

Managing Patients with COPD: An Interprofessional Team Discussion II

Speaker 1: Welcome to the ASHP Official Podcast, your guide to issues related to medication use, public health, and the profession of pharmacy.

Dennis Williams: Hi, I'm Dennis Williams. I'm a pharmacist and a faculty member at the UNC Eshelman School of Pharmacy in Chapel Hill, North Carolina, and a clinical specialist in pulmonary medicine at the UNC Medical Center. I'm here today with some colleagues and we all have a common interest in managing patients with a COPD. You guys want to introduce yourself please?

Brad Drummond: Sure. Hi there, this is Brad Drummond. I'm an adult pulmonologist at the University of North Carolina Chapel Hill. I lead the COPD clinical and research program at UNC, and I'm happy to be here.

Alanna B.: My name is Alanna Breckenridge, I'm a pharmacist with the transition of care team at Northside Hospital in Georgia, and I work primarily with COPD patients and also they might have pneumonia.

Dana Hickman: Glad to be here. I'm Dana Hickman, I'm a family nurse practitioner that for the past five years has worked with the transition of care team with COPD patients on the inpatient side at Northside Hospital outside of Atlanta, Georgia. In addition, I recently worked with the post acute care providers trying to improve care COPD for patients who are outside of the hospital in our skilled nursing facilities, home health agencies, and various assisted living.

Dennis Williams: Well, thanks guys. We of course, all of us are very interested and excited to have a conversation about a COPD. Why do you think in the bigger picture, Brad, why is it important to have a clinical conversation about COPD management strategies?

Brad Drummond: Yeah, I think it's important to understand how burdensome COPD is in the United States. COPD is currently the fourth leading cause of death in the United States. Some data suggests that actually the death rate from COPD is equivalent to one fully loaded 747 crashing every day in the United States. So if you think about that, that's a tremendous burden.

Brad Drummond: We also are all familiar with COPD exacerbations and COPD exacerbations, which are characterized by worsening respiratory symptoms, driving change in therapy. In Inpatient hospitalization for a COPD exacerbation, 25% of those patients will be dead in a year. And if they require a noninvasive ventilation, 40% of them will be dead in a year.

Brad Drummond: So this is an incredibly important disease. It's one of the few diseases whose death rates haven't really changed over the last 20 years. And the recognition of the importance of COPD readmissions has driven hospitals to be focused on 30 day readmission rates. And that's also, I think really renewed the interest in how we manage these patients. And I'm sure Dennis, you've seen that a little bit on the inpatient side as well.

Dennis Williams: I agree. I think the interest in COPD has been renewed really and I guess in the last decade and a half. Throughout most of my career, I think the prognosis and people's attitudes about COPD was actually described as being nihilistic. And I think that was based on a few different things. It was based on the fact that people thought that most of CIPD in the US, at least, is caused by a current or past history of cigarette smoking.

Dennis Williams: But that was also influenced by the fact that the therapies that we had to treat COPD were relatively limited, and the benefit the patients got from therapy was also limited. And beginning really at the beginning of this century, I think attitudes began to change and we started thinking about COPD as being both treatable and preventable and in the introduction of new medicines and better medicines, for COPD influenced that as well.

Dennis Williams: And so I think that it makes COPD an exciting area now. And it really has also driven interest in identifying areas of unmet need in managing patients with COPD and looking at new and better ways to treat patients. So, it's an exciting time to be involved in managing COPD patients even though it still can be very challenging.

Dennis Williams: Dana, I wanted to ask you, when you initially encounter a patient with COPD, and maybe it's at the time of a new diagnosis, what kinds of information or factors do you look at in terms of trying to make decisions about their initial management plan?

Dana Hickman: Well, and I think this is critical because so often we see patients who are underdiagnosed, over diagnosed under treated and [inaudible 00:04:49] over treated in their situation. So the gold guidelines really want us to prove the O in COPD is an obstructive process. And I think we've missed that step when we make a convenient diagnosis of COPD without proper diagnosis and testing.

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Dana Hickman: You really want to look at your post bronchodilator spirometry with the defining criteria with a patient with respiratory symptoms. They need a fixed ratio of FEV one FEV is less than 0.7. And FEV one percent predicted classifies the severity of the airflow obstruction. But does it correlate with the symptoms? So I think what you'll find in the gold guidelines is once you've proven obstruction and you're trying to set on symptoms, the goal guidelines direct you to symptom pattern and severity, exacerbation, history and risk.

Dana Hickman: If you have low symptom burden, you may only need a short acting bronchodilator. If you have a higher symptom burden, you need to move toward the long acting bronchodilators. So they're two categories. The [inaudible 00:05:37] and the Beta-2 agonists. Often in the hospital, patients need to leave with triple therapy.

Dana Hickman: Again, since the diagnosis is sometimes delayed until the patient has severe limitations. The other issues we look at are plus and minus steroids, utilization of [inaudible 00:05:54] for a certain patient population and smokers' utilization [inaudible 00:05:57] as a maintenance therapy. So all of those are options for treatment that when you're looking at your initial status, you're looking at symptom severity more so even than their FEV one.

Brad Drummond: Yeah. If I can jump in, I think that assessing symptoms is something that we don't do that well. I think that asking patients again, are they able to do the things they want to do versus, how is their breathing? Those nuances really can pull out how this disease is impacting those patients.

Dennis Williams: Alanna as a pharmacist, I bet there's some other things that you think about when you have a new admit or when you're seeing a patient in the clinic for the first time.

Alanna B.: Yeah, thank you. In addition to just that, looking at their symptom burden and how many exacerbations they have and where they fit in. In that grid of where we're going to start with the short acting bronchodilators going to the long acting controller medications. I always like to look at their smoking history too. See if they're a current smoker, if they're past smoker, how long it's been. Reinforce if they're a past smoker, how important it is to continue to be smoke-free for their overall health. If they're a current smoker, ask if they have thought about quitting smoking. Ask how much they smoke and then advise them. If you are interested in quitting, I'm always here to talk about resources. And if they're interested in quitting, refer them on.

Alanna B.: It's a complex specialty in itself, smoking cessation. So just having a few resources in your back pocket. Local hospitals that have smoking cessation programs or your statewide quit lines is so helpful to be able to hand out on a dime for these patients. I also like to look at vaccine status. Dennis mentioned earlier about the importance of the flu vaccine during October to March for our patients to help reduce the risk of getting eventual pneumonia and reduce the risk of death with the pneumonias.

Alanna B.: That's super important as well as the pneumonia vaccine now. And the new guidelines within pneumonia vaccines just got updated, I think in June. They voted on it in November. It was published a pullback, so they're still recommending the PNEUMOVAX for our patients with COPD over 65, but they're pulling back on the Prevnar 13. And they're actually make it more of a shared decision pathway with your physician. So, we really want to encourage the patients to get that PNEUMOVAX and talk to their doctor about if they still need the Prevnar 13.

Alanna B.: Some other things I think about, when we thinking about device selection and the medications that we're giving these patients, it's not just the medication inside the inhaler, it's the device itself. So we're thinking about, do they have Parkinson's? Can they manipulate these inhalers? Do they have dementia? Do they have cognitive disorders? Are they able to conceptually go through these 10 to 15 steps for each inhaler device effectively to get the medication into the lungs? Do they have arthritis in their fingers? Are they able to use these inhalers?

Alanna B.: So you're thinking about the patient as a whole. What mode of delivery device is going to be most effective for this patient? And then of course you're always thinking about insurance coverage and affordability of these inhalers. There are upwards of a thousand, sometimes more dollars for the inhalers or nebulized medications. So you're always trying to figure out what their insurance status is. And what they can afford to get that medication into their hands and to get it eventually into their lungs.

Dana Hickman: Just to add one point to that with the comorbidities. I think again, as a fluid ongoing assessment, a lot of our patients who come to the hospital who have hypoxia, hypercapnia, they haven't slept, they've had steroids. It's been estimated up to 77% of patients with COPD who have hypoxia and hypercapnic and have some cognitive impairment. So we're asking them not to just swallow a pill for their other comorbidities but really handle the inhaler Olympics of how

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they can navigate all these different devices. So being understanding of the frustration of the care providers and the patients and they come to us very frustrated at times.

Dennis Williams: Very good points. One tool that we have available that I just want to remind people about and to use initially and to use periodically when we're talking with patients are to identify the goals of COPD management. It sounds like that that would be rather intuitive, but what we know is that patients adapt to their disease. And I think we need to be encouraging to patients about what we're trying to achieve, what the goals of management and meeting those goals. How do you address this with your patients, Dana?

Dana Hickman: Well, I think you have to form a good partnership and a good relationship. There's a lot of guilt in patients who have smoked have COPD. And they under-report symptoms, and they use retail clinics and other avenues to not let you know they've had three more bouts of bronchitis this year or three exacerbations.

Dana Hickman: And patients don't even understand the word exacerbations. We really have to pull back and help them understand what that means. So I think you've got to build their confidence. I think obviously our goal is to prevent or minimize the symptom burden, which is huge. Prevent the exacerbations. And I tried to work with the skilled nursing facilities on that patient who had the COPD flare twice this year.

Dana Hickman: Make that in your heart, and the same bio equivocal damage is a potential EMI that we give so much attention to. They might not get that lung function back. So it's not just another exacerbation or another trip to the hospital for a COPD flare.

Dana Hickman: So help them understand the importance of really being proactive and having patients on the appropriate long acting medications. We want to avoid adverse events. Obviously, when we do step up therapy, we want to encourage patients to try to do more. Because patients fall back into their routines and while they added a medicine, but I'm still taking my short acting four times a day.

Dana Hickman: We really need to have better conversations about, we're adding a long acting medicine for maintenance and controlling your symptoms. So don't use your short acting unless you needed them initially. And let's see if you can do a little bit more. Push yourself a little more because patients again, like you said, if COPD progresses, patients adjust their expectations to fit their capabilities. And they get to that [inaudible 00:12:20] spiral of inactivity. So clear goals, letting the patients help you direct the care based on what they want to do, what their goals and their wishes are.

Dennis Williams: Great. This idea about exacerbations is emerging as being very important. And Brad mentioned a bit earlier about what the impact of an exacerbation is, and it's interesting to me that preventing exacerbations end up in drug labels now because it's such an important issue. Can you expand on that a little bit Brad, and tell us, what is the impact of an exacerbation?

Brad Drummond: I think first off it's good to level set with what is an exacerbation? Because I think I agree that we use these words and they're certainly not familiar to patients, but an exacerbation is simply defined as a change in respiratory symptoms beyond day to day variation that leads to a change in therapy. And a mild exacerbation may just be increasing their short acting, proper dilator.

Brad Drummond: Moderate exacerbation may be having to receive antibiotics or steroids. And a severe exacerbation is one that lands a patient in the emergency room or the hospital. The challenge is recognizing that a patient who is having two or three bronchitis episodes requiring an antibiotic and a short course of prednisone, those counters exacerbations. And we care about exacerbations not only because of the reasons I mentioned earlier about this substantial mortality associated with inpatient or hospitalized exacerbations, and I agree that we should be calling those lung strokes or lung attacks.

Brad Drummond: I mean, this is a life threatening event when a patient is admitted to the hospital with an exacerbation of their COPD requiring antibiotics and steroids. But even the patients who are having multiple outpatient exacerbations, three or four of those in a year, those patients have more disease burden from a symptom standpoint. They have more rapid lung function decline, and they do have increased mortality. So exacerbations matter. I want that on a bumper sticker somewhere.

Brad Drummond: And importantly, not only does it matter from the patient's outcomes, but it also helps inform how we choose our medications, our inhaled medications for these patients. As you heard earlier, symptoms are an important

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component of deciding which inhaled medications to use. The other axis of that gold algorithm, if that's one that you want to use is their symptom burden. So we know that the best predictor of future exacerbations is prior exacerbations.

Brad Drummond: So I always challenge healthcare providers in our system to really understand what has been the exacerbation [inaudible 00:14:54] these patients. Sure. Maybe they went to the urgent care and got a brief course of antibiotics and prednisone. That counts. Maybe they saw you once in a clinic. Well now that's two, right? And then my goodness they went to the ER.

Brad Drummond: Okay, this person now is actually having uncontrolled disease, but for some reason it's not that easy to recognize because we view it as the natural course of the disease. And in this day and age, as you said earlier, Dennis, we have new medications that have been shown to reduce exacerbations and we have to first recognize the problem before we recognize we need to up-titrate our medications.

Dennis Williams: Alanna, I think your health system is well known for providing a good quality care for patients with COPD. Can you describe for us, from a pharmacotherapy perspective about how your clinicians approach managing COPD exacerbation in a patient that requires hospitalization?

Alanna B.: Yeah, so that's a great point. And I know Dr. Gilman was just talking about the different types of exacerbations or worsening of symptoms. So when they end up in the hospital, which is considered the severe exacerbation. So one of the first things we'd like to do is find out what failed treatments they had at home. Whether they are on antibiotics at home, and we're hoping not to use the same antibiotics when they come into the hospital.

Alanna B.: Some of the driving forces to needing an antibiotic is the signs of infection, respiratory infection, increased sputum, and changing color, change in quantity. So we want to make sure that they get those antibiotics onboard if they're having wheezing, we want to make sure that the steroids are going, the systemic steroids or inhaled corticosteroids.

Alanna B.: The guidelines, the gold guidelines point you more towards a systemic steroid of 40 milligrams of prednisone for five days. Most of the guidelines do limit the amount of steroids to five to seven days. So, that's interesting. We have a tug of war at our hospital right now with the two week taper of steroids versus just going in for the five days. So that's an interesting area. Maybe we'll explore that more with our resource center.

Alanna B.: Then we also like to think about the impact on the other comorbidities too with the different arrhythmias, we bring these patients in, we boost with steroids and with the Beta-2 agonist to get their heart rate racing and we throw them into arrhythmia. So we want to look at the arrhythmias. We want to look at their heart failure. The heart and the lungs are connected.

Alanna Br.: And so patients, sometimes we're teasing out is it COPD or is it the heart failure exacerbating? And then also there are patients with COPD coming into the hospital. Our patients with COPD period, have an increased risk of pulmonary embolism. So we want to think about DVT and DVT prophylaxis, the [inaudible 00:17:39] heparin, the lovenox, the enoxaparin and help to prevent those PEs or if they have a PE to make sure it's adequately diagnosed.

Alanna B.: I think the static is about 20% of our patients that are admitted with a COPD exacerbation have PEs. So that's significant, and a lot of times overlooked.

Dana Hickman: And I think the other thing, we try to do a really good job and we all should be thinking about pulmonary rehabilitation. No conversation about COPD would be without really promoting the comradery and the unity of our COPD patient population coming together. We're looking at other options. You have these virtual pulmonary rehab, a lot of different approaches, but really letting the patients be participatory because that social isolation that happens is a known fact. So I think if we have to include some topics on pulmonary rehab.

Dennis Williams: It seems to me pulmonary rehab, the availability is very spotty. And to be truthful, I think the issue is that... The institution has to invest in it. I mean it's not generating a lot of revenue or anything, but certainly the evidence shows that it's beneficial for patients. I want to ask you a question also about antibiotic set. Alanna mentioned, it's always interesting to me that up until recently, if you look at the data supporting use of antibiotics for COPD exacerbation, everybody always referenced that one paper from 1980.

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Dennis Williams: And it was really a very well done study, but I wanted to to hear from you guys about what do you think? Do you feel that the use of C-reactive protein is going to be a useful measure in terms of... And is anybody using that in practice to determine whether or not to give antibiotics?

Alanna B.: Well, what about the procalcitonin? I mean that would be interesting to hear about.

Brad Drummond: Yeah, I think that it's challenging to find data that support a validated biomarker to predict COPD, or that's associated with COPD exacerbations. I think we have proBNP for heart failure and the holy grail of my mind is what does that proBNP equivalent for an exacerbation? Because we all are appropriately concerned about overuse of antibiotics for acute exacerbations of COPD. And hopefully, some of the research moving forward, there have been a lot of studies that have looked at biomarkers that have tried to predict people at high risk for exacerbation and they haven't been very robust in their findings. And the challenges of the many of the biomarkers for acute exacerbations because an exacerbation is such a total body systemic inflammatory response that the biomarkers that go up can opt to be nonspecific as well. So I do think that that's on the horizon and hopefully, we can ultimately have our troponin or our proBNP, just like our cardiology [inaudible 00:00:20:43].

Dennis Williams: Great. I'm going to wrap things up and give everybody a chance to comment as well. I think that one thing as clinicians, we might all agree with the fact that having the kinds of things that go through our mind when we're transitioning a patient. For example, from an acute hospitalization to home, this is how we started this conversation today.

Dennis Williams: And so some of the things that I think about in terms of considerations to make sure that that transition is as smooth as possible is what was the patient on when they came in? What changes have we made? What's our plan? And maybe we aren't automatically going to restart things or maybe we're making some adjustments but we need to actually think about that in terms of what we want the patient's regimen at home to be beyond.

Dennis Williams: Certainly, we need to cover and assess and educate the patient about the ability to use the inhalation device. Maybe that changed during their hospitalization. And maybe we need to think about a different device, and we need to be very purposeful in terms of covering changes, the new treatment plan, what happened before. So if the patient has medications at home that we don't want them to use anymore, we need to be very explicit about that.

Dennis Williams: And then as you heard before, I think that access to care and medications is a really big possible obstacle for patients with COPD. And so we need to make sure that they're going to be able to afford the medication that they have the insurance coverage. Are there other things that that you think about in terms of at the time of discharge?

Alanna B.: I think one other really important thing is when they come into the hospital, we might hold their diabetes medication, we might hold certain blood pressure and heart rate medications in the hospital. We're pretty good at monitoring that in the hospital and then we'll restart a mandate of discharge and their heart rates will drop, their blood pressure drop, their blood sugars will drop, and then they'll have a fall and ended up coming right back in again. So one thing that us as pharmacists can really help our patients to do is to understand, not only the medications that we hold help, but then what to look for and what to monitor for when these medications are restarted to help with best outcomes.

Dana Hickman: And I think just my work in the post acute care space, I think we need to realize that as a foundation of nurses that most of us got our education in the hospital when we started out. What happens in a hospital when someone gets short of breath? You call respiratory therapy or the rapid response team and they take over. So if I'm the home health nurse or I'm a skilled nurse consulting nurse, I might not have the skillset I need to deescalate a COPD crisis, which results in trips back to the ER.

Dana Hickman: I'm not trained in passive breathing, to turn the O2 up a little bit. Giving them a nebulizer treatment. So I think we really have to build bridges with the other providers in assisted livings with skilled nursing facilities. And how do you deescalate to a COPD crisis? How do you monitor functional status in a cognitively impaired person where the tendency is to do more for that patient? So the functional vital sign, I think we have to move forward with really being providus for our cognitively impaired patients.

Brad Drummond: I think that from my perspective, one of the most important things to consider around the time of the hospitalization around discharge is confirming the diagnosis of COPD. And that sounds really simple, but the reality is that there's a large population of patients who have a label of COPD, who have never undergone the diagnostic tests of spirometry.

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Brad Drummond: And it's important to note that spirometry can be performed during an exacerbation. It may not be a good measure of severity of airflow limitation, but it's a good measure of presence of COPD. So I would challenge any healthcare provider, pharmacist, nurse practitioner, clinician, if you are encountering a patient with COPD, challenge that they actually have the diagnostic tests performed.

Dennis Williams: Very good. I appreciate the discussion here today. I want to thank my colleagues for joining. I said I want to thank the audience for joining us today as well. We hope that you found this information useful. Goodbye.

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