(^2,3\)
- Ease of access/inadequate reimbursement\(^1,3\)
- Availability of resources\(^5\)
- Discharge planning\(^3,6\)
- Poor medication distribution systems\(^1\)

**Disease-related factors**
- Poor insight\(^2,3\)
- Cognitive impairment\(^2,3\)
- Severity of symptoms\(^1-3\)
- Substance abuse\(^1-3\)
- Comorbid medical or psychiatric conditions\(^1-3\)

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Substance Abuse Is an Important Factor Contributing to Medication Nonadherence

High Prevalence of Substance Use Among Patients With Serious Mental Illness (SMI)¹

• Substance use and abuse are common among patients with SMI.¹-⁴ Co-occurring substance abuse is associated with medication nonadherence,³,⁴ poor prognosis,²-⁴ increased risk of suicide,³,⁴ and violent aggressive behavior²

• It is critical to treat both mental illness and substance abuse simultaneously, if possible, through a comprehensive integrated approach²-⁴

Poor Adherence Associated With Outcomes

Study population: patients with schizophrenia.

Why Discuss Adherence?

- Higher antipsychotic adherence has been associated with lower annual schizophrenia-related hospitalizations and shorter hospital stays. The mean cost for a hospital stay for schizophrenia/other psychotic disorders is reported to be $7,500 (2008 USD).

Medication Gaps Associated With Hospitalization Rates

Study population: patients with schizophrenia.

Nonadherence Starts Early After Discharge From Hospital and Can Increase Over Time In Schizophrenia

- Despite close monitoring, up to 25% of patients diagnosed with schizophrenia were reported as being nonadherent within 7 to 10 days post discharge\(^1\).
- At least 50% of patients diagnosed with schizophrenia became partially adherent or nonadherent within 1 year and 75% within 2 years of discharge\(^1\).

### Time course of antipsychotic medication adherence\(^1\)

<table>
<thead>
<tr>
<th>Time from Discharge</th>
<th>Partially Adherent Patients (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7-10 days</td>
<td>15-25</td>
</tr>
<tr>
<td>1 year</td>
<td>50</td>
</tr>
<tr>
<td>2 years</td>
<td>75</td>
</tr>
</tbody>
</table>

Antipsychotic adherence is not a stable trait; most patients have difficulties with adherence over time\(^2,3\).
Nonadherence May Contribute to a Downward Spiral of Worsened Prognosis

- Nonadherence, even early and partial, may increase risk of hospitalization,1–5 relapse,6,7 attempted suicide,8,9 and impaired social and occupational functioning10 in SMI.

Illustration of the potential impact of continued partial or nonadherence on the patient diagnosed with schizophrenia and on the prognosis over time11

Adapted with permission from Keith SJ, Kane JM. J Clin Psychiatry. 2003;64(11):1308–1315.

Polling Question

In your experience, what percentage of patients do you estimate to be poorly adherent to their prescribed medication(s)?

A. 0%, my patients always take their medication
B. < 10%
C. < 20%
D. < 30%
E. < 40%
F. ≥ 50%
Psychiatrists Perceived High Levels of Adherence Problems in Recent Surveys Outside of the United States

Psychiatrists (N = 4661) treating patients diagnosed with schizophrenia
- Adherent (>90%*): 22
- Partially adherent (>30% to <90%*): 44
- Nonadherent (<30%*): 34

In 13 Asia-Pacific countries¹

Psychiatrists (N = 4722) treating patients diagnosed with schizophrenia
- Adherent (>90%*): 21
- Partially adherent (>30% to <90%*): 47
- Nonadherent (<30%*): 32

In 36 countries in Europe, the Middle East, and Africa²

Psychiatrists (N = 2448) treating patients diagnosed with bipolar disorder
- Adherent (>90%*): 22
- Partially adherent (>30% to <90%*): 43
- Nonadherent (<30%*): 35

In 8 European countries³

* of prescribed doses
Physicians May Tend to Underestimate Adherence Problems in Their Own Clinical Practice

Rates of Nonadherence Assessed in Patients Diagnosed With Schizophrenia by Various Assessment Methods

<table>
<thead>
<tr>
<th>Adherence assessment method</th>
<th>Nonadherence (%) in a 12-week study (N = 52)</th>
<th>Nonadherence (%) in a 6-month study (N = 61)</th>
<th>Nonadherence (%) in a 12-month study (N = 44)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antipsychotic plasma level</td>
<td>51</td>
<td>57</td>
<td>39</td>
</tr>
<tr>
<td>Electronic monitoring</td>
<td>37</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Physician impression</td>
<td>34</td>
<td>5</td>
<td>39</td>
</tr>
<tr>
<td>Pill count</td>
<td>25</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>Patient self-report</td>
<td>14</td>
<td>7</td>
<td>7</td>
</tr>
</tbody>
</table>

Even When Considering Inadequate Response, Physicians Tend to Underestimate the Risk of Nonadherence

- In a large, naturalistic, observational study in outpatients diagnosed with schizophrenia¹

- Adult patients diagnosed with schizophrenia, who in the previous 24 months had had ≥ 2 episodes that required hospitalization, an increase in the level of care, or a change in medication regimen. In addition, patients required a switch/change to their primary antipsychotic medication because of a physician-perceived risk of nonadherence

- Despite having an inadequate response to their antipsychotic medication, only 16% of the overall patient group was considered at risk of nonadherence based on physicians’ best clinical judgment

- Physician-perceived risk of nonadherence was much lower than nonadherence rates (30.0% to 58.4%) in other naturalistic observational schizophrenia studies²

Polling Question

What do you do if a patient presents with increasing symptoms?

A. Increase the dose of current medication
B. Change medication
C. Augment current medication
D. Ask about side effects
E. Offer long-acting injectable medication
F. Ask about medication acceptance and follow-through
Examples of Strategies That May Help Improve Adherence

- Motivational interviewing
- Cognitive behavior therapy
- Simplify treatment regimen
- Consider other treatment options
- Environmental modifications
- Checklists
- Family psychoeducation
- Address side effects

Study population: patients with serious and persistent mental illness.

Adherence Technologies in Psychiatry

- A growing body of research is exploring the potential use of adherence technologies in psychiatry\(^1\)

<table>
<thead>
<tr>
<th>Tools to Assess Adherence</th>
<th>Interventions Intended to Promote Adherence</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Electronic monitoring (eg, smart pill dispensers)(^2,3)</td>
<td></td>
</tr>
<tr>
<td>• Telemonitoring(^4)</td>
<td></td>
</tr>
<tr>
<td>• SMS text reminders(^5–7)</td>
<td></td>
</tr>
<tr>
<td>• Electronic monitoring and feedback(^8,9)</td>
<td></td>
</tr>
<tr>
<td>• Computer-based training and relational agents(^10)</td>
<td></td>
</tr>
</tbody>
</table>

CLOSING