Transcript Details
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COPD Care: Examining the Clinical Burden and Treatment of Suboptimal PIF

Announcer:
You're listening to *On the Frontlines of COPD* on ReachMD. On this episode, we'll hear from Dr. Jill Ohar, who's a Professor of Pulmonary, Critical Care, Allergy, and Immunologic Diseases at Wake Forest University School of Medicine. She'll be discussing her recent study, which examined the clinical burden of suboptimal peak inspiratory flow in COPD patients. Here's Dr. Ohar now.

Dr. Ohar:
We were interested in trying to determine how frequently patients leaving the hospital would have a suboptimal peak inspiratory flow. And pulling this back with some background, peak inspiratory flow is a value that's critical for drug delivery when using a dry powder. It's the maximum inspiratory effort that a patient can manifest while inhaling this device. This, in conjunction with the resistance of the inhaler, causes a pressure drop that is critical for the drug disaggregating with its carrier proteins as well as being delivered deep into the lungs. This also determines the fine particle fraction, and particles that are one to five microns are more likely to be deposited deep in the lungs where larger particles tend to be deposited in the back of the throat and in the upper airways.

When patients were admitted to the hospital with an acute exacerbation of COPD, they were certainly at risk of having a low peak inspiratory flow, and the things that would be associated with that is that they would be weak from their exacerbation. They may also be hyperinflated and, therefore, mechanically at a disadvantage to bringing in a deep, strong inhalation. Furthermore, very few patients are really educated as to what the optimal maneuver is when using a dry powder, and so that might be a third reason why they may have a suboptimal attempt at using these dry powder devices.

So when patients were admitted with an acute exacerbation of COPD, when they were stable—that is they were able to talk in full sentences—we measured their peak inspiratory flow using the In-Check device; we then gathered other information, such as the COPD Assessment Test (CAT), and then we looked at what inhalers they were sent home on. Were they sent home on a mixture of dry powder, metered dose inhalers, and nebs or all dry powders? What mixture were they sent home on? And shockingly, there seemed to be no difference between those patients who had a suboptimal PIF and those who had an optimal PIF in terms of the choice of inhaler. So this then set up concern for the possibility that they might, in that very vulnerable post-discharge period, not get as much inhaled drug as they should and may be at risk for a return to the hospital.

The results were that greater than 50 percent of the patients admitted with an acute exacerbation had a suboptimal PIF. Despite those low numbers, these patients consistently were sent home on one or many dry powder inhalers. We found that some of the other findings were also confirmed. Women tended to have lower PIFs than men. Older patients tended to have lower PIFs than men, and so the classic little old lady was the person you needed to have greatest concern for.

Announcer:

That was Dr. Jill Ohar talking about her study's findings on the clinical burden of suboptimal peak inspiratory flow in COPD patients. To access this and other episodes in our series, visit *On the Frontlines of COPD* on ReachMD.com, where you can Be Part of the Knowledge. Thanks for listening!