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Community pharmacy, treatment adherence and COVID-19

Eugenia García-Zaragozá[1], Montserrat Gil-Girbau[2], Mª Dolores Murillo Fernández[3], Rosa Prats Mas[4], Ares Vergoñós Tomàs[5]

1. Doctor of Pharmacy. Community pharmacist in Alicante. 2. Doctor of Pharmacy. Researcher at the Institut de Recerca Sant Joan de Déu [Sant Joan de Déu Research Institute] (IRSJD) in Barcelona. 3. Doctor of Pharmacy. Community pharmacist in Seville. 4. Doctor of Pharmacy. Community pharmacist in Denia (Alicante). 5. Community pharmacist in Barcelona.

KEYWORDS

Community pharmacy, treatment adherence, patient compliance, adherence to the medication, COVID-19, coronavirus infection

ABBREVIATIONS

NA: non-adherent
ADR: adverse [drug] reaction

ABSTRACT

Non-adherence to treatment is becoming more and more of a global issue and is responsible for the fact that expected health results are getting further away from reality and increasing spending on healthcare. To understand why a patient is not adhering to treatment it is necessary to identify the factors involved in his or her specific case and personalize the strategies to be followed. In order to approach non-adherence to treatment from the community pharmacy perspective, we use the protocol from the ADHe+ guide on the dispensing and rational use of the drug, which classifies non-adhering patients into three profiles (confused, wary and trivializing), facilitating the task of assessing their beliefs with regards to a certain medicine and at a given time. Following the protocol suggested by the guide, pharmacists can detect non-adherence to the medicines the patient collects and does not collect and look into the causes. However, the current times of pandemic that we are experiencing—caused by COVID-19—are changing the pattern of chronicity. Fear of infection, the slowing down of care processes due to the new hygiene measures, telemedicine, quarantine, and the lack of awareness about the new situation by both the patients and healthcare professionals may have a great impact on therapeutic adherence.

Introduction

Therapeutic adherence is the extent to which the patient's behavior, when it comes to taking medication, following a diet, and lifestyle changes, adjusts to what was agreed upon with a healthcare professional. Its approach is nothing new, although greater effort has been made in the last few years to improve it. Life expectancy is increasing; with the population of people over 60 years of age being the one that is growing the fastest proportionally in all countries. This increase in life expectancy comes with an increase in chronic patients and consequently, an increase in polymedication. The literature situates the level of adherence in chronic diseases at around 50% (1). This is the reason why expected health results greatly diverge from reality and are a bigger expense for health systems.

In the context of the current pandemic caused by COVID-19, the issue regarding adherence becomes even more important, since the health crisis is also accompanied by an economic crisis which could diminish the economic resources of the State. This is why every cent that is destined to finance pharmacological treatments must be used in the most rational and efficient way possible. We cannot allow ourselves the luxury of such a high lack of adherence.

Managing non-adherence is complicated since it depends on many factors; factors which are also linked to each other. According to the literature, there are a wide range of interventions to improve drug adherence with particularly heterogeneous results, with combined interventions being the ones that have proven to be most effective (2,3).

The factors that influence the lack of adherence are connected to the patient, the disease, the treatment, and the social and healthcare context of the patient (1).

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Correspondence: Eugenia García-Zaragozá *(eugenia.garcia@uv.es).*
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Thus, it seems to be necessary to identify the factors involved in each case by means of personalized consultations and by tailoring the measures to be followed to each patient (3). The relationship that appears to exist between the psychological factors of the patient and his or her ability to self-manage the disease is crucial. According to the "Necessity–Concerns Framework" theory by Horne and Weinmann (4), patients weigh up the risks/benefits on the need to take medication in order to maintain their health and on their concerns about the side effects from taking it, and the result of weighing up these benefits/risks will decide their attitude with regards to adhering to the medication or not.

Understanding the patient and his or her reasons for non-adherence

According to the literature, there have been many attempts to classify patients with regards to their level of adherence and [there are] various types (5). A study performed in Spain (6) by means of telephone surveys with chronic patients and by performing a multivariable analysis, classified the patients in accordance with their sociodemographic profile and level of adherence. This resulted in obtaining three profiles of non-adherent (NA) patients: dependent, critical and unaware (absolute) and two profiles for adherent patients: classic and model (responsible).

Based on the aforementioned, a new classification of non-adherent patients has been published (5), based on the profiles obtained from the telephone survey and qualified according to the attitudes the patient presents with regards to his or her medication and disease; obtaining three profiles for NA patients. Said profiles, published in the *ADHe+* guide (5) can be found in Table 1 and are:

- *Confused patient*: is usually elderly, multi-pathological, polymedicated, chronic and often lives alone. The complexity of the treatment and the associated confusion impedes the patient from being adherent and results in him or her becoming dependent. An example of the type of patient that can be seen in the pharmacy is *Mary. She is a widow and is 84 years old. She lives alone and never remembers which day she has to come and collect her medication. When we ask her, she is not sure whether the red pill is for blood pressure or cholesterol. She also does not remember how many she has to take. A little while ago she got a cold and since she had difficulty breathing, the doctor prescribed her with an inhaler which she doesn't use because she doesn't know how to open it.*
- *Wary or critical patient*: despite knowing the importance of treatment adherence, it is the lack of confidence in the [healthcare] professional or treatment prevails in this patient. This patient often educates him or herself and is demanding and critical of his or her doctor and treatment. Our example of a patient is *Edward. He is 55 years old and a journalist. "He has arthrosis of the hip joint and is beginning to have a slight problem with cholesterol. He takes his anti-inflammatory drugs because it is beginning to hurt more and more. But he does not even collect the statins because he has read in forums that they cause a lot of problems and that your muscles ache and that's all he needs now, with how much his knee already hurts. He is more trusting of natural products than the chemical products his doctor gives him and he's going to give yeast rice and omega 3 a try.*"
- *Trivializing or unaware patient*: this patient tends to be a young adult, with average-high level education, family support, has only one disease and is receiving a single treatment. The lack of engagement with his or her disease and treatment is the main barrier for adherence. The trivialization of the issue and the questioning of the treatments leads the patient to have bad health habits and modify the recommendations from healthcare professionals as he or she pleases. This patient is *Paul, the athletic guy who lives above the pharmacy. He uses social media regularly. "He's just become a father and they recently discovered that he had high blood pressure and gave him some treatment. But he does not take it every day because he forgets, especially now he has a baby. And anyway, he feels fine. He is young*

Table 1 *Profiles of non-adherent patients as per the classification in the* ADHe+ *guide* (5)

Profile of a non-adherent patient	Confused (dependent)	Wary (critical)	Trivializing (unaware)
Characteristics	Overwhelmed, multipathological, polymedicated, elderly	Poor relationship with the healthcare system	Lack of engagement, inconsistent, arbitrary
Adherence barriers	"I forget" "I don't know how to use it" "I already take a lot of medicines"	"I don't need it" "It doesn't work for me" "The leaflet scares me" "It's expensive"	"I don't need it" "I forget about it, but It doesn't matter"
Type of patient			

and sporty. So, he is not bothered about his high blood pressure and he doesn't measure it either."

Identifying the barriers that stop each patient from being adherent is essential in order to then be able to choose the most appropriate strategies to help the patient become more adherent (7). Upon classifying the patient, we log this identification which makes the task of assessing the patient's beliefs concerning a particular medicine and at a specific time easier. This score is important, given that each patient's clinical course will depend on their own experiences and knowledge, in such a way that today the patient may have a certain attitude towards his or her medication, and this could be different from tomorrow's, or not.

The patient must feel comfortable and trust the healthcare staff in order to get his or her point of view across. Healthcare worker–patient communication is extremely important because it is the tool that enables the following to be identified:

- What concerns the patient with regard to taking the medication or if there are technical or conceptual difficulties in doing so.
- What the patient's beliefs, expectations and needs are with regards to treatment.

Community pharmacy is key in the service of therapeutic adherence and chronicity

To achieve all of the aforementioned a lot of time and effort is required. Community pharmacies are the support point for the patient from the first to the last rung in the healthcare ladder.

Pharmacists have the necessary academic knowledge and are very well situated in order to contribute to improving the issue of adherence (8). Pharmacists know their patients personally, their pharmacotherapy (both the one prescribed by the public or private healthcare system and the one the patient takes without a medical prescription) and in most cases, pharmacists also know their social and family environment. On top of that, pharmacists are the closest healthcare link to home, available without an appointment, 24 hours a day, 365 days of the year (9). All of the above makes pharmacies one of the pillars in the healthcare field and a key element in monitoring the therapeutic adherence of chronic and polymedicated patients. Since it is the last, and in certain cases, the first step in the healthcare chain before the patient receives his or her medication.

The first few months of the COVID-19 pandemic have been particularly uncertain and paralyzing both at an individual and collective level. All healthcare matters were focused on avoiding the spread of the virus, with the activation of drastic measures such as quarantining all citizens and the provisional closure of healthcare centers. Hospitals and other healthcare centers have been overwhelmed with attending to COVID-19 patients and other medical emergencies, leaving chronic care to one side. In many cases, community pharmacies have been the only open healthcare establishments and have been available to help patients resolve their concerns about the healthcare emergency or about their health issues. Throughout this time, community pharmacists have taken on their care role with great professionalism and have taken over part of the control of chronic diseases and resolved minor symptoms in order to prevent an even bigger collapse of the system.

Once the acute phase of the pandemic is over and with the end of quarantine, one of the future challenges all primary healthcare professionals will have to face will be taking back control of chronic patients, starting with improving their adherence, since this new virus has changed the pattern of chronicity:

- Masks and gloves will continue to be worn, separation screens and the safety distance of 1–2 meters (3–6 feet) will continue to be essential in all settings, including in waiting rooms, medical offices and community pharmacy premises. As previously mentioned, communication between the patient and the healthcare worker is essential for adherence and equally dependent on the issuer, receiver and channel through which it is implemented. After COVID-19 the communication channel is going to be significantly altered. This distancing will no doubt have an impact on the three aforementioned profiles of non-adherent patients (confused, wary and trivializing). Changing the information our patients receive, who are more and more confused and overwhelmed by the pandemic and the information they receive via social media, [means they may be] more wary due to the healthcare results of the pandemic and their own fear of infection, less trivializing of their healthcare situation due to being an at-risk group or, on the other hand, more trivializing of their disease with regards to the seriousness of being infected with COVID-19.
- The mandatory social distancing and need to increase the frequency of cleaning premises and surfaces will slow down care processes, making it necessary to have more time and space between patient appointments. It is possible that non-presential care for patients who already began their care during the crisis will be given more importance. One of the various ways of doing this could be that the doctor calls the patient via telephone to carry out a virtual consultation and determine whether a face-to-face appointment is necessary or not. The reduction in face-to-face appointments will decrease the probability of being infected by COVID-19 and may accelerate waiting lists, improving the responsiveness of the healthcare system (10). However, on the other hand, it may be that it is a different doctor to the one who usually treats the patient who makes the call, that the patient receives the call at a time when he or she cannot pay complete attention as is the case in face-to-face consultations, or that said conversation only occurs with the patient, without the possibility of the patient's caregiver or child there to help him or her take in and remember the topics covered in the call. In these aspects, telemedicine may be detrimental to the doctor–patient relationship and may even intimidate the patient depending on his or her age and independence.
- Additionally, especially in the case of older and more vulnerable patients, quarantine and the fear of being infected has made them stop coming personally to the pharmacy for their medications. Instead, pharmacists are giving the medication to their neighbors or relatives. We as pharmacists no longer dispense to them, meaning we have lost the information that we obtain and provide when dispensing, and with that, the

ability to assess and improve adherence if necessary. This loss of supervision when dispensing can be partly substituted with the creation of personalized dosage systems (PDS). Another solution has been given by some healthcare Administrations by exceptionally and temporarily authorizing the delivery of medications to the patient's home. Said delivery must be recorded (11) and the initial telematic consultation with the patient is fundamental. Once this has already been authorized, the ideal situation would be that this was not only permitted for the duration of the State of Alarm, but that it could be offered as an additional service by the community pharmacy. Increasing its scope until it becomes a real Professional Pharmaceutical Care Service—Home Pharmaceutical Care–, given that it contributes to the results of the medication as well as improves adherence in these patients who, for various reasons, cannot leave home.

Ultimately, treatment adherence was already a difficult topic to manage, and will become more complicated due to the fear and unknown of the new situation in which we will see both patients and healthcare workers.

Therefore, it is necessary to have useful recourses and ones that can be easily integrated into the pharmacy's daily work, particularly in dispensing, since they help to detect those non-adherent patients and build a relationship of confidence with the patient in order to understand the reasons why he or she is not taking the treatment properly. With this aim in mind, the *ADHe+* practical guide on dispensing, adherence and proper treatment use was designed (5).

Instructions for using the 'ADHe+' guide (5)

The protocol (Figure 1) is initiated when a patient attends the pharmacy to request his or her medication via electronic prescription. The medications that are available for dispensing at that time are consulted in the registry for electronic prescriptions and the patient decides whether to collect them or not.

- For those who DO NOT WANT TO, they are asked why. The most obvious reason for not collecting the medication is because the patient may have decided not to take them (NA), but it may also be due to various reasons with the prescription or verbal instructions from the doctor (which hereinafter we'll call CONFLICTS) such as: the treatment leaflet is not updated, the verbal instructions from the doctor do not coincide with those prescribed, medications for temporary treatments or upon request (for which the prescription date and patient need is not going to coincide), or lastly, medications that are difficult to dose (eye drops, insulins, etc.).
- For the medications the patient DOES COLLECT, the pharmacist goes over the patient's knowledge about the use of each medication one by one, helped by the questions from the Community Pharmacy Pharmaceutical Care Forum (12), the patient is explicitly asked: Do you know what it is for? Do you know how to take it? Do you know how much should be taken? Do you know for how long it should be taken? How are you doing on the medicine? Do you have any issues with the medication? Are you going to take it as prescribed by the doctor?

The idea is to create the right environment in order to identify those concerns or shortcomings which may be the cause of the patient's lack of adherence. This will also be weaved in as part of the conversation for the Haynes-Sackett test: *Most patients have difficulty taking all their pills; Do you have difficulties in taking yours? Many people have difficulty keeping up with the treatments: Why don't you tell me how it is going for you?* If the patient recognizes that he or she has difficulty in one of the two questions, the patient is considered to be NA. There are many other tests for detecting non-adherence, such as the Morisky-Green test, the Battle Test, the Brief Medication Questionnaire (BMQ), but the Haynes-Sackett has been chosen for its brief nature, because it is considered to be more streamline during dispensing, and for its high reliability if the patient affirms the first question in the test (13).

If, by applying the protocol, the community pharmacist detects that the patient may be NA with one of the medicines he or she has been prescribed, and the reasons why, then it is the ideal time to assess what the patient's attitude is concerning the medication and classify it according to the three profiles that were suggested and discussed above. Confused, wary and trivializing. As well as these NA profiles, the patient may also be non-adherent since he or she is experiencing an adverse [drug] reaction (ADR) to said medicine, and therefore, this must be reported to pharmacovigilance and the patient be referred to the doctor if necessary.

Lastly, it is possible to detect patients who say they are adherent, but who, thanks to the logged consultation we can see that they may not be. These are challenging patients and more time should be spent on them. These are patients who could potentially be approached at another time when they are more willing to participate or are more receptive to our help. They are the patients described in Figure 1 with the answer *"because I don't"*.

Following the entire algorithm proposed in the *ADHe+* guide does not take longer than 5 minutes in total, according to the results obtained during its pilot phase (14). Therefore, we can confirm that it is a rapid and very adequate guide that can be applied at the pharmacy counter during dispensing and, more importantly, it can be applied to all the patients who attend the pharmacy, without slowing down the care process.

One of its core strengths is that it is capable of narrowing down the detection of NA patients into two very common situations:

- Not all non-collections of medication mean that the patient is NA, given that the protocol differentiates between non-collection due to NA and non-collection due to conflict between the prescription and the oral instructions of the doctor.
- Not all collections of medication mean that the patient is adherent, given that when delving deeper into the knowledge of the patient with regards to his or her treatment with the help of the Haynes-[Sackett] Test, the guide enables us to identify those patients who have the medicine at home, but who do not take it for various reasons.

Additionally, it is perfectly aligned with the WHO guidelines (1) on the use of adherence measuring methods with a multiple focus, combining

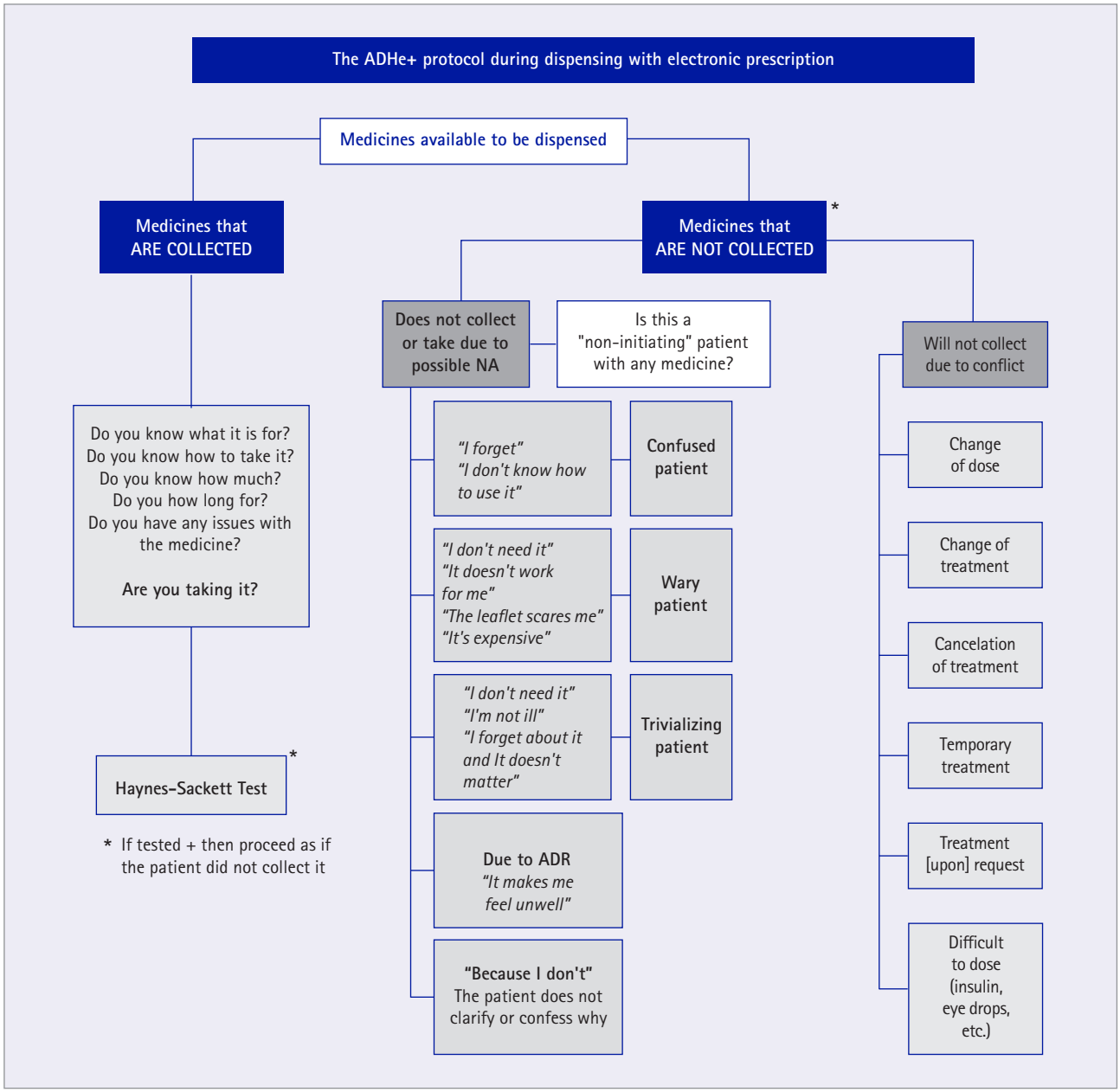

Figure 1 *Protocol adapted from the* ADHe+ *guide* (5) *during dispensing with electronic prescription*

subjective techniques, such as self-reported questionnaires by the patient, with other more objective techniques, since it combines the responses from the patient with the Haynes-Sackett Test and his or her knowledge about the disease and treatment, with the most objective registries of electronic prescription dispensing. However, once again, the COVID-19 pandemic has complicated certain elements for us, given that, in many Autonomous Communities exceptional measures have taken place with electronic prescriptions in order to increase the visibility of the prescriptions and "release" planned treatments so that they can all be dispensed at one time, reducing the attendance at health centers. With this, we have temporarily lost part of the information that electronic prescriptions provide us concerning start dates of a new pack, which is very important in order to confirm the adherence of the patient.

Pharmacists should weigh up whether it would be sufficient to have this brief conversation with the patient during dispensing in order to redirect his or her NA, or whether it would be better to take the patient to a personalized care area or even give him or her an appointment at another time in order to decide upon the most appropriate personalized strategies with the patient to improve his or her adherence. The types of strategies found in the bibliography are summarized in Table 2.

As a final conclusion to working with the guide, the investigation into adherence requires a multi-disciplinary approach and a joint strategy from all healthcare professionals, with the patient being the central focus. This interdisciplinary coordination effort is even more necessary following COVID-19 and the primary care situation. The specific strategies chosen to help the patient must be synchronized with his or her environment (family, caregivers, social worker) and with the rest of the involved healthcare workers (doctor, nurse and pharmacist) in order to obtain the best benefits for the patient.

Table 2 *Strategies for promoting adherence. Summarized from the* ADHe+ *guide* (5)

Techniques	• Simplification of the dosing regimen • Considering the acceptance of the treatment • Avoid frequent changes to the treatment	• Sustained-release pharmaceutical forms, combined fixed dose drugs • Organoleptic characteristics, patient routines, chronotherapy • Generic, [bio-appearance]
Behavioral	• Reminders • Medication organizers • Dose monitoring • Follow-up	• Messages (SMS, WhatsApp), alarms, association of dose taking with everyday activities • Pillboxes, pictograms, MDS • MEMs, dosing schedule, TOD • Face-to-face or telephone appointments
Educational	• Widen knowledge on the disease and treatment • Decrease concerns surrounding taking the medication • Management of ADR • Promotion of self-care and self-monitoring	
On social and family support	• Improvement of social support • Involvement of the family and caregivers	• Home help programs, co-payment, and increased financing of the treatments
For healthcare workers, industry or administration	• Training of professionals • Improvement of inter-professional relationships • Development of new formulas	• Communication techniques, behavioral strategies and preventative measures, integration of the FC (farmacia comunitaria [community pharmacy]) • Improvements in the administration of the treatments

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