



Effectiveness of Patient Education and Counseling In Improving Patient Compliance

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Abstract

Patient compliance is the least understood behavioral issue in healthcare despite the immense amount of research behind it. Defined in 1970, patient compliance is the level to which the patient's behavior correlates with medical or health advice. Before term patient compliance, it was known as patient "control" (Morris and Schulz, 2011). Patient compliance within health care has been an ongoing battle that continues today. This topic is discussed in every clinic and is often the main barrier to improving treatment outcomes. Although several factors can lead to non-compliance, the three majors include physician-related, physician-related, and health system-related factors. The most significant cause of non-compliance is due to patient-related factors. The objective is to test whether patient education and counseling will raise level of compliance in patients? This study will focus on measuring the effectiveness of patient education and counseling in improving patient compliance against non-counseled patients with patient taking antihypertensive medication.

Introduction

Compliance can be equally as important economically. High patient compliance associated with medication is used in promotional efforts and advertisements by pharmaceutical companies. The companies use patient compliance as a selling point to increase their image and product visibility. One historical reason commonly believed to discourage patient compliance is a lack of understanding of the treatment regimen. It was hypothesized that if patients do not understand how to take their medications, they are likely not to take them at all. This could also be attributed to the simplicity of the regimen and the ease of following for the patient. A key strategy against this has been to increase patient education eliminate misconceptions and misuse of the medication. Quantifying compliance is also another hurdle researchers face, as some biological markers in blood and urine samples can be costly and burdensome. On the other hand, methods like prescription refill rate and the patient survey do not represent medication ingestion and may overestimate compliance.

Patient compliance can be defined as the level at which a patient adequately follows medical advice. The most significant cause of non-compliance is patient related. There are many dangers when patients fail to adhere to assigned treatment plans. Medications have therapeutic indexes, the onset of actions, pre-loading, and titrating properties that make them time-sensitive (Becker and Maiman, 1980). Failure to follow a regimen can result in excessive, diminished, or irregular consumption, leading to more comorbidities or fatality. The regimens, prevention, and treatment plans provided by healthcare providers are often optimized when patients are compliant; thus, the treatment outcomes could show less effectiveness or be obsolete if not followed precisely.

The goal is to have patient adherence, recognizing that the patient was part of the decision-making and is compliant. This is extremely important for pharmacological therapies where patients have required a structured regimen often or multiple times daily. Another factor that discourages patient compliance is the severity of the disease. If the patient is asymptomatic, that may influence them not to take the medication.

Methods and Materials

Participants will include 400 patients with diagnosed chronic hypertension defined as a diastolic blood pressure of <90 mmHg or greater and were recently prescribed Atenolol as their primary treatment method. Of the 400 subjects, 200 will be women above the age of 50, and the other 200 were men over 50. Patients will be seen at the Fort Lauderdale Heath department. Exclusion criteria includes patients with existing primary heart disease like aortic stenosis and myxoma, pregnancy, and other decompensating health conditions. Patients with a history of cancer, cardiothoracic surgery, heart attack, and seizures is also excluded. Any patient with any condition that is a contraindication to beta-blockers or atenolol medication, including allergy, peripheral vascular disease, diabetes mellitus, and chronic obstructive pulmonary disease will not be considered for the study.

The materials will include early morning urine samples to ensure the most concentrated urine is measured. Laboratory and office supplies to process the urine samples. The patient will be given a medication logbook had dates and times when medication was taken. At home, Omron 3 series upper arm blood pressure device for patients to take their own readings. Atenolol educational packet printed from the manufacturer's website that provided additional information on the medication.

The setup for the trial in going to be randomized control where the groups are broken into halves group 1 and group 2. Both groups should have been recently prescribed the beta-blocker atenolol to control their hypertension. The first group will be sent to the pharmacy with minimal counseling to pick up their medication. The other group will be shown an educational video that explained how the drug worked, its benefits, and its side effects. Furthermore, the provider will thoroughly explain how the patient should take the medication at home while providing words of encouragement. The patient will then be sent home with an educational packet with more manufacturers' information, and we will tell them to reach out to the office should they have any further question. Both groups are also going to be asked to record when and how much of their medication they took into their logbooks. Patients will be asked to record their blood pressure every two weeks and follow up at the clinic once a month for the urine test. Patients are to refill their medication only at the participating pharmacy, where refill requests and dispensary dates are monitored. All patients will have to agree to the release of their medical information to the rights of this clinical study.

Results

Although the research is focused on compliance with the treatment regimen prescribed for the patient's hypertension, the logbook helps track how the patient is taking the medication and their compliant in logging and following the instructions of the clinical study as well. The urine sample was given as a chemical non-subjective marker to test that patient had been taking the medication not just logging it in. The urines sample and logbook, and blood pressure measurement combined will provide more certainty. We will determine if the patient was indeed compliant if there was a consistent log as prescribed and a positive urine test and no increase to blood pressure given no other comorbidities or changes to lifestyle that may have influenced the blood pressure.

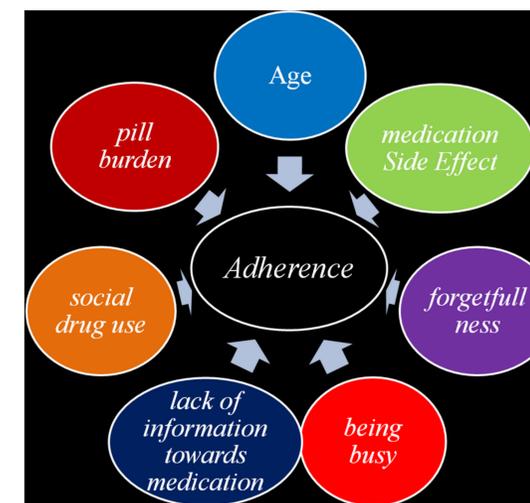


Figure 1. structural frame work showing reasons and factors affecting adherence at Adama, Ethiopia in 2014.

Discussion

Should the experiment be conducted, we would expect some deviations between to the two groups being studied. The first group we expect more patients to discontinue or fall from the treatment plan than the second group for reasons unrelated to side effects or health concerns associated with the medication. If we compare the urine sample between both groups, we should see more a positive trace for atenolol the second group who received the additional counseling and patient education. We should see the second group to have a clinical decrease in blood pressure and tested positive for atenolol in their urine. On average, we foresee a slight bi-weekly decrease in resting blood pressure in the groups that received the extra patient education.

Conclusions

Given the experiment the expected results, we can conclude that an increase in patient education and counsel does increase the likelihood of patient compliance. That providing additional education keeps the patient informed and more likely to understand the importance of treatment. The result will show that the more the patient comprehend the important of staying diligent on the treatment track, the are more likely to adhere to that. However, despite the increase in compliance, we expect that we will still have patient who aren't compliant regardless of the intervention of patient education and consult. The result will show that there is no one way to fix issue of non patient compliance.

TOP BARRIERS TO MEDICATION ADHERENCE

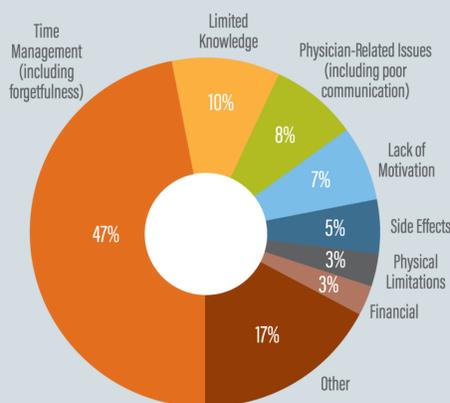


Figure 2. Barriers for adherence, Navatius Health Solutions 2015



Figure 3. Strategies to improve treatment adherence L. Eicher 2019

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References

1. Becker, M. H., & Maiman, L. A. (1980). Strategies for enhancing patient compliance. *Journal of Community Health*. Retrieved October 2, 2021, from.
2. Lafleur, J., & Oderda, G. M. (2004). Methods to measure patient compliance with medication regimens. *Journal of Pain & Palliative Care Pharmacotherapy*, 18(3), 81–87. https://doi.org/10.1080/13541803_09
3. Maningat, P., Gordon, B. R., & Breslow, J. L. (2012, December 9). How do we improve patient compliance and adherence to long-term statin therapy? *Current Atherosclerosis Reports*. Retrieved October 2, 2021, from <https://link.springer.com/article/10.1007/s11883-012-0291-7>.
4. Morris, L. S., & Schulz, R. M. (2011, October 7). Patient compliance-an overview. *Wiley Online Library*. Retrieved October 2, 2021, from <https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1365-2710.1992.tb01306.x>.
5. Trostle, J. A. (1997). The history and meaning of patient compliance as an ideology. *Handbook of Health Behavior Research II*, 6, 109–124. https://doi.org/10.1007/978-1-4899-1760-7_6
6. Webb, P. A. (1979). The relative effectiveness of patient education and psychosocial counseling in promoting patient compliance and blood pressure control. *Preventive Medicine*, 8(2), 247. [https://doi.org/10.1016/0091-7435\(79\)90294-9](https://doi.org/10.1016/0091-7435(79)90294-9)