

## Introduction

The introduction of all **Direct-Acting Antiviral (DAA)** based therapy for chronic Hepatitis C Virus (HCV) has dramatically changed HCV treatment paradigms and promises HCV cure in more than 95% of patients. In this context, **educational sequences** intended for patients with chronic hepatitis C have been implemented in our Hospital.

➔ **The objective of this study is to follow patient compliance and to assess the impact of these consultations on their knowledge and skills.**

## Methods

✓ The study was conducted in 5 steps:

Patients with chronic hepatitis C, treated by DAA since January 2015, were prospectively included

**Day 0:**  
Patients were received individually by a pharmacist. Information regarding treatment and disease were given

**Day 15 (D5) or Month 1 (M1):**  
A knowledge questionnaire (True / False) with confidence degrees, addressing the main themes of the infection was performed by a pharmacist

Educational sequences, adapted to the needs of each patient, were carried out using education tools like images and conceptual map. Patients are seen by a pharmacist on a monthly basis

**Month 3 (M3) or Month 6 (M6):**  
The knowledge questionnaire was repeated at the end of the treatment (M3 or M6).

✓ **The knowledge questionnaire with confidence degrees (for the method and processing of results see \*):**

- ❖ 10 questions; True/False; Confidence degrees: 50%, 60%, 80% or 100%
- ❖ Addressing the main themes of the infection: medications, mode of contamination...
- ❖ The pharmacist asks the questions in oral mode and records each answer a degree of certainty. He collects these degrees with the help of a spectral test

INCORRECT ANSWER (IA) (%)					I can associate my medication at any other medication purchased in pharmacy	CORRECT ANSWER (CA) (%)				
100	80	60	50	TRUE		FALSE	50	60	80	100
		60								

\* Leclercq D. La connaissance partielle chez le patient: pourquoi et comment la mesurer? Educ Ther Patient 2009; 1(2): S201-S2012

✓ **Compliance evaluation test including 6 questions:**

- ❖ Questionnaire established by X.Girerd
- ❖ « **Good compliance** » when « No » was answered to the 6 items; « **minor compliance** » when 1 or 2 « Yes » were given; « **Noncompliance** » when 3 or more « Yes » were given.

## Results and discussion

### 1/ How to interpret the data of the spectral chart?

- Perfect performance: CA with 100%
- Partial knowledge: CA with 60% and 80%
- Recognized ignorance: CA or IA with 50%
- Recognized misconceptions: IA with 60%
- Serious misconceptions: IA with 80% and 100%

Important number of serious misconceptions: these patients require an important process of unlearning (for items concerned)

Incorrect answers (IA)						Correct answers (CA)					
100%	80%	60%	50%	NIA	% IA	% CA	NCA	50%	60%	80%	100%
0	0	0	0	0	0	Patient 1	100	10	0	0	10
1	0	0	0	1	10	Patient 2	90	9	0	0	9
1	0	1	0	2	20	Patient 3	80	8	0	2	5
0	0	2	0	2	20	Patient 4	80	8	0	1	7
2	0	0	1	3	30	Patient 5	70	7	0	0	6
0	0	0	1	1	10	Patient 6	90	9	1	1	7
2	0	0	0	2	20	Patient 7	80	8	1	0	7
1	0	0	0	1	10	Patient 8	90	9	0	0	8
0	0	0	1	1	10	Patient 9	90	9	2	0	5
2	0	0	0	2	20	Patient 10	80	8	0	0	8
0	0	1	0	1	10	Patient 11	90	9	0	1	6
0	0	1	2	3	30	Patient 12	70	7	0	0	6
1	0	0	0	1	10	Patient 13	90	9	1	1	6

Average rate of IA = 15,39 %

Average rate of CA = 84,61 %

Table 1: Spectral distribution of patients' answers at D15 or M1

Patient 5: Percentage of incorrect answers is above the average, an educational intervention is recommended

Patient 9: Several answers with low certainty, a consolidation of knowledge is necessary

Patient 12: Percentage of correct answers is below the average, a relearning is indicated

### 2/ How to analyse the evolution of these 13 patients?

	Incorrect answers					Group of 13 patients	Correct answers				
	100%	80%	60%	50%	%IA		%CA	50%	60%	80%	100%
Answers at D15 or M1	7,69%	0%	3,85%	3,85%	15,39%	84,61%	3,85%	4,61%	6,92%	69,23%	
Answers at M3 or M6	0,77%	0%	0%	0,77%	1,54%	98,46%	0%	0%	0,77%	97,69%	

Table 2: Spectral distribution of patients' answers (%) at D15 or M1 and M3 or M6

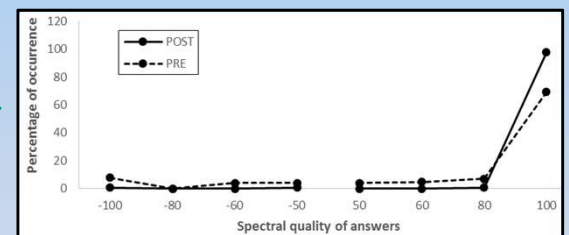


Figure 1: Spectral distribution of all answers at D15 or M1 and at M3 or M6

- Percentage of CA ↑; Average of certainties accompanying CA ↑ (93,91% to 99,84%)
- A **J-shaped spectral distribution** of CA even more pronounced: ideal distribution (majority of CA with maximum certainty)

- Percentage of IA ↓; Average of certainties accompanying IA ↓ (77,49% to 75%)
- At D15 or M1 ➔ A discreet **I-shaped spectral distribution** of IA due to a significant number of errors with maximum certainty: catastrophic distribution
- At M3 or M6 ➔ A flat distribution of IA explained by a very low rate of IA

➔ Educational sequences, adapted to the needs of each patient, have improved patients' knowledge

### 3/ Impact of educational sequences on patients' compliance

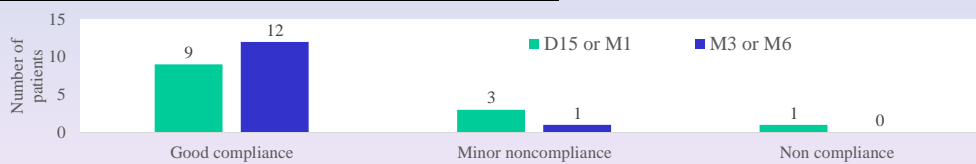


Figure 2: Patients' compliance

- Assessing this impact is difficult because of the good initial compliance (at D15 or M1): « good compliance » for 9/13 patients
- However, an improved adherence has been observed

## Conclusion

✓ The use of these confidence degrees is informative and can refine the measurement of knowledge. The simulations and self-assessments of patients, through questionnaires, facilitate the establishment of cognitive and metacognitive diagnosis. This enables to consider educational interventions repeatedly adapted to the needs of each patient. The attempts to enhance patients' learning improve their self-care and psychosocial skills.

✓ Spectral analysis of the responses' qualities is useful to measure patients' degree of mastery as well as to evaluate the efficacy of an educational intervention applied to a group of patients.