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Original article

Assessment of patient adherence to anti-infective treatment after returning home

Évaluation de l'observance des traitements anti-infectieux après retour des patients au domicile

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Abstract

Objective. – The lack of patient adherence to medical treatment has become a major concern for healthcare professionals. The World Health Organization estimated patient adherence to treatment at 50% only. The inadequate use of antibiotics can cause bacterial resistance the progression of which reduces therapeutic alternatives. The objective of this pilot study was to assess the patient's adherence to anti-infective agents prescribed for acute infection, after returning home.

Method. – Thirty-seven patients hospitalized in the Infectious and Tropical Diseases unit were included. Their adherence to anti-infective drugs was assessed indirectly through data collected by calling the pharmacy and the patient in the week following discontinuation of anti-infective treatment.

Results. – Sixteen patients were identified as non-adherent (43.2%). A single patient could have several behaviors: extension of treatment (50%), dose modification (6.3%), voluntary omission (12.5%), and involuntary (6.3%). One patient (6.3%) did not take his anti-infective treatment. There was no major cause of non-adherence; every patient had his own reasons. The comparison of several criteria between adherent and non-adherent patients did not reveal any predictive risk factors.

Conclusion. – Our study results revealed for the first time that 50% of patients were adherent to anti-infective agents, after returning home. They confirm the need to implement preventive actions such as a discharge pharmaceutical consultation.

Keywords: Anti-infective agents; Adherence; Outpatient monitoring

Résumé

Objectif. – Le manque d'adhésion d'un patient à son traitement médicamenteux est devenu une préoccupation de premier ordre pour les professionnels de santé. En 2003, l'Organisation mondiale de la santé a estimé la proportion de patients observant à 50 %. Le mésusage des antibiotiques peut être à l'origine de résistances bactériennes dont la progression aboutit à la réduction de l'arsenal thérapeutique. L'objectif de cette étude pilote a été d'évaluer l'observance aux anti-infectieux prescrits pour une infection aiguë, après retour à domicile des patients.

Méthode. – Trente-sept patients hospitalisés dans le service des maladies infectieuses et tropicales ont été inclus. Leur adhésion aux anti-infectieux a été évaluée indirectement grâce aux données collectées par l'appel à la pharmacie et au patient dans la semaine suivant l'arrêt des anti-infectieux.

Résultats. – Seize patients ont été identifiés non observants (43,2 %). Un même patient peut présenter plusieurs comportements : prolongation du traitement (50 %), modification posologique (6,3 %), omission volontaire (12,5 %) et involontaire (6,3 %). Un patient (6,3 %) n'a pas pris son traitement anti-infectieux. Il n'y avait pas de cause principale de non-observance, chaque patient ayant sa propre justification. La comparaison de plusieurs critères entre les patients observants et non observants n'a pas mis en évidence de facteurs de risque prédictifs.

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Conclusion. – Cette étude montre pour la première fois, qu'environ un patient sur deux est observant aux anti-infectieux, lors du retour au domicile. Elle confirme la nécessité de mettre en œuvre des actions de prévention comme une consultation pharmaceutique de sortie.

Mots clés : Anti-infectieux ; Observance ; Surveillance ambulatoire

1. Introduction

The patient's lack of adherence to his drug treatment has become a major concern for healthcare professionals over the last 30 years. Many tools have been designed to analyze adherence whether directly or indirectly [1,2]. Some authors have drafted questionnaires that allow assessing the patient's adherence to his drug treatment. The most commonly used are the Morisky Medication Adherence Scales: MMAS-4 and MMAS-8 [3,4]. The MMAS-4 was initially designed to assess the adherence of patients presenting with arterial hypertension but it was validated for other diseases: HIV infection, diabetes mellitus, psychosis, osteoporosis, asthma, cardiac failure, Parkinson's disease, etc. The MMAS-8 is only used for chronic diseases.

A review of the international literature from 1948 to 1998 allows determining a mean adherence rate at 24.8% [5]. The authors of some studies have estimated that 30 to 50% of patients do not comply to the therapeutic regimen prescribed, 30% forget 1 or several doses, and 30% stop their treatment before the end of the course [1,6–9]. Twenty percent of patients do not collect their drugs at the pharmacy in France.

Most of the literature dealing with the patient's adherence focuses on chronic diseases, arterial hypertension being the reference. The estimated rate of adherent patients ranges between 50 and 75% [5–7].

Antibiotics are some of the most frequently used drugs worldwide for the treatments of acute diseases. Their inadequate use may contribute to the emergence of bacterial resistances. The authors of an international study, in 2007, estimated that a mean 22% of patients did not comply with their antibiotic treatment [10]. The authors of a Spanish study, in 2013, reported that only 30% of patients had shown an excellent adherence to their antibiotic therapy, during the ambulatory management of respiratory infections [11]. The French National Health Insurance Fund for Employees (French acronym CNAMTS) published data, in 2002, on reasons for non-adherence to antibiotic distributed as follows: 47% of treatment interruption, 13% of omission, 21% of adverse effects, and 19% for various reasons [12].

The rare studies dealing with adherence to antibiotic treatment were most often conducted in ambulatory care and rarely in hospital settings. But returning home after hospitalization is a risk period for patients. The authors of a survey on patients discharged from hospital reported that 32% had begun a drug treatment or stopped taking one of the drugs listed on the discharge prescription, and that 18% had modified the dose [13]. Most patients more than 65 years of age (94%) had already modified their prescription, with 1/3 of non-adherence to at least 1 drug, in the first months after hospital discharge [14,15].

The main objective of our study was to assess the patient's adherence to anti-infective treatments after returning home. The secondary objective was to determine the risk factors for non-adherence to the anti-infective treatment according to the features of the studied population so as to identify patients at risk.

2. Methodology

We conducted a monocentric observational prospective study. All patients were included consecutively during a 2-month period from June to July 2013. The protocol was a designed with the Biostatistics, Epidemiology, Public health, and Medical Informatics service (French acronym BESPIM) of our Teaching Hospital (TH). It was approved by the French Data Protection Authority (French acronym CNIL) and a registration number was attributed by the Institutional Review Board (IRB) (no. 13/05-02).

2.1. Selection of patients

The inclusion criteria were: being 18 years of age or more, hospitalization in the Infectious and Tropical diseases unit (French acronym SMIT), and discharge medical prescription including 1 or several local or oral anti-infective drugs.

The criteria of non-inclusion were: being less than 18 years of age, living in an institution, drug intake with a nurse at home, invalidating deafness, no telephone at home, patient not able to answer questions or not able to speak French, chronic infection (>4 weeks of anti-infective treatment), discharge medical prescription not including any anti-infective drug or including 1 or several anti-infective drug administered intravenously (IV), intramuscularly (IM), or subcutaneously (SC), or including only antiretroviral treatments.

2.2. Study design

The study was conducted in 2 steps. The first step was dedicated to collecting socio-demographic and clinical data during the hospitalization, before the patient's discharge. Two tests were given to the patient: the Rapid Estimate of Adult Literacy in Medicine short version (REALM-R) to assess the level of healthcare culture, and the MMAS-4 to measure the patient's global adherence [3,16]. At the end of the interview, a satisfaction questionnaire was given to assess the quality of medical information given on the disease, modifications to the usual treatment, and anti-infective treatment prescribed.