

2014

Medication noncompliance in patients over the age of 65: risk factors, problems, and potential solutions

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Recommended Citation

Cook, Rachel N., "Medication noncompliance in patients over the age of 65: risk factors, problems, and potential solutions" (2014). *Honors Program Theses*. 127.
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Running Head: MEDICATION NONCOMPLIANCE IN PATIENTS OVER THE AGE OF 65

MEDICATION NONCOMPLIANCE IN PATIENTS OVER THE AGE OF 65:
RISK FACTORS, PROBLEMS, AND POTENTIAL SOLUTIONS

A Thesis Submitted
in Partial Fulfillment
of the Requirements for the Designation
University Honors with Distinction

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May 2014

Abstract

Medication noncompliance is linked with a complex medication regimen, poor drug knowledge, physical limitations, psychosocial characteristics, and poor communication. As important as this problem is to patients' health especially those over the age of 65, there really is no solution to this problem or even steps to a solution. After interviewing eight care providers, I have come up with a few steps to begin solving this problem. These steps include a medication dispenser, communication between care providers, and education provided to patients by all care providers. In the end, there is no solution that will solve every case of medication noncompliance in patients over the age of 65, but these three steps are a great start to end a majority of these cases.

Keywords: medication, geriatric, noncompliance

Medication Noncompliance in Patients over the age of 65:
Risk Factors, Problems, and Potential Solutions

Introduction

There are have been numerous studies done on medication noncompliance and how it affects patients, especially those over the age of 65. However, there is little research on how care providers see the problem and what steps they can take to begin solving this issue. For my thesis, I interviewed care providers including physicians, nurses, case managers, and pharmacists to get their opinion on the issue. The purpose of my thesis is to understand what care providers believe to be the cause of medication noncompliance, how they feel they can help solve the problem, and a few possible solutions to assist patients in this age group. There are many studies on the patients' views, but a lacking in the opinion of the care providers who are a large part of solving the problem.

Literature Review

Medication noncompliance is a problem that is rapidly growing in our society. There are new medications being manufactured all the time leading to more brand/trade names and their respective generics. Also, the number of medications patients' are taking is increasing and the complexity of their daily medication regimen is increasing. According to Wick (2011), 20% of elderly patients who are taking medication once daily admit to having adherence issues (p. 1). This jumps up to almost 50% of patients when they are taking a medication four or more times a day. According to Ascione (1994), there are five main factors that lead to medication noncompliance in patients over the age of 65. These include:

- complexity of drug regimen
- poor drug knowledge
- physical limitations
- poor patient/health professional communication
- psychosocial characteristics.

Complexity of Drug Regimen

One cause of medication noncompliance, as stated by patients, is the complexity of drug regimen. Corsonello et al. (2009) suggested that patients are often confused by the drug regimen. Taking more than one medication once a day is usually simple for patients over the age of 65 if the drugs are all taken at one time; however, regimens become much more complicated as drugs are taken at different times in the day, more than once a day or not taken every day. Corsonello et al. (2009) also stated that some medications' directions change during therapy. For example, a certain drug like Coumadin may be taken once daily, two weeks later change to twice daily, and then the patient may be completely taken off the medication one week later. It is easy to see how an elderly patient may become confused and unable to completely understand their specific drug regimen. Wick (2011) suggested many patients may skip doses, because it is inconvenient to take a drug during a certain part of the day, for example midday, because they may always be gone during that part of the day. Fulmer, Kim, Montgomery, and Lyder (2001) reported that older adults may be taking as many as 5-10 medications daily leading to confusion about which medications to take when. This high number of medications may lead to overdosing of one medication while completely skipping a dose of another medication.

Poor Drug Knowledge

According to Sorensen, Stokes, Purdie, Woodward, and Roberts (2006), many patients do not understand which medication is treating which problem, especially when they have many less serious medical problems including heart problems, cholesterol, blood pressure, and kidney/bladder problems, which are all common in patients over the age of 65. Sorensen et al. (2006) found that 55.9% of patients struggled to understand the difference between the generic name of a medication and the trade/brand name. Often, patients believe they have received the wrong medication, because the name may be different or the drug may look different, so they simply do not take it. When in reality the drug is actually just a generic for the brand name that they may have been receiving previously or as samples from their doctor. Ascione (1994) stated that patients over the age of 65 are much more likely than patients in other age groups to question their drug regimen or stop taking a medication if it is not explained to them completely.

Physical Limitations

Many patients also identified physical limitations as a cause of their noncompliance. According to Fulmer, Kim, Montgomery, and Lyder (2001), many older patients have problems simply remembering to take their medication. With multiple medications and numerous times to take those medications, it becomes difficult to stay compliant with medication regimen. In a study done by Fulmer et al. (2001), patients over the age of 65 were asked to open various containers common in pharmacies and take out the correct dosage of medication. Of those tested, 10% were unable to open at least one container. Being unable to open a pill container is something extremely simple to fix that is often missed by health care professionals and leads to a high level of medication noncompliance. Fulmer et al. (2001) also suggested that visual

problems may be a large factor in medication noncompliance. Patients with vision problems may not be able to tell the difference between different medications especially because many medications are shaped similarly (small, round, white). Sorensen, Stokes, Purdie, Woodward, and Roberts (2006) stated that patients store medications in different locations around their living area and they forget the location of their medications. Sorensen et al. (2006) also suggested that patients may be unable to reach a pharmacy due to limited mobility and may not be able to pick up their prescriptions. In most cases, a pharmacy will deliver or mail, but this is not always the case and there may be a cost involved that the patient is unable to pay.

Poor Patient/Health Professional Communication

According to Herve, Mullet, and Sorum (2004) patients over the age of 65 believe that trust in their physician is most important in accepting a new medication, over the severity of their condition and the side effects of the drugs. Therefore, communication with patients is extremely important for physicians to maintain. Herve et al. (2004) found that a good relationship between patients and physicians could be the difference between a patient accepting a new medication and taking it as directed and not taking a medication at all. Ascione (1994) stressed the important of communication between patients and physicians. Many patients will go to more than one physician and multiple pharmacies, making it extremely difficult to follow up with patients and understand the whole picture of their drug regimen. If a patient is receiving one medication from one physician, and another physician prescribes a similar medication that reacts with the first medication, the outcome can be disastrous.

Physicians need to make sure that they are communicating with their patients and that they are aware of all medications their patients are taking especially those from other prescribers.

Drug interactions may become a problem if patients are hospitalized and they start a new drug regimen. The hospital may not be completely aware of all the drugs a patient is taking and when the patient is released with a new drug regimen from the hospital, it may overlap with their current plan. Physicians also need to be aware of a major risk factor for medication noncompliance: cost. Beran, Laouri, Suttorp, and Brook (2007) stated that medication cost is a huge factor in medication noncompliance. If a patient is unable to pay for their medication, they will simply not pick up the medication. This issue of cost ties into the idea of communication as it is another issue that patients fail to discuss with their care provider. Many physicians believe that patients over the age of 65 have Medicare and therefore the cost of their prescriptions is low. However, this is not always the case especially if a drug does not have a generic (essentially an off-brand to the brand name) or at the beginning of the year when the patient may have a deductible to meet.

Psychosocial Characteristics

According to Ascione (1994), it is extremely common that patients may be embarrassed by their confusion with their drug regimen and they may not ask for help. Since a lot of older patients may live by themselves, no one may be aware of the problem until the patient is hospitalized because of drug complications. Wick (2011) discussed the fact that many patients believe that a drug's benefit is not worth the cost or the risk of side effects. Even though their physician may prescribe a drug, they will not take it for fear of drug efficiency. Many patients believe that they should simply continue living with the problem the drug is supposed to treat. This is a problem that is not easily fixed, because it deals with the patients' beliefs, which are difficult to change. A care provider must be willing to show these patients the possible side

effects and help explain to them that the drug is worth the “risk” and that there is a very low possibility that the side effects will be severe or last for longer than a couple of weeks.

Method

Participants

For my research, I had eight participants. These included two physicians (one emergency room physician and one Chief Medical Officer), two pharmacists (one working in a clinical setting and one working in a retail setting), two case managers (both providing care for patients through the Northeast Iowa Area Agency on Aging for over two years), and two nurses (one staff RN in a cardiac ward and one clinical resource nurse in a surgical telemetry unit). These participants were selected due to connections through my job at a pharmacy, connections at Allen Hospital, and connections at Northeast Iowa Area Agency on Aging. For use in the results and discussion sections, all of the participants will be labeled either A or B along with their job title. The emergency room physician will be physician A and the Chief Medical Officer will be physician B. The clinical pharmacist will be pharmacist A and the retail pharmacist will be pharmacist B. The case manager will be divided into A and B. The staff RN will be nurse A and the surgical nurse will be nurse B.

Materials and Procedure

There were very minimal materials necessary for this research. All that was necessary was a set of interview questions and a recorder. These interviews and the interview questions were all approved by the Institutional Review Board.

I completed all of the interviews either in person or over the telephone. I hoped to complete as many interviews as possible in person so the interview could become more of a

conversation than a formal interview. However, only four of the participants were located near my location or had the time to schedule a face-to-face interview. Extensive notes were taken during both the in-person and the phone interviews along with a recording of those that were completed in person. The interviews took approximately 15-20 minutes each depending on the depth of the participants' answers and the detail they used when answering the questions. The interview questions may be found in the appendix. From the interviews, I hoped to answer these questions:

1. What do care providers believe causes medication noncompliance?
2. How do they believe they can use their connection to the patients to help solve this problem?
3. Would they be willing to implement possible solutions to help their patients?

Results

For the results, there are three main themes that arose from the interviews: the main factors that lead to medication noncompliance as seen by care providers, experiences these care providers have had with medication noncompliance, and how these care providers believe the problem can be solved.

Main Factors

There have been multiple studies done on what causes medication noncompliance in patients over the age of 65, but the majority of these studies came from focus groups with the patients. I wanted to understand how care providers viewed the issue and what they believed caused it. The first step was to make sure all the participants agreed that medication

noncompliance in this age group really is an issue. All of them agreed. From there, we could begin to understand what care providers thought about this issue.

Each of the care providers had different ideas as to the main cause of medication noncompliance. Pharmacist A discussed the fact that there are two types of medication noncompliance, intentional and unintentional (personal communication, October 29, 2013). All of the following factors can be placed into either of those two categories. It is an important note to make because oftentimes care providers and family members may believe that the patient is intentionally not taking medication. However, this is not always the case.

One of the intentional medication noncompliance factors that was reported by every participant was the cost of medication. Pharmacist A mentioned the fact this problem was a lot worse before Medicare was created for patients; however, the problem still exists (personal communication, October 29, 2013). Pharmacist B discussed the fact that patients would come into the pharmacy, see the price of a medication, and decide not to buy it (personal communication, November 1, 2013). Then the physician would call the pharmacy to see when the last time was that they had picked up the medication and she would see that it had never been filled. The patient did not let the physician know, so the physician continued to assume that the patient had been taking the medication for a certain period of time. Nurse B talked about comments she hears in the hospital from patients in this age range regarding the price of medications, comments such as “the doctors just want more money so they add more pills” and “the government just wants everyone to be on medication” (personal communication, November 6, 2013). Nurses are able to spend significantly more time with patients than physicians, so they are able to hear these kind of comments. These kind of remarks certainly show why education is so important for solving this problem.

Another intentional medication noncompliance factor occurs when a patient does not understand that a medication is important. Even though the physician specifically instructed the patient to take the medication daily, they may take the medication every other day or even only once a week. Case Manager A discussed the fact that many patients are set in their ways and do not want to change their routine (personal communication, November 8, 2013). They may also believe that they have lived without the medication for this long, so a new medication is not really necessary for their health. Case Manager A also pointed out that many patients do not have an accurate perception of their health. They may believe that they are stronger than any health condition or they may not completely understand the severity of their condition. Nurse B talked about many patients disliking the side effects and believing that treating the health concern is not worth all of the side effects. They will simply live with the health problem (personal communication, November 6, 2013). Nurse A also noted that many patients would receive their fill of the medication at the hospital, but they would never go to the pharmacy to receive their refills (personal communication, November 9, 2013). Patients may simply choose to discontinue the specific medication (again, without the physician's knowledge) or they may simply not know that they have refills available to them.

A factor in medication noncompliance that may be intentional or unintentional is education. It is intentional in the fact that patients should be educating themselves on their medication and asking their physician and pharmacist questions as they come up. However, it may also be unintentional because care providers are simply not giving enough information about the drug either at the hospital/clinic or at the pharmacy when the medication is picked up. Nurse A stressed the importance of education especially when a patient is admitted to the hospital, because they only retain, on average, about 30% of the information given to them

during their stay (personal communication, November 9, 2013). It is a common misconception that patients completely understand all of their medication when being sent home from the hospital.

An unintentional factor in medication noncompliance is the complexity of their drug regime. This has been labeled by both patients and healthcare providers as a problem that often leads to medication noncompliance. Case manager B discussed the fact that patients may not only be confused by the directions for how to take the prescription, but also what time of day and how often (personal communication, November 8, 2013). Case manager B went on to point out that one prescription can be confusing enough especially for patients who have memory problems or early signs of dementia, but you begin adding three, four, five prescriptions all with different directions and compliance becomes extremely difficult for the patient. As physician A pointed out, many patients are seen by multiple physicians including specialists and primaries (personal communication, November 7, 2013). He went on to mention that oftentimes a specialist would prescribe a new medication, but never let him, as the primary physician, know about the medication addition. So the confusing nature of the medication regimen extends not only to the patient but to the physicians as well.

The final unintentional factor discussed by these care providers is lack of support from family or other outside source. Pharmacist A discussed the fact that many patients, especially those over the age of 65, come into the pharmacy with their family, such as a son or daughter. This allows for an extra set of eyes and ears and someone to help understand the new medications the patient will be taking (personal communication, October 29, 2013). However, if this sort of support is not available to the patient, it is up to them to understand the medication and remember to take it at the correct time. Pharmacist B stated “I always feel more comfortable

when an older patient has someone with them” (personal communication, November 1, 2013).

Case manager B talked about the importance of having someone who is able to organize medication for the older patient (personal communication, November 8, 2013). This could include setting up the medication in a pill box that is labeled for each day of the week and whether the medication is taken in the morning or in the evening. It may also include simply organizing the patient’s pills so they are all in one spot as opposed to many different spots around the house which may lead to lost bottles or forgotten doses. This could be done by a family member or someone else close to the patient.

Experiences

Every participant had some experience with medication noncompliance in patients over the age of 65 and from these experiences the participants were able to draw their answers. Pharmacist A was able to draw from multiple instances when the patients in this age range came in to the hospital with no idea what they were taking and only knew the medications by the color or by the shape, not by the name. He stated that often a son or daughter would come in with them and between the three of them, they would try to piece together the patient’s entire medication list (personal communication, October 29, 2013).

Nurse A discussed how patients would begin taking medication for heart problems and would leave the hospital with four new medications on top of their current medication list. When she or the physician would check back in with the patient, they may only be taking one or two of the medications with which they were sent home (personal communication, November 9, 2013). Physician A talked about a specific example where counter education was evolved. This simply means that the patient had read some information on the internet or heard something from a

friend that was contrary to what the physician had said regarding the medication. For this reason the patient had discontinued the medication (personal communication, November 7, 2013).

Patients often research the new medications they are put on, which is a great thing. However, not everything that is on the internet is true or there may have been some side effect that occurred in a certain patient that only occurs 0.01% of the time when taking the medication. Instead of discussing this possible side effect and learning that the side effect is very minor and very rare, they will simply discontinue the medication.

Case manager A and B both described a patient who actually had a home health nurse and a supportive family helping with the medication regimen. However, medication would end up missing in the patient's home or a dose would be taken out of the pill box, but then instead of the patient taking the medication, the family would find the dose sitting on the counter days later (personal communication, November 8, 2013) For this patient, the case managers had to call in a pharmacist to do a full medication reconciliation, which is when the medication list of a patient is reviewed for interactions or possible reductions in medication. The pharmacist completing the review was actually able to discontinue two of the medications allowing for a less complicated medication regimen and a higher chance of compliance on the part of the patient.

Pharmacist B discussed multiple times when patients would call into the retail pharmacy to have a medication refilled that had not been filled in months. It is possible that the prescription was being filled elsewhere or the physician's office was giving them samples; however, the more likely explanation is that the patient was confused about what medications they were supposed to be taking and simply had not taken that medication in all of those months (personal communication, November 1, 2013). Nurse B talked about how patients confide in nurses when they have a complaint about the side effects, the price, the frequency of medication, or the

amount of medications being taken. The nurses are then able to bring this complaint to the physician who is able to make some change to make the medication regimen slightly easier for the patient. If the nurses did not bring these complaints to the physician's attention, the patient would most likely pick one medication (one that is most likely a high dose or taken multiple times a day) and discontinue it at their own discretion (personal communication, November 6, 2013).

Finally, Physician B described how medication compliance affects the emergency room. One action that must occur when a patient comes to the emergency room is obtaining a list of current medications. Sometimes, they are lucky and the patient has a list with them. However, this is usually not the case. Finding a medication list would include calling around to multiple pharmacies are trying to figure out what medications were currently being filled and which ones had been discontinued. Between patients being seen by an average of three physicians and filling prescriptions at an average of two pharmacies, it is easy to see where the compliance issues most likely begin (personal communication, November 15, 2013).

Although all of these medication noncompliance stories were different, they show that medication noncompliance is an issue that is seen in almost every part of the health care field. Whether it is in a pharmacy, at a physician's office, at a hospital, or in the patient's home, medication noncompliance is occurring, especially with those who are over the age of 65.

Potential Solutions

Each healthcare provider had different ideas on how to solve this issue. Each idea was valuable and had positives that could potentially solve this problem at least for the present time. Pharmacist A's main solution was communication between the physician's office and the

pharmacy. He believed that this was a matter that should be monitored by the healthcare providers. He also stated that if the problem got worse then a patient may have to move to an assisted care facility where medication is monitored by nurses and aides (personal communication, October 29, 2013).

Nurse A discussed solutions that really utilized the relationship between nurses and patients. She believed that education was the key to solving this problem. There was so much confusion about brand vs. generic and why drugs should be taken at night instead of in the morning or vice versa. She stated that the nurses needed to advocate for the patient and discuss their medication with them every hour they were in the hospital. This would be the only way to get the point across that following the medication regimen was important and necessary for their health. She also talked about bringing other departments in such as the pharmacy and encouraging the idea of a team effort on the part of care providers both in the hospital and outside of it (personal communication, November 9, 2013).

Physician A also believed in a proactive approach to solving this problem. He said “I focus on teaching my staff that medication education is on-going, not just once” (personal communication, November 7, 2013). He also discussed a new way to handle medication lists which is completely electronic. When medication lists are simply written out by the patient there is a good chance that a dose will be incorrect or that a strength of medication will be incorrect such as 5mg versus 50mg. Having the medication list electronically allows the computer to notice strange doses or inconsistencies in the way the medication is being taken. This solution is still not 100% but it is extremely helpful when a new patient is admitted to the hospital (personal communication, November 7, 2013).

Case manager A discussed a new reason for medication noncompliance. She said that in her location of work, many patients were from other countries or English was not their first language. With one patient, she had organized the medications for the patient in a Sunday-Saturday pill box that included AM and PM medication doses. However, the patient's first language was Spanish and her English was not very well developed. So she did not understand the pill box organization and had not been taking the medication correctly. Case manager A stated that the solution begins with understanding the problem. In that case specifically, it was not that the medication regimen was too complex or that the patient was forgetting to take the medication. It was actually a cultural difference. She also stated that healthcare professionals always need to ask "why" before attempting to solve a problem otherwise the solution may not be fitting for a certain patient (personal communication, November 8, 2013).

Case manager B agreed with pharmacist B that the best solution to begin to solve medication noncompliance is communication between the pharmacy and the physician. She suggested the idea of pharmacies taking the time to set up the pill box at the pharmacy and then delivering it directly to the patient's home (personal communication, November 8, 2013)

Another good point that Case manager B made was that if a patient especially those over the age of 65 have a home health nurse, it may be up to them to notice changes in the patient. If a patient is taking a certain medication and forgets to take it or is taking a medication incorrectly, there are usually signs such as increased confusion, agitation, or a change in personality. Those who do not see the individual on a daily or even weekly basis may not be able to pinpoint these changes and identify the cause as medication noncompliance. In this case, it is up to the home health nurse or health aid to recognize the problem (personal communication, November 8, 2013).

Pharmacist B believed a solution could be found in encouraging patients to call in. When working in a retail setting, patients are always asked if they had any questions when picking up the medication. Most of the time, patients would say no and be on their way. However, many patients may be confused or unable to think of any questions on the spot. When this occurs, they must be encouraged to call the pharmacy or their physician if they have any questions on when to take it, how to take it, or what side effects are common (personal communication, November 1, 2013). With this encouragement, hopefully patients will be willing to ask the questions that are necessary, instead of trying to solve the problem themselves and potentially making mistakes with their medication.

Nurse B discussed the idea of a medication sheet with complete instructions of all the medications a patient was currently taking and the directions for taking each one of them. She encouraged every patient and even the patient's family members, especially if the patient was over the age of 65, to carry this sheet with them. If there was a change in dose or an increase in medication, the change should be noted on that paper, so there would be no confusion when the patient returned to the physician (personal communication, November 6, 2013). I agree that having a medication list makes things easier for the physician, the nurses, and the patient especially if they are visiting the emergency room or seeing a new physician for the first time. However, if a patient already has memory problems, there is a good chance that they will not remember this sheet when attending appointments and having this information written down or typed out does not mean they will follow the instructions at home.

Physician B had ideas similar to Nurse B on how to solve medication noncompliance in patients over the age of 65. He believed that physicians needed to know exactly what a patient was taking and how often. He stated that a patient needed to either have a medication list with

them or they needed to contact the pharmacy or pharmacies the patient used to fill prescriptions. He felt that many times patients would simply try to remember what prescriptions they were taking and they would be wrong. Before moving forward with any medication changes or additions, he always had his nurses find out as much as possible about the medication regimen (personal communication, November 15, 2013).

Discussion

I have learned so much about medication noncompliance in patients over the age of 65 from my own experiences and from these eight sources. When first beginning, I believed that there would be a specific solution to this problem that would help all patients. However, I now understand that every patient is different and their reason for not complying with their medication regimen is different. That being said, there are a few steps that can be taken to minimize these problems in patients and help them understand their medication and how to take it.

Medication Dispenser

A medication dispenser is the first step in medication noncompliance for these patients who have trouble following their medication regimen. The system is made by Phillips and is quite simple to use after the initial dispenser has been set up. The medication is simply loaded into the filling trays and is set to dispense at the appropriate time, whether it is twice a day (once in the morning and once at bedtime) or four times a day. At the correct time, the medication dispenser will spit out the pills and an alarm will be sounded which will continue for 60 minutes. The alarm can only be turned off by flipping the cup where the medication is dispensed upside down and into your hand. However, if the medication is not removed from the tray in 60

minutes, the system will automatically alert someone, whether it is a care provider, a family member, or a home health nurse, whomever the system is set to. This is extremely helpful, because even if a family member does not live close to the patient, they can still know that a medication has not been taken and notify the correct health care provider

(<http://www.epill.com/philipsmd.html>).

There are a few concerns with the medication dispenser. The first is the cost of the medication dispenser. The cash price of the dispenser is \$900, which is a price some patients will not be able to afford. Medicare needs to pass an extension to their coverage to cover the price of these machines, or at least some of the price. It is not feasible to provide a medication dispenser to every patient over the age of 65, but each one that becomes available to a patient has a good chance of lowering their medication noncompliance. Medicare already covers hospital visits that are often caused by medication noncompliance. If patients are having trouble with shortness of breath or memory loss caused by taking their medication incorrectly, they visit their physician. This cost can be cut out by covering these medication dispenser machines instead because patients will not take their medication incorrectly or at least not as often.

The second problem is who will be responsible for filling the medication tray. There is no problem if the patient has a family member willing to fill the tray or a home health nurse who visits them weekly, but if the patient does not have access to this help there is a problem. I believe that those covered by Medicare should have an aide who can fill the tray for them. This service can be provided by an area aging agency or by a local health location. If the patient is not on Medicare, this service should be provided by the local pharmacy where the patient fills their medications. This will take more time for the pharmacy and its employees, but this problem is important enough that patients should have this service made available to them.

Communication

The second solution to this problem is communication between the physician and the pharmacist. Oftentimes, the physician may have no idea that a medication is not being picked up every month or that a patient is continuously claiming to run out of medication and filling the prescription early. This falls to the pharmacist to keep an eye on these issues. This does not have to be something that occurs every month with every patient. However, if a family member or the physician believes the patient is at risk of not complying with his or her medication, they should be allowed to suggest a pharmacist follow-up with the patient and keep an eye on prescription ordering and pick-up. Especially in retail, pharmacists are able to see all the prescriptions on one page and the last pick-up date, therefore, the pharmacist is able to quickly tell if the patient has been missing months.

There are a few issues with this solution. First of all, some patients fill at more than one pharmacy meaning more than one pharmacist would be involved in this process. This does not make monitoring prescriptions impossible, just more difficult. Second of all, some patients receive their medications through the Veterans Association or a mail-order pharmacy established by Medicare. These pharmacies are more difficult to get in touch with and may not have as handy of a list of medications and when they were last filled. Again, this does not make it impossible, just more difficult. If a family member or healthcare provider was able to encourage the patient to fill at one pharmacy instead of multiple ones, it would definitely cut down on medication confusion that may lead to noncompliance.

Education

One of the most important solutions to this specific problem is education. Patient education is necessary to really solve medication noncompliance, as it is a strong preventative key. Most of the education will be done by the nurses, as they have the most time to form a relationship with the patient. The idea of this education is mostly for new medications and medications a patient starts taking after a stay in the hospital. The physician needs to start the education right away at the hospital or when the medication is first prescribed. Many times patients hold their physician to a higher level and are more willing to listen to instructions that come from him or her. The education needs to continue if the patient stays in the hospital with the nurse talking about their new medication and how other aspects of their medication regimen are progressing. This needs to be a daily occurrence with the hope that the majority of medication information will stick with the patient.

If the patient is not staying in the hospital for multiple days, then the pharmacist needs to be in charge of education when the patient picks up the prescription. The pharmacist needs to inform the patient of possible side effects and answer any questions the patient may have. When patients have follow ups with their physician, nurses should always be asking the patient questions about medication, especially if a new medication is involved.

Conclusion

Medication noncompliance is very common in patients, especially those over the age of 65. This is due to a complex medication regimen, poor drug knowledge, physical limitations, psychosocial characteristics, and poor communication (Ascione, 1994). The main purpose of this

thesis is to understand what care providers believe to be the cause of medication noncompliance, how they feel they can help solve the problem, and a few possible solutions to assist patients in this age group. Care providers all see medication noncompliance and what causes it in a different light, however, all providers can take steps to put an end to noncompliance. These steps include better communication, medication dispensers, and education. These are three simple steps that can be taken that will make a difference in these patients' lives. Though these steps will not necessarily solve all cases of noncompliance, they will be extremely helpful to patients over the age of 65 and part of the solution which involves help from all care providers working as a team. I believe that there should be continued research on this subject. I had the limitation of only completing eight interviews, but with more interviews and focus groups with care providers, researchers will be able to find more solutions and ideas to help solve this problem. With each new idea, we are one step closer to solving medication noncompliance and helping patients live a more fulfilled and safe life.

References

- Ascione, F. (1994). Medication compliance in the elderly. *Generations*, 18(2), 28-33
- Beran, M., Laouri, M. , Suttorp, M. , & Brook, R. (2007). Medication costs: The role physicians play with their senior patients. *Journal of the American Geriatrics Society*, 55(1), 102.
- Corsonello, A., Pedone, C., Lattanzio, F., Lucchetti, M., Garasto, S., Carbone, C., Greco, S., Fabbietti, P., & Incalzi, R. A. (2009). Regimen complexity and medication nonadherence in elderly patients. *Therapeutics and clinical risk management*, 5, 209.
- Fulmer, T., Kim, T. , Montgomery, K. , & Lyder, C. (2000). What the literature tells us about the complexity of medication and compliance in the elderly. *Generations*, 24(4), 43.
- Hervé, C., Mulletü, E. , & Sorum, P. (2004). Age and medication acceptance. *Experimental Aging Research*, 30(3), 253.
- Lam, P., Elliott, R. , & George, J. (2011). Impact of a self-administration of medications programme on elderly inpatients' competence to manage medications: A pilot study. *Journal of Clinical Pharmacy & Therapeutics*, 36(1), 80.
- Phillips (2011). Monitored Automatic Pill Dispenser. Retrieved November 30, 2013, from <http://www.epill.com/philipsmd.html>
- Sorensen, L., Stokes, J. A., Purdie, D. M., Woodward, M., & Roberts, M. S. (2006). Medication management at home: medication risk factor prevalence and inter-relationships. *Journal of clinical pharmacy and therapeutics*, 31(5), 485-491.

Wick, J. (2011). Adherence issues in elderly patients. *Pharmacy Times*, Retrieved from <http://www.pharmacytimes.com/publications/issue/2011/January2011/RxFocus-0111>

Appendix

Interview questions

1. What is your job title and how long have you been working in the health care field?
2. What is your interaction with patients over the age of 65?
3. Do you play a part in the medication regimen of patients over the age of 65?
4. Do you believe medication noncompliance is an issue that needs to be addressed?
5. If so, what do you believe causes medication noncompliance in patients over the age of 65?
6. Have you had any experience with patients over the age of 65 and medication noncompliance? If so, how did you solve the issue?
7. Potentially, how do you feel your position could help patients over the age of 65 who struggle with medication noncompliance? What are some proactive steps that can be taken to prevent this issue?
8. Would you be willing to implement a potential solution to medication noncompliance in patients over 65 that included other care providers?

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has been approved as meeting the thesis or project requirement for the Designation

University Honors with Distinction

3/26/2014

Date

Dr. Elaine Eshbaugh, Honors/Thesis Advisor, Gerontology

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