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Commentary

Age-Related Changes and Appropriate Drug Selection: Pharmaceuticals, Deprescribing, and Interprofessional Practice

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Editor's Note: This is the transcript of an interview between James Kundart, HIP Editor-in-Chief, and Abimbola Farinde. Minor edits have been made in the transcription for clarity and to remove filler words. The audio recording of this interview is available on the article metadata page: http://dx.doi.org/10.7772/2159-1253.1061

Dr. Kundart: Hello, I am here with Dr. Abimbola Farinde, and we are talking today about the appropriate prescribing of medications for older adults, and some interactions that inappropriate drug prescribing may cause in these patients.

I wanted to ask first about Beers Criteria, also called the Beers List. It talks about potentially inappropriate medication use in older adults. I was wondering if you can elaborate on that for those of us who are not familiar with the Beers Criteria (http://en.wikipedia.org/wiki/Beers_Criteria).

Dr. Farinde: The Beers Criteria or the Beers List was initially developed in 1997 and was basically trying to help prescribers know what medication classes or medications in general can be viewed as appropriate or inappropriate in the geriatric population. Given the fact that as we age, we can experience some decline in organ functioning or even suppression of our immune system, these factors have to be taken into consideration when it comes to the use of certain medications, especially when it comes to renal or hepatic functioning. So the development of this guideline came from a consensus panel that consisted of individuals in pharmacotherapy and geriatrics, and they were able to narrow (the list) down to 53 key medication classes or medications. In general, they categorize into 3 separate categories: whether a medication may be inappropriate or contraindicated in the geriatric population; medications that should be used with caution in the geriatric population; inappropriate medications to avoid in older adults with specific diseases or syndromes. It is a guideline that most prescribers use to gauge whether a medication is deemed to be appropriate in a geriatric individual.

Dr. Kundart: [The following question refers to U.S. Food and Drug Administration-established Pharmaceutical Pregnancy Categories] Is this similar to the way that medications are categorized in pregnancy? Many of them are class C and have not been studied (see http://en.wikipedia.org/wiki/Pregnancy_category)

Dr. Farinde: Correct. There may be with some (similarities to) these medications. They are not included in many clinical trials to begin with anyway. There are hard, firm guidelines for which medications should not be used, and there guidelines for other medications that can be used, but (we) have to be cautious when it comes to their use in this sensitive population. So they are along the same lines as the pregnancy categories.

Dr. Kundart: So it sounds like you are triaging the drugs

in a way. Some that are safe, or generally recognized as safe, other have safety issues, and others may be unknown. Would that be fair to say? Their safety can be based on changes in adults' hepatic function, kidney function, or immune system?

Dr. Farinde: In particular, there are certain drugs that are well-known in terms of avoidance in the geriatric population. There are other drugs where there is a divide in terms of whether they should or should not be used in the geriatric population. So ultimately when it comes to those drug classes, it might be based on clinical judgment, in other words, based on what a provider has observed in the past in terms of what has worked with their patient. Even though the literature may say one thing, from their personal experience, some doctors see that the medication works for a patient, even though there is a recommendation against it.

Dr. Kundart: Clinical experience is always something we have to steel ourselves about because it is always so compelling. The "n" sizes for the number of patients that we have seen is not significant compared to what we see in the literature.

Dr. Farinde: There sometimes might be that gap between what research is saying versus what practitioners are able to apply in their clinical practice setting. I think it is more so being able to translate what is found in the literature into what people do in actual clinical practice. That gap can become a bit narrower.

Dr. Kundart: Do you have a specific example or two about drugs that might be contraindicated in the senior population, because although they may be effective in other groups, but because of kidney function or liver function they may not be something you want to use in seniors?

Dr. Farinde: Well, there are certain drugs based on renal or hepatic function as well as other drug classes that are well-known, because of their side effect profile. One class in particular that kind of stands out when it comes to avoidance in the geriatric population are the anticholingergics, for example, the tricyclic antidepressants, some of the anthistamines that are on the market, or the Parkinson agents may have some anticholingeric properties. The reason that some practitioners may want to avoid the use of these medications in the geriatric population is because they are known to cause some confusion, constipation, dry mouth, some hypotension to occur in certain cases. So they usually try to avoid these medications if the risk outweighs the benefit in that particular population. This also goes for the use of benzodiazepines. Use is usually avoided because of their side effect profile as well. The potential to cause cognitive impairments or even worsening of cognitive impairment, confusion, risk of fall, risk of fracture, or just general impairment overall. When it comes to that medication class, the side effect profile is looked at as well as the potential for hepatic metabolism. There are some drugs that undergo hepatic metabolism, and with the decline of hepatic functioning in the geriatric population, they try to avoid the use of the longer-acting benzodiazepine agents in that population if it is not really needed.

Dr. Kundart: Okay, so we have the Parkinson drugs, anticholingerics causing what I believe sounds like a triage, confusion, constipation, and I might make a third suggestion to complete the alliteration—cotton mouth, or dry mouth. Benzodiazepines also cause confusion, risk of falls you say. It sounds like if the practitioner is prescribing these because they had good clinical experience, perhaps with a slightly younger patient population. Also, we have the pharmacist who knows contraindications for these meds. It must create a difficult situation where there has to be some communication in the interprofessional manner between the two parties. Is that right?

Dr. Farinde: Correct, and in most cases, whether it is a pharmacist doing the initial assessment of the medication profile there is that communication that occurs between the prescribing provider and the clinical pharmacist. Whoever may have identified this potential interaction, we need to look at whether this is a risk to the patient by starting them on this medication or even continuing the medication if it has already been initiated—whether or not there is that benefit if an anticholingeric agent is initiated or a medication that has an anticholingeric property, or even the use of a benzodiazepine in certain cases.

Dr. Kundart: How does it work best with physicians being the prescribing party in this country, and with the pharmacist seeing the larger drug interaction picture, how does it work that the two professions can work interprofessionally to avoid these types of contraindications?

Dr. Farinde: I think one of the best ways or one of the best forms to occur is to have a therapeutic committee meeting or a forum where both professions are able to come together to sit down and discuss certain guidelines that should be in place for prescribing medications. In some hospital settings or other healthcare settings, it may be there is the presence of a formulary which helps to determine which medications should be used in certain disease states or conditions and they look at costs but they also look at patient outcomes, such as whether or not this medication might be better if it is used in this population, or if it is better to be used in a condition or disease state. So there is that side-by-side comparison that occurs if they are able to come together and actually sit down and talk about which medication is best for the patients that they are caring for.

Dr. Kundart: I know from our last interview you've had an opportunity to be on this kind of panel at an assisted living center. Is that correct?

Dr. Farinde: Correct, and this served as a platform where as a pharmacist if you are doing an evaluation of a medication profile, you might come across a glaring contraindication or something that really is not appropriate. For example in a geriatric patient, you would make this known to the prescriber at that particular meeting. They have ongoing assessment of the patients' conditions as well, too, which also allows for different disciplines to come together and actually know what is going on, what they are doing as part of the care of the patient, and this allows for the prescribers, the nurses, the psychologist, whoever it may be to voice their concerns about the patient's treatment.

Dr. Kundart: So I think the assisted living center situation is very interprofessional, where you have the pharmacists and also the physician in the same room at the same time and other allied health professionals. It may only happen when the patient can't otherwise speak for themselves, and I think in your case, it was done for folks that had various mental health issues. Is that the right understanding? Patients that can speak for themselves because they're young or don't have mental health issues, for example, might not have this advantage of having this interprofessional collaboration.

Dr. Farinde: Correct. In the particular facility where I was, a large number of the individuals were nonverbal, and some of course were not ambulatory, so a majority of the treatment involved the collaboration of these different disciplines. It was our responsibility to make sure that not only were their medication therapies being met, or addressed appropriately, but also behavior related issues, psychological issues, medical conditions were also being handled appropriately during these team meetings because this is where everybody is able to come together. If one discipline does not notice an issue with something, another discipline might notice and bring it to the attention of others. So you get insight into patients' conditions or conditions based on these needs that is very vital, a part of providing optimal patient care.

Dr. Kundart: It is of course true that these adverse interactions may not occur with the strong anticholingerics or Parkinson drug, or benzodiazepines but may also occur with drugs used to treat urinary tract infection or UTI. You were talking about something in your article about Macrobid (nitrofuratoin) and how it may have serious pulmonary and hepatic side effects on seniors. Can you tell us a little bit more about that case?

Dr. Farinde: Well I think with Macrobid, there is somewhat of a divide because right now it currently says that you shouldn't use or use should be avoided in geriatric population. This is based on the fact that it can potentially cause pulmonary toxicity, whether it may be an acute form, subacute, or chronic and that can usually occur after 6 months of therapy if an individual has been on it. So there is that general avoidance of long-term use when it comes to the treatment of urinary tract infections. That is one of the reasons they want to avoid it. The second may be the potential for the development of peripheral neuropathy: even though it may be rare, they try to avoid Macrobid because of this potential side effect. There are certain individuals with certain disease states that are more predisposed to developing the peripheral neuropathy or the pulmonary toxicity. Some of those patients have debilitating diseases like individuals that I encountered when I was at the supported living center. Individuals with renal impairment align with our geriatric population as well as individuals with anemia or diabetes. So all of these factors have to be considered even before you consider the use of Macrobid. When it comes to renal functioning, there is the rule that you should avoid if their clearance is less than 60, but on the spectrum there is limited data that suggests that if its greater than or equal to 40 you can use it for less than

a week (short-term period) for an uncomplicated UTI which you treat for 3-5 days. So there is that conflict when it comes to the use of Macrobid in that respect. So I have run across cases where it is based on clinical judgment. If a prescriber has used Macrobid in the past and it was thought to be successful in an older individual they are more likely to give the medication. On the other spectrum, if a prescriber is new and has never come across the use of Macrobid and they see that this person's renal function is slowly declining they may want to avoid the use of this medication and try something else.

Dr. Kundart: I must say that I am probably not the only person listening who is unaware, being that I am a pediatric practitioner that some of your seniors are getting their urinary tract infection treated over six months or a longer period of time. There is a whole other world for folks that are receiving this kind of ongoing care where interprofessional collaboration becomes all the more important.

Dr. Farinde: Correct. I think this provides a perfect platform for other recommendations for other agents to be used if there is that doubt as to whether this medication, given all the potential adverse effects that may develop and also increased potential if the person is a geriatric patient, you may want to consider using other alternative antibiotics to treat this UTI.

Dr. Kundart: I hope that as well. It is always difficult in pharmacy to move from tried-and-true, accepted drugs to ones that are newer, and perhaps more expensive, but not used as extensively by the practitioner as ones that they are used to, despite perhaps a better side effect profile. Or maybe, on the other hand, we just learn about new side effects from new medications as time goes by.

Dr. Farinde: Correct. A large majority of what has come out about nitrofurantoin or Macrobid has been through postmarketing analysis because usually some of these do come out after the fact. We can't get all of the information in terms of potential side effects during the clinical trial phase so after the fact we are able to have this additional information and make future treatment decisions or more informed treatment decisions based on this new information that has become available. As a result of that, there are other treatment options that can be made available or prescribers can be informed about other treatment options that may not pose the same risk given the sensitivity of our geriatric population.

Dr. Kundart: It is very interesting topic. Is there anything else you would like to add concerning the use of these medications and working with this population?

Dr. Farinde: Well, I think that when it comes to the geriatric population, the key points are to assess renal function, hepatic function, immune system, and look at whether the patient is able to tolerate the medication. We have these guidelines in place to help guide us when it comes to whether medication are deemed to be appropriate or inappropriate for use in this population. I think it does serve a world of good for this population if we can avoid the adverse reactions that are becoming so prevalent sometimes when it comes to treating this population.

Dr. Kundart: Very good advice I think. I think unless you have more to add we will probably end it there.

Dr. Farinde: Thank you very much.

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