Chronic Obstructive Pulmonary Disease: Chronic Non-Adherence

Rosemary Henrich, DNP, FNP-BC
Amelia Schreibman, DNP, ANP-BC
What is COPD:

- Progressive and irreversible: Exacerbations occur as a result of inflammation:
  
  Characterized by increased or worsening (one or more):
  
  SOB
  
  Cough
  
  Phlegm production
  
  Wheezing

- Chronic bronchitis, Emphysema, and Asthma
COPD: An impressive history

- 3 million deaths per year globally (World Health Organization, 2015).

- 3rd leading cause of death in the U.S. (Blanchette et al., 2014)

- 120,000 Americans succumb annually (Blanchette et al., 2014)

- Leading cause of hospital readmissions (Schnell et al., 2012)
COPD: An impressive history

- Over 24 million Americans affected (Blanchette et al., 2014).
- Only chronic illness with an increasing rate and rising among women (Blanchette et al., 2014).
- Costing $32 billion annually in the USA, (Lopez-Campos, Tan, & Soriano, 2016)
Economics

- Leading cause of readmissions (Schnell et al, 2012)
- Exacerbations and COPD burden to the U.S. healthcare system is estimated at $29.5 billion dollars annually (Pasquale, Sun, Song, Hartnett, & Stemkowski, 2012).
- $13.2 billion spent on hospital care, $5.5 billion spent on provider services and $5.8 billion spent on pharmacotherapy (Pasquale et al., 2012).
- Estimated cost by 2020 will be $49 billion per year (CDC, 2015)
New Mexico and COPD

- 4th leading cause of death in New Mexico
- 6.2% of New Mexico’s population has COPD
- Age: 11.6%: 65-74; 14.3%: ≥75
- Ethnicity: Caucasian: 7.9%; African American/Black: 9.9%; Latino: 4.5%
- Gender: Females > Males: 7.3% vs. 5%

(New Mexico Department of Health, 2016)
Risk Factors and COPD

- Elders: People aged 65–74 years and ≥ 75 years
- Women
- Current and past smokers
- Lower levels of education/particularly less than high school
- American Indian/Alaska Natives and multiracial non-Hispanics.

(CDC, 2015)
Risk factors and COPD

- Individuals who are unemployed, retired, or unable to work.

- Individuals who are divorced, widowed, or separated.

- Individuals with a history of asthma.  
  (CDC, 2015).
Key Concepts in the Treatment of COPD

- Maintain outpatient status and decrease resource utilization
- Decrease exacerbation events which are linked to medication adherence
- Patient education and positive patient outcomes can be linked
- Nurse patient relationship can identify specific needs of patients despite sharing the same diagnosis
- Medications are delivered to the lungs via inhalers
A History of Inhalers

- 1700’s: First attempts to deliver medications to the lungs
- 1950’s: An American physician devised first inhaler
- 1960’s: Methodology perfected but not the medications: inhaler use abandoned
- 1970’s: Safer medications developed
- 1990’s: Long-acting formulas became the standard of care
Inhalers and the Ozone Layer

- 1973: CFCs were seen as a threat to the Ozone layer
- 1987: Montreal Protocol started phase out of CFCs
- 2012: HFCs replaced CFCs
- 2013: The Soft-mist Inhaler introduced
- 2020: All countries will have banned CFC propellants
- 2040: Repair of the Ozone Layer with fewer skin cancers
- Panos, 2015.
The Perfect Storm for Healthcare and Inhalers

1. Propellants become a threat to the eco-system
2. Increased cost to develop eco-friendly inhalers
3. Varied methods emerged: MDI, DPI, Soft Mist
4. Confusion for an elderly COPD population
5. Since inception 60 years ago, up to 90% cannot use their inhalers properly – non-adherence
6. There is confusion on both sides of the script!
Types of Non-adherence

- Intentional non-adherence: purposeful cessation or decrease in use of therapy during symptom remissions and is often related to mistaken interpretation of the disease and the objectives of treatment (Bryant et al., 2013).

- Unintentional non-adherence: non-adherence due to circumstances beyond the control of the patient (cognitive issues, physical disabilities, poor patient instruction, and/or complicated polypharmacy schedules (Bryant et al, 2013).

- Sporadic non-adherence: honestly forgetful, going on vacation or even feeling so well you don’t want to be bothered (Plaza et al, 2015).
Assessment Tools for Non-Adherence

- Test for Adherence to Inhalers (TAI): Specific to Inhalers

- Morisky Medication Adherence Scale-8 (MMAS-8): Can determine adherence with all medications
Tale of Two Projects

Project One: Looked for barriers to effective treatment: Impact of age, gender or type of inhaler to guide acute care providers’ approaches to care.

Used the TAI Tool

Project Two: Evaluated acute care interventions that could prevent hospitalization, or re-hospitalization.

Used the Morisky Medication Adherence Scale
Barriers to treating COPD: Project One

This project specifically asked:

Does age impact effective treatment for COPD?

1. Does age impact the adult-treated COPD patient’s ability to adhere to their treatment plan that includes inhalers?

2. Does age impact the ability of the adult-treated COPD patient’s learning to use their inhaler properly?
Project One: Results

1. There was no impact related to age, gender or type of inhaler with adherence to the COPD treatment plan:
   a. 50% were sporadically non-adherent
   b. 55% were deliberately non-adherent
   c. 40% used their inhalers improperly – unintentionally non-adherent.

2. 93% of all participants learned to use their inhaler in one brief session, no matter what age, gender or type of inhaler prescribed.
What is Important in Assuring Medication Compliance

ASSESS AND EDUCATE PATIENTS AT EVERY ENCOUNTER
Why We Need to Educate

https://youtu.be/nvwR74XpKUM
Barriers to treating COPD: Project Two

This project asked:

Does the use of teach-back technique influence the number of exacerbation events in COPD patients who are non-adherent with their pulmonary medication regimen?

• 1. 60-80 year old patients:
  60-70 young elders 71-80 older elders
• 2. Compares number of exacerbation events 30 days pre-education and 30 days post-education
Project Two: Results

- Pre: 19 exacerbations in 17 patients
- Post: 8 exacerbations in 8 patients
- Gender and Age influenced medication adherence
  * Older elders stopped medication because they felt worse
  * Women stopped medication because they felt better
Teach-Back Technique

- Teach-back is a method to assess learner’s understanding of education after being received by repeating the information back in their own words until mastery (Mahramus, Penoyer, Frewin, Chamberlin & Sole, 2014).

- Nurses can be particularly pivotal in this process by utilizing teach-back to reinforce content and the ability to assess the patients understanding of self-care concepts related to HF management (Mahramus et al., 2014).
How to Implement Teach-Back Method

- Use simple language, clearly explain the concept/demonstrate the process.
- Ask patients to use their own words to state understanding of the concept or demonstrate the process.
- Identify and correct misunderstandings and improper techniques and/or re-explain the concept/demonstrate the process again.
- Ask patients to re-explain/demonstrate again to ensure proper understanding of concepts/techniques.
- Repeat steps 3 and 4 until you are satisfied the patient understands or can safely perform the process demonstrated.

(Wheeler, 2015)
Other Alternatives Using Teach-Back

- Literature/print materials
- Placebo inhalers
- Discussion with patient/role play
Enhanced Teach Back
Project One

- I-Pad, Laptop, Computer or Smart Phone
  a. Portability
  b. Access to different languages
  c. Both provider and patient have access

- You-Tube Videos
  a. Easy to follow
  b. Readily available/reusable to family and patients
  c. ASK: How to use a multi-dose inhaler
You Tube Video

How to Use MDI
Conclusions

If

Up to 70% of all COPD patients do not use inhalers properly (Panos, 2015).

Then, up to 70% of all COPD patients are NOT being treated for COPD!!!
Conclusions

- There is some component to non-adherence in *every* COPD patient

If patient’s are not assessed, they remain non-adherent and are not being treated for COPD!
References


References

- Panos, R. (2016). A Primer for COPD