



REVIEW ARTICLE

Strategies and Methods to Improve Compliance in Special Patient Groups and with Specific Health Problems

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Abstract

Adherence to long-term treatments for chronic conditions remains a challenging issue in general medicine. A low proportion of patients follow the recommendations from general practitioners. The attention of all recurrent or chronic health problems and turning points of natural or physiological situations but that present medical health risks requires co-operation with patients and changes in behaviour. Taking into account the complexity of the phenomenon of therapeutic compliance, it is necessary to individualize the strategies of approach in general medicine. Some strategies and methods to increase compliance are: 1. Rapport and continuity of care; 2. Confidentiality; 3. Prevention of effects of adverse drug reactions on compliance; 4. Simplify the therapeutic regimen; 5. Self-monitoring; 6. Avoid giving the impression that the drug replaces the need for changes in habits; 7. Know the patient's agenda, the perceptions of the disease, and the importance and their confidence about adherence; 8. Involve the patient in the decision; and 9. Motivational interview and negotiation. Emphasis should be placed on the importance of doctor-patient relationship and continuity of care, as well as knowing the patient's agenda, but other strategies are presented according to specific groups of patients and diseases and risk factors, as: 1) Cardiovascular risk factors and coronary heart disease; 2) Hypertension; 3) Hyperlipidemia; 4) Diabetes mellitus; 5) HIV; 6) Osteomuscular diseases; 7) Contraception; 8) Gastroenterological diseases; 9) Psychiatric diseases; 10) Bronchial asthma and chronic obstructive pulmonary disease; 11) Kidney diseases; 12) Elders; 13) Teenagers; and 14) Disabled people. Multiple strategies are probably necessary in most cases.

Keywords

Adherence, Physician-Patient communication, Physician-Patient relations, Pharmaceutical treatment, Therapeutic alliance, General practice; Framework

Introduction

For the World Health Organization, therapeutic adherence is defined as the degree to which the behaviour of a person corresponds with the accepted recommendations of the health professional [1]. Probably, around 40-50% of the patients do not take the prescribed drugs in an adequate way (as, for example, they occur in treatment due to hypertension or bronchial asthma) [2]. And this figure is considerably higher even in the developing countries [3].

However, non-adherence behaviors encompass a wide range of possibilities, ranging from irregular taking of drugs and short periods of rejection of medicines to premature abandonment of treatment [4]. On the other hand, the poor adherence to treatment can take various forms: difficulties to initiate it, premature suspension or abandonment, incomplete or insufficient compliance with the indications, which can be manifested as errors of omission, dose, time, or purpose (mistake in the use of one or another medicine), the absence of consultations on the day indicated and at the agreed time, the absence of modification of habits and lifestyles necessary for the improvement of the disease, the practice of self-medication or taking medicines when remember or only until you run out of the box or the blister [5].

Therefore it seems preferable to speak of "discontinuity of pharmacological therapy", which is understood by the interruption of the therapeutic scheme followed by a patient, which may have been established by the doctor because of:

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1. Discontinuation or switching by the clinical basis
2. Presence of adverse reactions to the drug (ARDs)
3. Persistence of symptoms
4. Improvement that eventually requires discontinuing or changing drugs

Or it may have been performed autonomously by the patient [6].

The evaluation or monitoring of compliance is also a complex process, since there are different ways of carrying it out: Self-communication, tablet count, medication possession ratio, biological markers, electronic monitoring, prescription renewal monitoring, etc. [7,8].

Although there has been a process of moving from the concept of "compliance" (centered on the doctor) to that of "adherence", and successively to "therapeutic alliance" (centered on the patient, and the doctor-patient relationship), the basic concept it remains complex and has multiple facets and models of approach. In any case, half of the population abandons the pharmacological treatment, and medication non-adherence is a major impediment to the management of diseases and risk factors, with great public health importance, and leads to preventable costs and hospitalizations. Many investigations have been directed to determine the factors responsible for low compliance, and there are a number of factors associated with adherence to treatment that are the most investigated. However, the findings are inconsistent with respect to the effects of numerous variables [9].

Two "therapeutic continuities" can be differentiated, referring to chronic or long-term pathological processes with slow variations of their clinical picture, which makes the patient live with his disease (such as diabetes, hypertension, stroke, schizophrenia, dysthymia, etc.), and a pharmacological discontinuity in acute processes or episodes that resolve in a short time or not very long [9].

Adherence to treatment is especially a public health issue or with particular importance in chronic disease therapies. Adherence to treatment is a key component of chronic disease management. Less than 50% of patients with chronic diseases, such as heart disease, bronchial asthma, epilepsy, diabetes mellitus, arthritis, depression, schizophrenia, etc., comply with the treatment. Even in acute diseases, non-compliance is high, and it has been reported that many patients fail to take prescriptions from the pharmacy or take the drug less than prescribed [7]. Primary care practices offer ideal venues for the effective care and management of these conditions [10].

Since therapeutic compliance is closely linked to the doctor-patient relationship [6] and, very different doctor-patient relationships models can be established [11], which can also vary according to multiple situa-

tions, scenarios and specific diseases [12,13], definitely, contextualization of the doctor-patient relationship is needing. Non-adherence does not occur at random, but it cannot be correctly predicted by medication beliefs, chronic disease, and sociodemographics characteristics [9].

As by "discontinuity of pharmacological therapy" is meant the interruption of the therapeutic scheme followed by a patient, the discontinuity of the treatment indicates in some way a discontinuity of the doctor-patient relationship. Each type of doctor-patient relationship implies a different relationship with pharmacological treatment; but also, the doctor-drug approach style imposes a doctor-patient relationship [6,11].

In this scenario, this article aims, that is a personal view, based on a selected narrative review and the author's experience, to reflect, synthesize and summarize the theoretical elements that clarify this issue of possible compliance differences according to groups of patients with specific diseases or risk factors, and so facilitate strategies for its practical application.

Discussion

The attention of all recurrent or chronic health problems and turning points of natural or physiological situations but that present medical health risks requires co-operation with patients (hypertension, pregnancy, child care, diabetes mellitus, epilepsy, multiple sclerosis, schizophrenia, depression, incontinence, etc.). And also disease prevention needs changes in behavior (tobacco, alcohol, obesity, etc.).

It is established that suboptimal compliance originates the following situations [7]:

1. Reducing chances of improving health
2. Increased possibilities of ADRs
3. Rising costs

Adherence to treatment and pharmacological discontinuity are inscribed in the first place in the doctor-patient encounter, and the qualities of this relationship influence one way or the other. A general view of the therapeutic continuity in general and the pharmacological continuity in particular can show us several factors: the prescription, the doctor's objectives, the health problem/the pathology, the meaning of the environment, the informed consent, the socio-economic condition, subjective well-being, the patient's objectives, the perception of the disease, family support, the evolution or course of the disease, the duration of treatment, the doses, the transference and counter transference phenomenon, the placebo effect and nocebo, the non-pharmacological effects of the medications, the adverse reactions to the drug, the quality of life, etc. [2,14-16].

But, since adherence to treatment and pharmaco-

Table 1: Methods for compliance in special patient groups and with specific health problems.

Methods for compliance	Special patient groups with specific health problems													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Rapport and continuity of care	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Confidentiality					X		X		X				X	
Prevention of effects of ADRs on compliance		X		X	X				X		X	X		
Simplify the therapeutic regimen		X		X						X	X	X		
Self-monitoring		X		X						X				
Avoid giving the impression that the drug replaces the need for changes in habits		X	X	X						X	X			
Know the patient's agenda, the perceptions of the disease, and the importance and their confidence	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Involve the patient in the decision		X	X	X						X				
Motivational interview and negotiation									X				X	

1: Cardiovascular risk factors (hypercholesterolemia, hypertension, etc.) and coronary heart disease (CHD); 2: Hypertension; 3: Hyperlipidemia; 4: Diabetes mellitus; 5: HIV; 6: Osteomuscular diseases; 7: Contraception; 8: Gastroenterological diseases; 9: Psychiatric diseases; 10: Bronchial asthma and chronic obstructive pulmonary disease; 11: Kidney diseases; 12: Elders; 13: Teenagers; 14: Disabled people.

logical discontinuity are inscribed in the first place in the doctor-patient relationships, and this is a complex, multiple and heterogeneous concept that cannot be defined in a unique way or generalize the concept of "good relationship", but there are "many doctor-patient relationships appropriate" according to their contexts (which also implies redefining the instruments for measuring this relationship), it is not possible to talk about strategies and methods of universal value for all situations or contexts.

Consequently, taking into account the complexity of the phenomenon of therapeutic compliance, it is therefore necessary to individualize the strategies of approach in general medicine. In this way, a series of certain specific or nuanced strategies can be distinguished for different patient groups and for different specific health problems (Table 1) [7].

Cardiovascular risk factors (hypercholesterolemia, hypertension, etc.) and coronary heart disease (CHD)

Adherence to treatment is a key factor in preventing the progression of CHD, which remains a leading cause of death and disability in adults worldwide, despite the enhanced prognoses of cardiac patients over the past several decades. Despite strong evidence supporting the importance of adherence, non-adherence to treatment represents a common and significant public health problem among post-percutaneous coronary intervention patients (PCI). Approximately 25% of post-PCI patients have at least two modifiable cardiovascular risk factors, but only about 50% of CHD patients make lifestyle changes. For example, adherence to physical rehabilitation was low especially after discharge from hospital and the opportunity to attend a mindfulness program was not used [17,18].

Possible strategies in this group of patients would be [7]:

- Establish rapport
- Know the patient's agenda, determining the areas that the patient considers important and in which he feels confident for compliance. If there is a low importance for compliance, the strategy of discussing the "pros and cons" can be applied. If there is a low confidence, solutions brainstorming strategies or evaluation of a "typical day" can be applied.
- Continuity of care that allows to develop confidence. The support of family members, nurses and doctors, the results of care, responsibility, fear of complications, and continuity of care predict adherence to long-term treatment [18].

Hypertension

50% of hypertensive patients undergo drug treatment, and only 50% of them have controlled blood pressure; 50% of hypertensive patients stop taking the drug during the first year. Thus, the compliance rate is less than 50%. When the more complex the therapeutic regimen is, the lower the compliance is. Patients' satisfaction resulting from building the relationship and empathy with physicians appeared to be associated with medication adherence among hypertensive patients [19].

The possible strategies in this group of patients would be [7,20,21]:

- Risk assessment in relation to cardiovascular diseases. Electronic evidence summaries for use in the clinical encounter for a wide variety of patient groups and clinical settings
- Sensitive examination of ADRs (such as sexual dysfunction, etc.).

- Valuation of a “typical day” to determine how taking the medication fits into the patient's life (for example, taking a diuretic can hinder activities during the day or be uncomfortable at night).
- Simplify the therapeutic regimen. For example, using fixed associations of drugs on the same tablet if the patient maintains adequate control, or in case of poor blood pressure control, can be preferred to replace one drug with a new one, instead of adding a new drug to the previous one.
- Auto monitoring of blood pressure: It can allow the patient to be more aware of the effect of compliance or non-compliance, and make him more self-responsible.
- Know the patient's agenda and the areas that he values as important and in which he feels with confidence for compliance. In case of low importance for compliance, the technique of discussing the “pros and cons” of compliance can be used.
- Maintain continuity of care and trust in the doctor.
- Establish rapport
- Know the patient's agenda and their perception of the disease, as well as to exploring the importance of the patient and the confidence it has for compliance. If there is a low importance of patient compliance, the “pros and cons” assessment technique of compliance can be used
- Know a “typical day” to understand the influence of the disease in the patient's life (meal, work, exercise, etc.)
- Exchange of information between doctor and patient, perhaps through the use of risk assessment tools
- Favouring self-control as a method of self-responsibility in disease management, and deciding on individualized goals (age, individual situations, etc.)

HIV

It is a chronic disease, but without cure. There is an unequivocal relationship between compliance and levels of HIV RNA, CD4 count and mortality. Compliance rates of more than 95% are necessary to maintain virological suppression, but between 50-60% of patients do not achieve that figure. In addition, the drug treatment regimen is complex, ADRs are frequent, and there is a high impact of the disease on patients' lives.

Globally default rates vary from 33% in America, 12% in Europe to 39 to 79% in Africa. Non-adherence to treatment reduces the immunological benefits of antiretroviral (ARVs) which predisposes clients to opportunistic infections, increases both the risk of drug resistance and HIV transmission.

Patient level factors that contribute to defaulting from antiretroviral treatment (ART) include forgetfulness, fatigue, and hopelessness, absence of symptoms and severity of the illness. Furthermore, lack of support from a partner, negative perceptions towards ART medication, pre-occupation and absence from home due to employment compromises adherence to ARVs. Stigma and discrimination coupled with family pressure, regular changes of residence and religious beliefs influence defaulting from ART. Financial cost associated with accessing treatment is secondary to long distance especially among those residing in rural areas. It has been reported that the main reason for defaulting from ARVs was fear of disclosing an HIV status to avert potential stigma and discrimination. Consequently, strategies need to be adopted to ensure that privacy and confidentiality is preserved [22].

The possible strategies to achieve compliance in the group of these patients would be [7]:

- Establish rapport.
- Know the patient's agenda and know the importance and confidence of the patient on compliance. If there

Hyperlipidemia

One in 6 patients with hyperlipidemia does not return to medical controls. In addition, the condition is asymptomatic, and that makes risk perception difficult. And on the other hand, drugs will be lifelong treatments, with possible ADRs and can be an important cost in some occasions.

The possible strategies in this group of patients would be [7]:

- Avoid giving the impression that the drug replaces the need for diet, exercise and smoking cessation. This may require an “exchange of information” between doctor and patient. A feedback strategy of the information given by the doctor can also be applied to facilitate the comprehension of the patient and for the doctor to confirm the understanding of the information given.
- Involve the patient in the decision (which is usually for life). This may require the use of tools to communicate the risk, or the technique of assessing the “pros and cons” of compliance.

Diabetes mellitus

It is a high prevalence health problem (type 1 plus type 2), which implies high costs for the health system. Patients with diabetes mellitus have almost twice as much mortality as people of similar age without diabetes. Most patients with diabetes have poor glycemic control. In addition, the disease can be asymptomatic and its therapeutic intervention may require deep-rooted habits changes in certain contexts, making compliance difficult.

Possible strategies to address and improve compliance in this group of patients would be [7]:

is a low confidence in compliance, it may be appropriate to use the brainstorming technique.

- Know a "typical day" of the patient to assess how the medication fits, as well as preparing the patient about possible ADRs and how they can affect and be addressed in their daily lives.
- Exchange of information, including giving updated information by the doctor.

Osteomuscular diseases

Pain and limitation of activities can be the main issues because of its impact on daily life. As in the rest of chronic diseases, only 50% of patients with rheumatoid arthritis comply with the treatment.

The possible strategies in these patients would be [7]:

- Evaluation of a "typical day" to assess the effects and experience of pain and limitations.
- Explore perceptions about the disease, medication and ADRs, for which the technique of "pros and cons" can be used.

Contraception

One out of every 4 oral contraceptive prescriptions are not obtained from the pharmacy. "Forgetting the pill" is a very frequent situation.

Possible strategies to improve compliance in women taking oral contraceptives can be [7]:

- Give clear information
- Value the "pros and cons"
- Value the importance that women give to compliance and confidence in achieving that compliance. If this confidence is low, the drug packaging techniques with calendar, alarms and brainstorming can be used.

Gastroenterological diseases

Here it is necessary to take into account that, for example, 40% of failures in the eradication of *Helicobacter pylori* are due to a lack of compliance with the treatment. On the other hand, proton pump inhibitors constitute in many countries the best-selling pharmacological group.

Possible general strategies to improve compliance in the group of patients with digestive disease would be:

- Exchange of medical-patient information and negotiation of decision making.
- Value the importance that the patient attaches to compliance and their confidence in achieving it. In the case of the patient of low compliance importance, the "pros and cons" technique can be used; in the case that there is a low confidence in achieving compliance, the brainstorming technique can be

performed [7].

Psychiatric diseases

It is a group of diseases that can decrease the patient's ability to take medication due to memory, cognitive and emotional disorders, as well as alteration of their daily routines. In addition, they typically produce a stigma, and taking the medication reminds the patient of this stigma. On the other hand they are chronic or frequently recurring diseases and ADRs are frequent. With respect to medication adherence in bipolar disorder, older individuals appear to do less well than younger individuals over time [23].

Possible strategies to improve compliance in this group of patients would be [7]:

- Motivational interview and negotiation
- Explore perceptions of the disease to assess compliance possibilities; for example, compliance is unlikely in a patient with hypomania who does not think he is sick, or in a depressed patient. This exploration of the perceptions of the disease can be done using the techniques of a "typical day", or the "pros and cons"
- Use of practical reminders, including family action
- Value the importance that the patient attaches to compliance, and his confidence in achieving it. If there is low confidence, the brainstorming technique can be used

Bronchial asthma and chronic obstructive pulmonary disease

Asthma has a prevalence of 10% in children in developed countries, and causes significant school and work involvement. In addition, it produces a stigma in the patient. Finally, the use of bronchodilators, although there are different methods of use, can be difficult for many patients, so that compliance is between 20-70%. Frequently, a 30% non-adherence rate has been reported. Demographic factors are not associated with adherence. Number of prescribed respiratory drug classes, number of respiratory medication on the last prescription, number of doses per day, vaccination (pneumococcal, influenza), and using an electronic device to remember the time of administering medicine are significantly associated with adherence [24].

They would be strategies to improve compliance in this group of patients [7]:

- Explore perceptions about the disease and medication
- Exchange of information

Kidney diseases

Non-adherence to treatment regimen can have a detrimental effect on the health of dialysis patients, increase mortality, morbidity and increase in healthcare

service utilization and cost of hospitalization. Patient factors, health financing, cultural beliefs, caregivers' burden and health systems factors are been identified as factors that influence compliance in this group of patients. Understanding the factors affecting adherence can help the GP to devise strategies to promote adherence and improved well-being among dialysis patients [25].

Elders

It represents a very important group because of its number, and very complex due to the presence of multimorbidity and polypharmacy, the high rates of drug-drug interactions and ADRs, and the metabolic variations typical of age, as well as the alterations of senses and cognitive deterioration that they can present.

The possible strategies to improve compliance in this group of patients would be [7]:

- Explore perceptions about the disease and medication
- Simplify the treatment
- Practical systems to prepare the medication taking in relation to the dose, the schedule of shots, etc., such as alarms, diaries, etc.
- Continuity of care that allows developing confidence, and perhaps the use of a benign paternalism
- Know the patient's agenda, explore perceptions of the disease, and assess the importance that the patient attaches to compliance, and his confidence in achieving it
- If there is low confidence, the "brainstorming" or "typical day" technique can be used to determine how the medication intake fits into the patient's life.

Teenagers

In this group of patients the disease involves stigma. The consultation with them is usually difficult because they are generally defensive and the consultation time is usually short. They attach great importance to confidentiality. On the other hand, medically unexplained symptoms (MUS) are common among children and adolescents and may be highly impairing. Even after long diagnostic and/or therapeutic trajectories, many of these children and their parents feel dissatisfied with the advice and therapies they were given; for example, when physiotherapy is recommended, adherence is lower (27%) [26].

They would be strategies to improve compliance in this group of patients [7]:

- Secure confidentiality
- Know the patient's agenda, explore perceptions of the disease, assess the importance that the patient attaches to compliance, and their confidence in

achieving it, as well as exchange information. It can be used the techniques of "typical day" and "pros and cons"

- Negotiation

Disabled people

Most disabled people have poor health status. They often have multiple diseases requiring continual medication. Some categories of predictive variables have been reported in this group of patients as the role of continuity of medical care and the role of family structure: 1. Compared to those who were married, widowers and divorced have worse adherence; and 2. The role played by the participant's family is ambivalent: the chances of having greater medication adherence for patients who received help from a family member was almost 60% lower than these probabilities for those who did not receive this type of help; therefore, the role played by the family members of the participants was both protective and harmful [27].

Conclusion

Adherence to long-term treatments for chronic conditions remains a challenging issue in primary care. A low proportion of patients follow the recommendations from healthcare providers, which underlines the need of reinforcing medication adherence in primary care. Some strategies and methods to increase compliance in specific groups of patients and diseases and risk factors are shown. Emphasis is placed on the importance of the continued doctor-patient relationship and knowing the patient's agenda, and other strategies are presented according to the characteristics of the patients and the diseases. Multiple strategies are probably necessary in most cases.

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