**Medication Adherence**

Improvement Strategies for Prescribing   
Psychiatric Medications to Children & Adolescents

Healthcare providers often express frustration when their patients do not take their medications as prescribed. Medication adherence is defined as taking 80% or more of prescribed medications. However, adherence is a goal that most of us, as patients, do not achieve much of the time. About 50% of patients are not adherent; nonadherence is the norm. For instance, most patients treated for ADHD stop medication within 4 months of the first prescription, and 20% stop after just one month. The adherence rate for adolescents on ADHD medication is 5 to 15%.

Patients and their families are often reluctant to tell healthcare providers that they have not taken their medications as prescribed. This may lead clinicians to prescribe higher doses of medication that are not taken or are taken irregularly, leading to adverse effects or to patients dropping out of treatment. Patients are the most adherent with medication regimes in the weeks just before and after healthcare visits or blood level checks, so blood levels may overestimate daily adherence over the long term.

Healthcare providers can improve medication adherence by expecting and normalizing nonadherence, providing a safe environment to discuss adherence barriers (Table 1), and assessing adherence at every patient visit.

Table 1. Common Barriers to Adherence

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| Barrier type | Examples |
| Pharmacy delays | Difficulty obtaining transportation to pharmacy, long wait at pharmacy, medication shortage at pharmacy |
| Dosage schedule | Frequent dosing throughout the day, mid-day doses, doses scheduled at busy times for family |
| Family schedule | Family’s daily schedule is highly varied due to after-school activities or work schedules; child divides time between households |
| Difficulty understanding pill bottle | Family doesn’t understand difference between mL and mg; pill bottle is labelled in non-preferred language or in small print |
| Medication taste | Children are reluctant to take unpleasant-tasting liquids, especially if high volumes are required |
| Patient/family belief about medication | Family has had a bad experience with this medication. One family member is vocal about opposing use of medication |
| Taking medication has negative association | Patient or family may associate medication with being sick or “bad”, not with becoming well |
| Adolescent desire for autonomy | Teens may feel more powerful if choosing against medication, may feel negative outcomes don’t affect them, or may not take medication due to concern about peer judgment |
| Household stress | Caregiver with mental illness, low number of adults in household and high number of children, family conflict, family denial of illness |

Strategies to Improve Adherence

At the First Visit

1. **Assess current adherence and potential adherence barriers.**Even before recommending a medication, establish that adherence is an important topic to discuss at office visits. Ask new patients about medication history, encouraging the patient and family to describe how they feel about the medication in use. It can be suggested that many people find it hard to take their medication regularly, and that it would be helpful to learn their opinion about the current medications. Is the medication helpful? Have there been adverse effects? Is the dosage schedule working, or is it hard to remember to take the medication? How many doses have been missed in a typical week? Is the medication cost or travelling to the pharmacy a problem? What medications were discontinued previously, and what led to discontinuation? Does the patient feel that they are sensitive to medication and want a slower medication titration? How does the family feel about the patient taking medication? Is the patient interested in taking medication now?
2. **Explain adherence needed with new prescriptions and provide a safe space to discuss adherence problems.**If a decision is made to start a medication, express optimism that treatment will work. When there is a choice between medications, briefly and confidently discuss pros and cons about the options. Identify any adherence barriers each option may pose for the family. “I hear this one is pricey – you might want to think about GoodRx and checking prices at a few pharmacies to find the best deal.” “This one is pretty bitter, so I would think about a Popsicle first or a chocolate pudding chaser”. “This one has to be taken 3 times a day – will a lunch-time dose work for your schedule?” Once a medication is selected, build an expectation that the medication will not work immediately and must be taken for an adequate time. Tell the patient when to expect results and how long the medication typically should be continued. Patients might expect to be done with a prescription in two weeks if their only medication experience has been taking antibiotics. They may believe psychiatric medications can be skipped on non-school days if they have taken only stimulants. Remind the patient that medication works best if taken every day. Ask them to note any missed doses and to let you know if they decide not to start the medication. S.C. Shea (see references below) has great suggestions about how to word adherence questions. He sets the stage for future adherence discussions at the first visit, asking patients “Can you promise to let me know of any missed doses? We’ll see what we can come up with to make sure it is easier to remember”.
3. **Help the patient remember the plan.**It is hard for patients to remember all the information presented to them at a healthcare visit, especially at a first visit. People remember more of the information presented early in the visit. Ask the patient to verbalize the plan back to you. Provide titration schedules and medication handouts to enhance recall. Good medication handouts anticipate common side effects and offer helpful suggestions, and direct patients to call the provider should serious sequelae ensure. Ensure that the patient has the clinic phone number or portal access.
4. **Discuss safe administration and storage of medication.**Remembering to take medicine every day is a challenge for adults and is even more difficult for children or teens with psychiatric disorders. Advise families that keeping all medications locked up, and having a responsible adult administer them, is the safest approach. This is especially important for medications that are toxic in overdose (including alpha-2 agonists such as clonidine and tricyclic antidepressants such as amitriptyline). Serious ingestions are more common when toddlers or suicidal individuals are in the home. If older teens are administering their own medications, remind their parents to check in several times a week to ensure that doses are taken regularly. Many families would like their teens to become skilled at medication self-administration before they leave for college. Advise that transition should be gradual and highly supervised. Recommend, for instance, that teens start with a one-week pill minder box of pills and daily parental check-ins.
5. **Provide a pause if patient is reluctant to start medication.**Monitor for nonverbal cues or statements that indicate a patient or family is not ready to initiate medication treatment. Ask directly about any barriers or concerns if you sense reluctance. Table 2 describes strategies that can help many patients. Giving a time-out can be quite helpful. Send the family home with a medication handout, advise them to consult reliable websites, and tell them they are wise to give this decision some time. If the patient is trying to decide about taking one medication, send that prescription to the pharmacy, and instruct the patient not to pick it up unless they decide they are ready to take the medication. If a medication choice is available, ask the patient to return in a few weeks to discuss the choice, or to call the nursing team once a choice is made.  
   Table 2. Barriers to starting medication

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| Barrier | Strategies that can help |
| Low motivation to start a medication | Explore if health condition is preventing patient from engaging in preferred activities, use that as motivator (i.e. picture of playing soccer attached to pill bottle) |
| Perceived sensitivity to many medications | Acknowledge patient concerns and plan a gradual, slow titration schedule |
| Patient/family can’t decide if they wish to start medication | Counsel family to do more research and not decide in the office visit. Send home with medication handouts and recommend reliable websites for more information. Set up a return visit or call for further discussion. |
| Child objects to taste of medications | Provide ice cube or Popsicle before medication is given; chill medication; have pharmacy flavor liquid medication; choose lower-volume concentrate when available; have patient learn to swallow pills by practicing with mini M&Ms |
| Patient objects to medication because it proves something is wrong with the patient | Have patient practice talking back to disorder when taking medication, using the medicine as a weapon against the disorder. “Take that, OCD!” |
| Adolescent worries about appearance | Select medication less likely to exacerbate acne or cause weight gain. Talk to patient alone at each visit to gain trust and promote patient autonomy |
| Intense fear of side effects in highly anxious patient | Provide percentage risk of side effects rather than descriptors like “rare”; compare to OTC medications the patient is comfortable taking |

At Follow-Up Visits

1. **Update medication history while reviewing interval adherence.**At the start of the visit, ask the patient if they are taking the medications and on what schedule. Ask older children adolescents directly about their medications. Have them identify the medication and the dose schedule. Ask when they last forgot to take a medication, how often it may have been forgotten per week, and if parents must remind them frequently to take the medication.
2. **If doses have been missed, explore barriers and thank the patient for sharing the information.**Remind the patient that you routinely ask about health practice such as exercise and diet and about medication adherence. Useful questions could include “Did you have any trouble filling the prescription? How much did it end up costing you – is that price manageable every month? I know it is a challenge to keep up with medications day after day. Is it hard to get in some of the doses each day? How many doses would you estimate you miss a week?”
3. **Assess the medication’s efficacy and adverse effects. Decide with the patient if the medication should be continued.**If the patient describes adverse effects, express empathy and have the family rate the discomfort caused by the adverse effects. Offer solutions/alternatives, frankly describing how likely they are to help. Focus on adverse effects likely to bother particular patients. Weight gain and acne exacerbations are particularly upsetting to adolescents, for instance, while bitter taste is more likely to bother younger children. As the visit winds down, summarize any reported adverse effects/adherence barriers and benefits observed. Invite the patient and family to decide if the medication should be maintained. “It sounds like you are sleepier on the medicine, but your mood is better, and you are getting more work done in school. I can give you advice about your health condition and your medication, but you know best how you feel. What do you think – is this medication a keeper even with the sleepiness?”
4. **If the medication is to be maintained but adherence has been suboptimal, trouble-shoot solutions.**Table 3 describes helpful strategies. Negotiating roles for family members may be helpful. Children may find it fun to be assigned to remind their parents to give medication. Teens might be willing to have parents assist them in a pre-negotiated manner (via text reminders or provision of a pill minder box or app).

Table 3. Strategies for Maintaining Adherence

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| Adherence barrier | Potential solutions |
| Accessing pharmacy | 90-day prescriptions, prescription delivery, pharmacy refill reminder program |
| High medication cost | Switch to generic, prescribe as a larger pill cut in half, use cost-reduction programs such as GoodRx |
| Difficulty understanding instructions on pill bottle | Label in correct language, request large print label, request pictures on pill bottle |
| Liquid is hard to dose due to small or unusual volume | Round up dose to nearest full mL if possible, prescribe appropriately sized dosage spoon or syringe to ease administration |
| Difficulty remembering doses | Reduce dose frequency, especially mid-day doses (most often forgotten)  Schedule doses at most convenient time of day  Visual reminders: pill bottle next to item used for established habit – next to toothbrush, makeup, or dinner plate.  Post-it note on bathroom mirror or refrigerator  Pill minder box, phone alert, printer daily medication log or calendar  Designated friend or family member to give verbal prompt  Adherence apps such as Medisafe, Medhelper |
| Child is not adherent | Improve palatability (see table 1), enlist child as a helper to remind parents when dose is due, brainstorm a home incentive program to reward medication adherence |
| Adolescent is not adherent | Counsel teen alone without being judgmental, normalize missed doses, minimize social stigma (i.e. don’t schedule doses when peers may observe) |

Helpful Resources for Providers

* Indiana Be Happy Program (free provider-to-provider consultation) 317-278-7700, medicine.iu.edu/behappy
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