Addressing Anticipated Adherence Problems Prior to HCV Treatment

Glenn J. Treisman, MD, PhD
The Johns Hopkins University
School of Medicine
Baltimore, Maryland
Disclosure Information

- Dr Treisman has no relevant financial affiliations to disclose.
Outline

• Adherence and the risk of viral resistance and treatment failure

• Factors negatively influencing adherence

• Methods to enhance adherence
Adherence and the Risk of Viral Resistance and Treatment Failure
Adherence to Medications With Direct-Acting Antivirals

- The high reproductive rate of hepatitis C virus (HCV) makes inadequate suppression lead to resistance-associated mutations and decreases the likelihood of treatment success.
- This becomes more of an issue now with decreasing dependence on interferon alfa and the increasing use of direct-acting viral inhibitors.
Factors Negatively Influencing Adherence
• Taking medications is a behavior
• Influences on behavior are complex and the current models of adherence are oversimplifications
• My oversimplified model is shown in the next slide
Factors That Influence Medication Taking Behavior

- Beliefs about illness
- Immediate life issues
- Health awareness and commitment
- **Negative and positive experiences with healthcare and medications**
- Cultural attitude toward medical care
- Intrinsic personality features
- Social organization and support

Medication-taking behavior
Law of Effect

- probability of a behavior can be increased or decreased depending on its immediate consequence.
  Thorndyke 1913

![Diagram showing the relationship between environmental exposure, behavior, environmental response, and outcomes (increase or decrease)]
Role of Experience

- Institutional health care may have a negative effect on the way patients view treatment.
- Cultural and personal assumptions strongly influence the way patients behave.
- Behavior profoundly influences the outcome of medical care interventions.
Interventions for Improved Adherence

- Anything that you do that “reinforces” behavior
- This sometimes means frequent short visits, positive reinforcement for desired behaviors, and careful avoidance of reinforcing undesirable (non-adherent) behavior
- A relationship with the patient that can offset the outside negative health care influences
The Cycle of Life Experience

Experience

Behavior

Assumption

Meaning
Interventions to Improve Adherence

- Understanding the influences and previous experiences of the patient and the validity of the influence of those experiences
- Interventions at meaning (insight), assumptions (cognitive), behavior (behavioral), and experience (your response to the behavior)
- Changes in any part of the cycle will change the whole cycle
The Role of Temperament

- Consequence avoidance vs reward seeking
- Now vs future focus
- Feeling vs function
- Cooperativeness vs disagreeableness
- Distrust (paranoia) vs trust (gullibility)
- Conscientiousness vs spontaneously directed
Simplified Model of Disposition

Percent of Population

Introversion
- Punishment avoidant
- Future directed
- Function directed

Extraversion
- Reward directed
- Present directed
- Feeling directed
Interventions to Improve Adherence

- Reframe goals into those that fit the patient’s temperament
- Rewards that will come from taking medications rather than problems with not taking medications
- Conspiring with the patient to “beat the system” or “beat what ‘they’ expect”
Role of Substance Abuse

- Current alcohol abuse and drug use is associated with poorer outcomes and incomplete HCV treatment
- In HIV, they are associated with viral resistance
- Collaborative treatment improves outcomes
- For opiate addiction, substitution therapy is the best studied intervention and has been shown to have improved outcomes in HCV
Interventions to Improve Adherence

- Ongoing assessment of substance abuse
- In some cases, ongoing toxicology screens
- Collaborative arrangements for substance abuse treatment (if possible within the clinic)
- Opiate substitution therapy (eg, buprenorphine and naloxone) is extremely helpful
- Helping the patient find and initiate 12-step-based treatments (ie, AA, NA) which are free and often effective
Role of Comorbid Mental Illness

- Depression leads to poor adherence
  - Treatment reverses this
  - Treatment of depression models successful treatment to help patients get ready for HCV treatment
- Schizophrenia and bipolar illness are both associated with poor outcomes and poor adherence
  - Collaborative treatment can reverse this
Depression Increases Vulnerability to Addiction
Depression Increases Vulnerability to Addiction

Behavior → Depression → Addiction → Reward → Depression
Depression Increases Vulnerability to Addiction

Behavior → Addiction → Reward

- HIV and HCV
- Inflammation and cytokines
- Sympathetic activation and stress
- Decreased reward sensitivity

Depression → Reward

- Increase in stimulus seeking
- Decreased self preservation
- Day-night cycle disruption
- Interferon alfa
Interventions to Improve Adherence

- Screen for depression (it is an episodic illness, ongoing screening is imperative)
- Treat depression either directly or collaboratively
- Depression is a highly stigmatized diagnosis, patient education and sensitive support are necessary in many settings and cultures
Take-Home Messages

- Medication taking is a behavior and can be increased by positive reinforcement
- Understanding the influences on the behavior (cultural, personal experience, reflexive resistance) can help clinicians develop strategies for each patient
- Treat addiction and depression, if possible collaboratively within the clinic