

Barriers to Drug Adherence

İlaç Kullanım Uyumuna Engeller

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ABSTRACT

Aim: This manuscript aims to investigate the patient's side of the problem through indirect method of adherence measurement via patient questionnaire.

Background: Lately, several phases to accomplish that patients continue therapy for chronic conditions for long periods has passed. Initially the patient was thought to be the core of the problem of compliance. The role of the health care providers was also addressed soon. Now we acknowledge that a system approach is required. The idea of compliance is associated too closely with blame, be it of providers or patients and the concept of adherence is a better way for understanding the dynamic changes required to maintain health over long periods of time.

Methods: 792 patients of family practice outpatient clinic (400 female and 392 male)were recruited and given a questionnaire as to list their reasons for drug inadherence

Results: Reasons for inadherence were as follows; Unwillingness to use drugs (42,04%), Media effects (38,76%), Forgetfulness (34,59%), Poor communication with health care provider (33,58%), Drug side effects (24,11%), Refusing the disease (22,22%), Multiple drug use already (19,06%), Concerns for accuracy of treatment (10,6%), and High costs of drugs (6,1%)

Conclusion: Patients are explicitly effected by many factors for adherence. Improved adherence is primarily driven by improved management of diseases, including the increase awareness of issues surrounding adherence. That counts the physicians too. Inadherence warrants a bio-psychosocial approach and seemingly inadherent patients must be provided with a higher level of communication

Key-Words: Inadherence, bio-psychosocial approach, indirect adherence measurement, barriers to adherence

ÖZET

Amaç: Bu çalışmada hastaların ilaç kullanımına uyumlarını indirek bir ölçüm yöntemi olan hasta anketi ile sorunun hasta tarafı ele alınmaya çalışılmıştır.

Giriş: Son dönemlerde hastaların uzun süreli ilaç kullanımına uyum göstermeleri konusunda çeşitli safhalar geçilmiştir. Başlarda tek suçlunun hastanın kendisi olduğu düşünülse de hekimlerin bu konudaki rolleri de çabucak dikkat çekmiştir. Şimdi ise sistemik bir yaklaşımın gerekliliği kabul edilmektedir. Uyum; hastalar veya hekimler kaynaklı da olsa suçlandırılma ile ilişkilidir ve sağlığı korumak için ilaç kullanımına bağlılık olarak düşünülebilecek bir konsept, dinamik değişkenleri çözümlenebilmek açısından daha kullanışlı olacaktır.

Metod: Aile hekimliği polikliniğine başvuran 792 hasta (400 kadın-392 erkek) çalışmaya kaydedilerek ilaç kullanım uyumsuzluklarının nedenleri açısından ankete tabi tutulmuşlardır.

Bulgular: İlaç kullanımına uyumsuzluk nedenleri şöyle sıralandı; İlaç kullanımını istememek (%42,04), Medya etkisi (%38,76), Unutmak (%34,59), Hekim ile kötü iletişim(%33,58), İlaçların yan etkileri (%24,11), Hastalığı reddetmek (%22,22), Çoklu ilaç kullanımı (%19,06), Tedavinin doğruluğuna güvensizlik(%10,6), ve son olarak yüksek ilaç fiyatları (%6,1)

Sonuç: Hastalar açıkça pek çok faktörün etkisi altındadırlar. İlaç kullanımına uyum, temel olarak uyumla ilgili tüm konuların farkında olunması ve hastalıkların iyi yönetilmesi ile gelişir. Buna tabi ki hekimler de dahildir! İlaç kullanım uyumsuzluğu dikkatli bir biyo-psikososyal yaklaşım ve iyi bir iletişim gerektirir.

Anahtar sözcükler: İlaç uyumsuzluğu, biyo-psikososyal yaklaşım, indirek uyum ölçümü, uyum engelleri

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INTRODUCTION

The current notion in healthcare management in both Turkey and the world primarily focuses on to reduce costs and enhance the quality of patient care. Improving patient adherence to a treatment regimen can be a crucial factor for this task. ‘Medication adherence is defined as the extent to which patients take medications as prescribed by their health care providers and as agreed upon in the treatment plan’¹. The term “adherence” is preferred by many health care providers instead of “compliance”, which implicates that the patient following the physicians’ prescriptions and orders. However, the term “adherence” reflects a mutual collaboration established between the patient and the physician. This definition implies that the patient has a “word to say” and treatment goals and the medical therapy are both established by the physician and the patient .

It is known that non-adherence rates for chronic illness regimens and life style changes are 50%². Adherence rates are higher among patients with acute conditions, when compared with those with chronic conditions. Moreover, in patients with chronic conditions adherence rates drop dramatically after the first six months of therapy³⁻⁴⁻⁵.

Medication adherence is essential to improve patient outcomes in almost every disease. Non-adherence is a growing problem not only for healthcare givers but also for third parties such as reimbursement institutions, due to accumulating evidence that it will lead to poor patient outcomes and increase in costs of care.⁶⁻⁷

In fact, non-compliance is now an epidemic, which prevent physicians to provide optimal care, and became one of the most important problems in healthcare today. Compliance problems costs 290 billion dollars to US economy and causes 125.000 US deaths per year⁸⁻⁹.

In Europe, the situation is no better as non-adherence is predicted to cause 200,000 deaths and costs €125 billion each year¹⁰. Measurement of patient medication adherence and use of interventions to improve adherence are indeed seldomly done in routine clinical practice today.

There are direct and indirect methods available to assess medication adherence. Direct methods include observing patients and measuring drug or metabolite concentrations in the blood or urine. Indirect methods include patient interviews, patient diaries, refill rates, pill counting, monitoring the clinical response, electronic monitoring devices, and patient scales or surveys⁹.

Currently, a gold standard measurement for adherence does not exist, and which measurement provides the best estimate of patient’s adherence is unclear. Many reviews suggest that biologic assays are the most accurate measure of patient’s non-adherence followed by pill counts, with self-report being least accurate.¹¹⁻¹²⁻¹³⁻¹⁴

Electronic pharmacy data are now available. Currently, the two most commonly used measures of medication adherence based on pharmacy data are the medication possession ratio and the proportion of days covered

method¹⁶. Medication possession ratio is the number of doses dispensed in a number of days. Proportion of days covered identifies the number of days in a measurement period in which patient follows prescription.

Table 1. Adherence calculations¹⁵

Pill count adherence	$\% \text{ adherence} = \frac{(\text{quantity dispensed}) - (\text{quantity remaining})}{(\text{prescribed number of tablets/d}) \times (\text{number of days between dispensing date and interview})}$	x100
Self-report adherence	$\% \text{ adherence} = \frac{(\text{number of tablets taken per day as reported by client})}{(\text{prescribed number of tablets per day as on label})}$	x100
Manual prescription claims data adherence	$\% \text{ adherence} = \frac{(\text{sum of quantity dispensed over interval})}{(\text{sum of prescribed number of tablets} \times (\text{number of days in interval between first and last fill}))}$	x100
Electronic prescription claims data adherence	$\% \text{ adherence} = \frac{(\text{sum of days supply in interval})}{(\text{actual number of days in interval between first and last fill})}$	x100

Table 2. Proposed staging for noncompliance in patients with chronic medical conditions¹⁷

Stage number	Stage name	Description
0	None to minimal	Takes 80%+ of regular medications for condition, most monitoring parameters indicate acceptable control, and makes and keeps regular appointments
1	Mild	Takes 60%-80% of medication doses, is seen at least twice yearly, and monitoring parameters indicate acceptable control
2	Moderate	<80% medication compliance with unsatisfactory control of at least one monitoring parameter; regularly misses or fails to keep appointments
3	Severe	Erratic medication compliance and/or visit compliance, highly unsatisfactory control of one or more monitoring parameters for the given condition, and/or does not comply with minimal standards of monitoring

Similar to other countries, non-adherence is a growing concern in Turkey. Given that the financial magnitude of health sector being four times that of the finance sector may force physicians to prescribe more than their patients’ needs may be a reason for patient’s non-adherence. In this study we aimed to assess the patients’ reasons or excuses for not following their physician’s prescriptions through an indirect method of patient questionnaire. The goal of this article is to offer primary care physicians tools for working with non-adherent patient.

METHODS

792 patients (400 women, 392 men) admitting to Baskent University outpatient clinic of Family Medicine were enrolled. After obtaining informed consent the patients were given a questionnaire to assess their reasons or excuses for not following their prescribed regimens.

The original questionnaire contained 9 questions and patients were free to give as many reasons as they wished.

RESULTS

The results are given in Table 3.

DISCUSSION

The most common reason for our patients' non-adherence was 'Unwillingness to use drugs'. 68,00% of women were in this group compared to 15,56% of men. The second most common reason was identified as 'Media Effect' 60,25 % for women and 16,83% for men. There is strong reason to believe that the top two are linked to each other and women are more vulnerable to effects of media. Disparity of percentage among genders may be reflecting this.

Table 3. Results						
THE EXCUSE OF PATIENTS FOR INADHERENCE	WOMEN		MEN		TOTAL	
	n	%	n	%	N	%
Forgetfulness	191	47,75	83	21,17	274	34,59
Drug Side Effects	132	33,00	59	15,05	191	24,11
Poor Communication	147	36,75	119	30,35	266	33,58
Multiple Drug Use already	82	20,50	69	17,60	151	19,06
Unwillingness to Use Drugs	272	68,00	61	15,56	333	42,04
Media Effect	241	60,25	66	16,83	307	38,76
Refusing the Illness	65	16,25	111	28,31	176	22,22
Concerns for Accuracy of Treatment	62	15,50	22	5,60	84	10,60
High Costs	27	6,80	22	5,60	49	6,10

Third reason of patients for non-adherence was 'Forgetfulness' as presented by 47,75% of women and 21,17% of men. Simply forgetting to take a dose of medicine accounts for 39,00% of all non-adherence, while forgetting to refill a prescription or being late on getting a renewal accounts for another 30,00%¹⁸. In fact; remembering to take doses of medication requires a

patients' constant attention, often multiple times a day. Use of reminders may reduce forgetfulness¹⁹.

'Poor communication with the healthcare provider' was chosen by 36,75% of women and 30,35% of men. Communication is vastly important for physicians especially for primary care givers and family physicians. Poor communication leads to non-adherence and patient dissatisfaction. Percent of patients by gender is close to each other for this section which perhaps reflects a similar and unfortunately a true perception of cases.

'Drug side effects' was another reason brought by patients for non-adherence. 33,00% of women and 15,05 % of men shared this idea. It is not clear that whether these participants really experienced these side effects or it simply was a perceived status. Nevertheless there are two million reported serious drug side effects and 100.000 deaths per year in USA²⁰⁻²¹⁻²²

'Refusing the illness' was given by 16,25 % of women and 28,31% of men as a reason for non-adherence. Male dominancy in this section can be disclosed with some 'macho' effect. Good communication skills will be essential for this barrier. It may be tempting for physicians to sweep the patient's refusal of treatment due to ethics, or the physician's duty to protect the patient's life. However, physicians must ultimately accept the patient's decision; exceptions may arise if the physician must protect a vulnerable third party (an infectious disease such as tuberculosis)

'Multiple medication usage' was the case in 20,5 % of women and 17,6 % of men. Again the proximity of percentages between genders points this reason to be a real claim. Patients visit several physicians in outpatient clinics and get many prescriptions. Lacking a healthy communication with the physician or lacking a primary caregiver to arrange polypharmacy which affects about 40% of older adults living in their homes, patients may suddenly find themselves given multiple drugs which may cause adverse drug reactions, drug interactions, prescribing cascade and higher costs²³⁻²⁴.

Accumulating evidence suggests that multiple medication regimens are not necessarily barriers to optimal medication adherence²⁵⁻²⁶⁻²⁷. Elderly subjects may even demonstrate comparable adherence to younger patients, despite their greater likelihood for polypharmacy and multiple comorbidities²⁸.

One other case for non-adherence was 'Inappropriate Treatment' for 15,50% of women and 5,60% of men. Overall; 10% of patients believed that they were not given proper treatment for their condition. The disparity of percentage between genders again leads to consider effect of media. Patients adhere well when the treatment regimen makes sense to them, when it seems effective, when they believe the benefits exceed the costs, when they feel they have the ability to succeed at the regimen, and when their environment supports regimen-related behaviors. There is no evidence of adherence being associated with any particular personality styles²⁹.

The final reason of our cases for non-adherence was 'High costs of drugs'. 6.80% of women and 5.60 % of men brought this. This may also be related to multiple drug use and new regulations on pocket pay in health in Turkey.

- Being sensitive to patient's beliefs and preferences
- Including interventions that are supported by evidence for clinical benefit.

This report in fact is somehow outlining the biopsychosocial approach of family practice.

CONCLUSION

In order to improve the approach of patients and healthcare providers to strengthen adherence across Europe, an international research consortium was constructed under the Seventh Framework Programme for research and under technological development (FP7) The final report outlines the strategies necessary for improved adherence:

- A system-based approach, which takes the role of all medication adherence components account: the patient, their family & caregivers, healthcare providers and payers, healthcare professionals, educators and researchers and the pharmaceutical industry
- Considering the drug and disease characteristics, patients' overall health status, and the relative importance of the drug in the patient's overall care
- Targeting the three components of medication adherence: initiation, implementation, and persistence with medication taking
- Considering behavioural theories, which can lead us to get a better understanding of how best to improve adherence.

Patients already often feel self-conscious and defensive when they are non-adherent. If this cycle is meant to be broken, physician's working to sound more human and less authoritarian can enhance the task. We believe that improved adherence is primarily driven by improved management of diseases, including the increase awareness of issues surrounding adherence. Finally existential approach of family practice although underestimated by some is known to have a positive influence on individuals questioning their health behavior and adapting to changes³⁰.

There is as yet no empirical rationale for a definition of non-adherence in the management of most diseases. Therefore, the definition of adherence to a disease treatment needs to be perceived as a method of monitoring both the quantity and timing of the medication used by the patient. At the individual level this may be desirable, but at the population level a more pragmatic approach is needed. Family physicians providing primary care should not only take biomedical but also psycho-sociocultural and spiritual factors into consideration, especially when dealing with a seemingly non-adherent patient.

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