Medication Adherence: How You Can Make A Difference

Wendy Rosenthal, Pharm.D.

This program has been supported by an educational grant from Merck Pharmaceuticals.
Medication Adherence

**Speaker:** Dr. Wendy Rosenthal, President of MedOutcomes, will be the presenter for this webcast. Wendy Munroe Rosenthal is the President of MedOutcomes, Inc. She received her Doctor of Pharmacy degree from the Medical University of South Carolina and her Bachelor of Science in Pharmacy from the University of Georgia.

**Speaker Disclosure:** Dr. Rosenthal has no actual or potential conflicts of interest in relation to this program.

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Program Overview: Medication nonadherence is a pervasive issue that threatens patients’ outcomes and is very costly to the health care system. This program will explore this complex concern and present some proven practical solutions.

Objectives:
1. Define the terms compliance, adherence, and persistence.
2. Identify specific tactics pharmacists can use to improve medication adherence

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Adherence vs. Compliance

- **Adherence**: “the degree to which a person’s behavior coincides with medical advice”
- Adherence requires the patient’s agreement with the recommendations
- **Compliance** may suggest a passive approach by the patient to health care
What is the most common type of dosing error?

1. Dose omission
2. Extra dose taken
3. Misscheduled dose
Patterns of Adherence to Once Daily BP Meds

- Examined data from 21 clinical studies with 4783 pt prescribed 1 once daily med for BP
- Adherence determined using electronic bottles
- At 1 yr, 50% stopped tx
- On any given day, 10% of doses were missed
- 95% missed single dose at least once yearly
- 50% missed single dose once monthly
- 50% took drug holidays for > 3 days at least once yearly

BJM 2008May 17;336:1114.
How Much is Enough?

- “Adequate Adherence”
  - Drug & disease dependent
  - Most researchers use 80%
Let's Look at the Numbers

- 14% of all written prescriptions are never filled
- 13% are filled but never taken
- Chronic diseases:
  - Adherence drops most dramatically after first 6 months
  - 50% drop out of treatment
  - Of those who continue, typical rates of adherence are 50 to 60%
Patients with which of the following diseases or conditions are most likely to adhere to their medications?

1. Diabetes
2. HIV
3. Seizure disorders
4. Organ transplant
Adherence Rates Among Patients with 7 Different Medical Conditions

- Determined medication possession ratio (MPR) during first year of drug therapy for 706,032 adults with at least 1 of 7 medical conditions
  - HBP: 73.3% achieved adherence rates ≥ 80%
  - Hypothyroidism: 68.4%
  - Type 2 DM: 65.4%
  - Seizure disorders: 60.8%
  - Hypercholesterolemia: 54.6%
  - Osteoporosis: 51.2%
  - Gout: 36.8%

What are the Consequences?

- Causes 125,000 deaths annually
- 10% of hospital and 23% of nursing home admissions are linked to nonadherence
- Nonadherence directly costs the US health care system $100 billion annually
- Annual indirect costs exceed $1.5 billion in lost patient earnings and $50 billion in lost productivity

Am J Health-Syst Pharm. 2003; 60: 657-65
Adherence Post MI Hospitalization

• Evaluated 1521 patient’s use of ASA, beta blockers & statins one month post hospitalization
• Patients who discontinued use of all medications had lower 1 year survival (88.5% vs 97.7%) compared with those taking 1 or more of the medication

% patients who D/C medications

Arch Intern Med. 2006;166:1842-1847.
Adherence Rates & BP Control

- Retrospective evaluation of >10,000 pt with coronary disease, followed a mean of 4.6 years
- Investigated causes of treatment failures
  - 1/3 of cases: failure to intensify treatment
  - 1/3 of cases: medication nonadherence
  - 67% did not fill Rx despite therapy intensification
- Conclusion: Importance of communication between clinician & pt

Arch Intern Med.2008;168(3):271-76
Evaluating Adherence

How accurate are physician’s estimates of their own patient’s adherence?

1. 80%
2. 75%
3. 60%
4. 50%
Evaluating Adherence

- Pill Counts
- Monitoring Pharmacy databases
- Patient Self Report
- Surrogate Markers
Five Dimensions of Adherence

- Health system factors
- Condition related factors
- Patient related factors
- Social/economic factors
- Therapy related factors
Based on self report, what is the most common reason patients gave for not taking their medications as prescribed?

1. Cost
2. Forgetfulness
3. Adverse side effects
4. Not convinced of the need & value of the therapy
Strategies to Improve Adherence

- Therapy Related Interventions
- Patient Related Interventions
Patient Case: Mrs. Gotta Lower

- 67 yo postmenopausal female
- Problem list: none
- Meds:
  - ASA daily
  - calcium supplement
- Baseline labs:
  - Total cholesterol = 270 mg/dL
  - TG = 140 mg/dL (goal < 150 mg/dL)
  - LDL-C = 210 mg/dL (goal < 160 mg/dL)
  - HDL-C = 38 mg/dL (goal > 50 mg/dL)
- Plan: Diet changes & exercise
# Follow-up Visit

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**RX:**
Pravastatin 20mg I qd #30
## Follow-up Visits

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Possible Reasons for Lack of Response

- Wrong diagnosis
- Inadequate dose
- Nonadherence with diet &/or exercise
- Erroneous lab result
- Drug interaction
- Nonadherence with medication
Nonadherence with Medication

- Determine degree of adherence
- Identify cause(s) of nonadherence
- Implement action plan
Determine Degree of Adherence

- Patient self-report
- Lab results & physical assessment
- Pharmacy refill & appointment records
Which of the following questions is likely to elicit a honest response?

1. You are taking all of your pills, aren’t you?
2. Many people have difficulty taking their medications as prescribed. Do you have any problems taking your meds?
3. I know it is very difficult to remember to take medications on a daily basis. How often did you forget to take your (specific drug name) last week?
Patient Case: Mrs. Gotta Lower

- “I know I took it this morning & yesterday.”
- Medication Possession Ratio (MPR) = 51%
- Lab results
Identify Causes of Nonadherence

• Readiness for behavioral change
• Support for behavioral change
Readiness for Behavioral Change

- Recognize there is a problem
- Believe the medical condition to be serious
- Believe the medication will help correct the problem
- Understand how to use the medication
The “Iceberg Effect

What your patient tells you

What your patient doesn’t tell you

Full extent of adverse effects
Lifestyle concerns
Confusion and memory problems
Disabilities
Doubts and fears
Look For Resistance

- How confident are you that this medication will help you?
- What is your understanding of the consequences of not treating your (disease state)?
- What is your overall goal in using this medication?
Elicit Patient’s Thoughts

- Are you experiencing any problems taking your medication?
- Does your medication make you feel bad in any way?

**Patient Case: Mrs. Gotta Lower**

- “My sister had trouble sleeping when she took this medication. I don’t need that.”
What % of patients reported not taking their medications due to concerns about ADRs?

1. 10%
2. 25%
3. 45%
4. 50%
Minimize the Impact of Adverse Effects

- Educate patients about the most common adverse effects associated with the medication
- Inform patients if adverse effects do occur, it is usually possible to modify therapy to eliminate or avoid the unintended effects
Patient Case: Mrs. Gotta Lower

- Determine if patient is actually experiencing symptom
- Evaluate likelihood of medication being the cause
Tools to Support Behavioral Change

- Patient specific education based on identified gaps in knowledge base
True or False?

Once I tell my patients it is the right thing to do, they will adhere to their medications as prescribed.
Tools to Support Behavioral Change

- Simplify the regimen
  - Adherence declines significantly as the dosing frequency exceeds twice a day
  - Combination products reduce the number of doses per day as well as patient copayments
  - Ensure patient is on fewest medications possible
- Match administration times to patient’s activities of daily living
Adherence to Once Daily BP Meds

- Examined data from 21 clinical studies with 4783 pt prescribed 1 once daily med for BP
- Missed doses were more common between April & Sept & on weekends
- Morning takers significantly more likely to adhere than evening takers

BJM 2008May 17;336:1114.
“Tell me about your daily routine”

- When do you eat, when do you get up, and go to bed?
- What other activities you perform an a daily basis?
- How much variation is there in your routine from day to day?
- How does your weekday routine compare to your weekend routine?
- When do you think you are most likely to take your medications? What will work best for you?
Tools to Support Behavioral Change

- Dosing Reminders
  - Visual cues
  - Pill boxes / organizers
  - Mark the calendar or PDA
  - Computer pop-ups or alarms
    - Remindermed.com
    - Rxnotify.com
  - Vigilance effect
Tools to Support Behavioral Change

- Reinforcement and Rewards
  - Routine reports on progress
  - Ongoing reinforcement of the importance of adherence
  - Praise
Elicit Patient’s Thoughts

- Tell me your medication schedule.
- How do you remember to take your medication?
- How is this working for you?
Implement Action Plan

- Patient education concerning ADRs
- Use of pill box organizer
- Place in trigger location
- Ongoing interaction & follow up
Adherence Related Research

- Most of the studies had small numbers of patients and lacked power to detect clinically important effects.
- Most studies assessing complex interventions did not assess the separate effects of the components.
- Often the interventions were not adequately described.
- The follow-up period was relatively short-term.
- Few studies examined major clinical end points.
FAME Trial

- **Goal**: effect of pharmacy intervention program on adherence among elderly with ≥ 4 chronic meds
- **Intervention**: medication education, RPh follow-up & customized blister packs
- **Design**:
  - Run-in phase: 2 months, baseline adherence, LDL & BP
  - Phase 1: 6 months, intervention for all patients
  - Phase 2: randomized to either continued intervention or return to usual care

*JAMA.2006;296:2563-2571.*
FAME Trial

**Results:**

- **Run-in phase:**
  - Mean adherence was 61.2%
- **Phase 1:**
  - Adherence increased 35.5% over baseline
  - 16 fold increase in patients > / = 80% adherent to all meds
  - Mean SBP changed from 133.2 mmHg to 129.9 mmHg
  - Mean DBP changed from 70.5 mmHg to 69.7 mmHg
  - Mean LDL changed from 91.7 mg/dL to 86.9 mg/dL
- **Phase 2:**
  - Mean adherence maintained in intervention arm
  - Declined in usual care arm
Electronic Communications & Home BP Monitoring

**Goal:** Determine if pt Web services, home BP monitoring & RPh-assisted care improves BP control

**Intervention:**
- Group 1: usual care
- Group 2: home BP monitoring + Web services
- Group 3: home BP + Web services + RPh care via Web

**Results:**
- Group 2 had nonsignificant increase in % pt with controlled BP
- Group 3 had 25% more pt with controlled BP

To reap the benefits of modern medical therapies, better, more effective, and more efficient interventions for helping people follow regimens are needed.