



# Reasons for Telephone and Unscheduled Consultation in Patients Undergoing Hepatitis C Treatment

Marta Gallach<sup>1\*</sup>, Maria López<sup>2,3</sup>, Meritxell Casas<sup>4</sup>, Mireia Miquel<sup>2,4</sup>, Angelina Dosal<sup>3</sup>, Laura Moreno<sup>3</sup>, Jordi Sánchez Delgado<sup>2,4</sup>, Blai Dalmau<sup>4</sup>, Xavier Calvet<sup>2,4</sup> and Mercedes Vergara<sup>2,4</sup>

<sup>1</sup>Emergency Department, Hospital de Sabadell, Spain

<sup>2</sup>Universitat Autònoma de Barcelona, Spain

<sup>3</sup>Nursing, Hospital de Sabadell, Spain

<sup>4</sup>Hepatology Unit, Hospital de Sabadell, Spain

Submission: July 26, 2016; Published: August 05, 2016

\*Corresponding author: Marta Gallach, Emergency Department, Hospital de Sabadell, Parc Taulí, 1, 08208 Sabadell, Spain.

## Abstract

Adherence to treatment is a key to improve cure rates in patients with chronic hepatitis C on interferon-based therapies. We aimed to determine the main reasons for telephone consultations and unscheduled visits in hepatitis C patients under antiviral treatment.

**Methods:** We included all patients with hepatitis C treated with pegylated interferon plus ribavirin who consulted our department by telephone or unscheduled visits.

**Results:** A total of 176 patients (mean age, 48 years; 67.6% male) were under treatment in the inclusion period. We registered 264 phone consultations and 193 unscheduled visits by 109 patients (53% women). The most common reason for telephone consultation was adverse effects (40.2%). The most common actions in response to telephone consultation were providing information (58.3%) and arranging or advancing appointments (22%). Reasons for unscheduled visits included adverse effects (59.1%), errors or administrative queries (13.4%), questions or doubts related to treatment (10.4%), and problems with medication devices (7.7%). Actions in response to unscheduled visits included medical visits (33.7%), training by nurses (24.9%), referral to other specialties (10%), laboratory tests (8.8%), prescription of medication (7.8%), administrative procedures (6.8%), discontinuation of treatment (2.6%), and transfusion (2.1%).

**Conclusion:** Most telephone consultations or unscheduled visits of patients on chronic hepatitis C treatment are related to adverse events.

**Keywords:** Hepatitis C; Adherence to medication; Nursing care; Multidisciplinary team; Interferon; Ribavirin

**Abbreviations:** HCV: Hepatitis C Virus; CHC: Chronic Hepatitis C; Peg interferon: Pegylated Interferon; SVR: Sustained Viral Response; HCV RNA: Viral Load

## Introduction

It is estimated that 1.6% to 2.6% of the population in Spain is infected with the hepatitis C virus (HCV) [1]. About 80% of infected people will develop chronic hepatitis (CHC), and 20% of these will eventually develop cirrhosis, and 5% to 10% of patients with cirrhosis due to HCV will develop hepatocellular carcinoma [2]. CHC is the most common cause of cirrhosis and liver transplantation, not only in Spain, but throughout developed countries [3-5].

Until 2011, the treatment of hepatitis C was based primarily on the use of pegylated interferon (peg interferon)

alpha-2a or alpha-2b plus ribavirin for 24 to 72 weeks depending on viral genotype and viral kinetics during treatment [6]. The infection is considered cured when the patient shows a sustained viral response (SVR), defined as undetectable viral load (HCV RNA) 12 weeks after the end of treatment. In patients with an SVR, laboratory test results return to normal, liver disease stops progressing, and histological examination can even show regression of liver damage [7]. Newly developed direct antiviral agents will dramatically increase the rate of SVR in patients with chronic hepatitis C; however, direct antiviral agents are currently

considered too expensive in many countries, including Spain. Thus, it will probably continue to be necessary to use peg interferon alpha-2a or alpha-2b in certain groups of patients [4, 8-10].

Interferon-based antiviral treatment is associated with a high rate of severe adverse events, so it requires close monitoring. Moreover, peg interferon must be administered subcutaneously, so it requires frequent visits to the hospital [5-11]. However, many adverse events are easily controlled [12]. The accurate and intensive management of adverse events improves adherence, and consequently increases the SVR rate [13]. Some studies have shown that some specific interventions in the setting of a multidisciplinary team (psychiatrist, pharmacist or a dermatologist) to improve the management of adverse effects can increase adherence and effectiveness [4,14,15]. Communication with the rest of the healthcare team and monitoring patients by telephone is important [16]. We hypothesized that most doubts related to hepatitis C treatment could be resolved by telephone. The aim of our study was to determine the reasons for telephone and emergency consultations of patients treated with interferon-based therapies for chronic C hepatitis in the setting of a multidisciplinary team and the extent to which telephone consultations resolved patients' doubts without the need for scheduled visits.

## Material and Methods

This was a prospective observational study of clinical practice in the setting of our multidisciplinary team to manage patients undergoing treatment for CHC. Our institution's clinical research ethics committee reviewed and approved the study, and all patients provided written informed consent. On starting antiviral treatment, all patients had an initial educational visit with a nurse, who instructed them in the subcutaneous administration of peg interferon and informed them about self-care for adverse events. Moreover, patients received educational materials including a telephone number to contact during working days and the timetable for care in outpatient clinics. We registered all telephone consultations and unscheduled visits by patients under antiviral treatment with peg interferon and ribavirin that took place from January 2009 to January 2011.

## Variables Recorded

- Demographical variables: age and sex.
- Type of consultation: by telephone or by presenting at the outpatient consultation in person.
- Date of consultation, type of treatment, and treatment week.
- Reason for consultation (administration, medication storage, adverse effects, adherence, and other doubts).

- Results of the consultation.

## Statistical Analysis

Quantitative variables are presented as means and standard deviations and qualitative variables as frequencies or percentages with their 95% confidence intervals. We used SPSS v21 (IBM, Chicago Illinois, USA) for all analyses.

## Results

### Characteristics of the patients

Between January 2009 and January 2011, a total of 160 patients (108 (67.6%) men; mean age, 48±11.7 y) received antiviral treatment in our unit. HCV infection was classified as genotype 1 in 112 (69.9%) patients, genotype 2 in 9 (5.7%), genotype 3 in 22 (13.6%), and genotype 4 in 17 (10.8%). Peg interferon was injected with a syringe in 60.3% of cases (peg interferon alpha-2a) and using a pen system in 39.7% (peg interferon alpha-2b). The rate of patients that abandoned treatment was 3.5%.

### Telephone consultations and unscheduled visits

We received 264 telephone consultations from 109 patients (median calls per patient, 2; range, 0-14). Callers were women in 59% of cases. Patients themselves called in 53% of cases, and family members (partner, child, and sibling) called for patients in 47% of cases.

Telephone consultations were most common during the first 12 weeks of treatment (57.2%). The main reasons for telephone consultation included: adverse effects (40.2%); doubts about hygiene, diet, or self-care (28%); administrative errors or doubts (21.2%); problems related to medication (e.g., missing a treatment dose or concomitant treatments) (8.8%); and reporting on the result of a previous consultation (1.8%) (Figure 1). Telephone consultation alone resolved patients' problems in 58.3% of cases, whereas it was necessary to schedule an urgent appointment or advance a previously scheduled appointment in 22% of cases (Figure 2). In 41 (15.5%) telephone consultations, patients were advised to come to the emergency department.

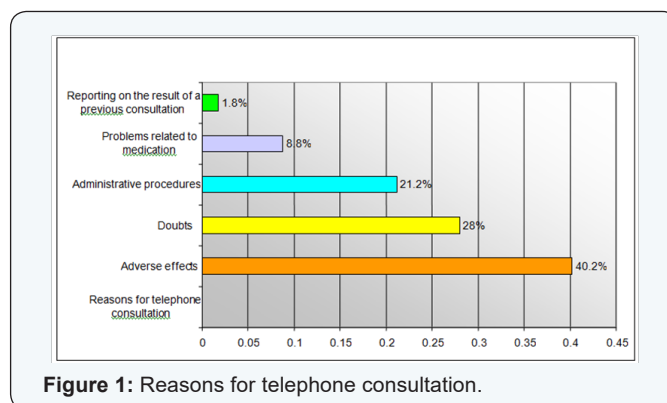


Figure 1: Reasons for telephone consultation.

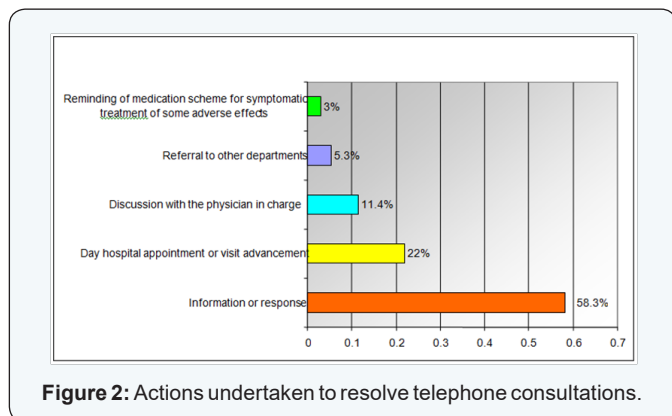


Figure 2: Actions undertaken to resolve telephone consultations.

A total of 193 unscheduled visits were recorded. Unscheduled visits were recorded throughout treatment, but mainly occurred in the first 12 weeks (44.6%). Women accounted for 53% of unscheduled visits. The main reasons for unscheduled visits were adverse effects (64.7%), mainly dermatological problems (19.2%) and asthenia with or without anemia (17.6%) (Figure 3). These unscheduled visits resulted in medical visits (33.7%), education by nurses (reviewing recommendations) (24.9%), referral to other specialists (13.4%), laboratory tests (8.8%), prescription of medication (7.8%), administrative changes (6.8%), treatment discontinuation (2.6%), or transfusion (2.1%) (Figure 4).

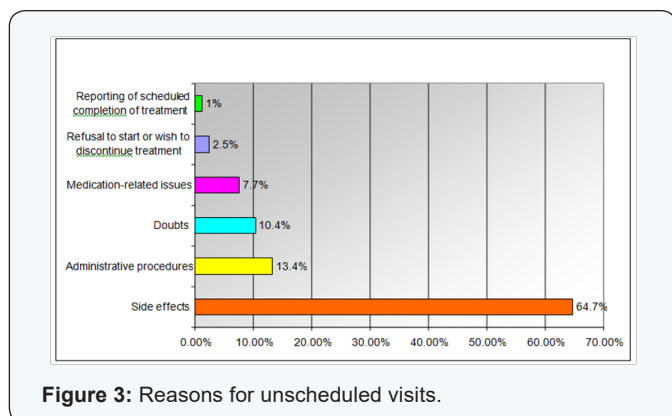


Figure 3: Reasons for unscheduled visits.

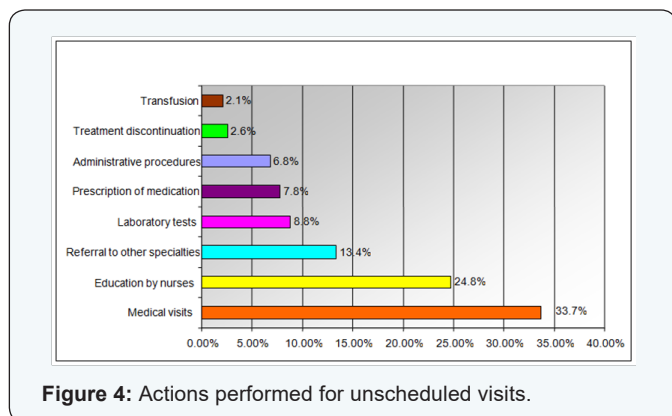


Figure 4: Actions performed for unscheduled visits.

## Discussion

Most of the telephone consultations and unscheduled visits in patients undergoing antiviral treatment for hepatitis C were due to adverse events secondary to treatment. However, most of these problems could be solved by providing advice on the telephone or during the unscheduled visit without requiring a visit with a physician. These results show the utility of nurses help patients improve their self-care. A previous study in Spain pointed out the usefulness of telephone communication with patients with chronic disease and their relatives [17]. Our results confirm that a direct telephone line improved follow-up in patients undergoing interferon-based treatment. The main reason for telephone and unscheduled consultations or emergency visits was adverse effects. It is important to control adverse effects because severe adverse effects can decrease adherence to the treatment and/or require decreased dosage of antiviral, both of which decrease the chances of obtaining an SVR [11]. Similarly, adherence improves when adverse effects are well controlled [4,5].

Interestingly, although over two-thirds of our patients were men, 59% of the callers in telephone consultations were women. Other studies have reported similar results, probably because women more frequently act as caregivers [18].

Analyzing the reasons for unscheduled consultations has helped us identify gaps in our educational program. Our results show that we need to pay more attention to adverse events in the educational program and to improve patients' knowledge for self-care. Better patient education could reduce the need for consultation and improve adherence and quality of life during treatment. Hopwood et al. [19] used structured interviews to analyze factors that could improve treatment. These authors found that identifying the patient's strengths in an interview before the beginning of treatment can help clinicians manage hepatitis C treatment regimens. Wartelle Bladou et al. [20] found that preparing the treatment with the patient and employing a multidisciplinary team promote adherence to treatment. Some authors emphasize the importance of assessing patient expectations with regard to adverse effects, as many patients are unrealistically optimistic before starting treatment [21].

The rate of treatment discontinuation due to intolerance range between 7,9%-18% [2,22]. Previous results published by our group in clinical practice showed a drop-out of 11% [5], lower than others published elsewhere. We hypothesize that easy access to the multidisciplinary team by telephone or outpatient clinics probably contributed to this low rate. The limitations of our study include the potential loss of information during telephone consultations. To minimize this point, we assigned specific members of the multidisciplinary

team to handle telephone consultations and developed a standardized questionnaire to avoid loss of information. Our day hospital was only open from 7 a.m. to 17 p.m., Monday through Friday. Patients attended at the emergency department outside this timetable did not necessarily contact the day hospital if their problem was solved; thus, we cannot know the possible impact of telephone inquires or unscheduled visits outside this timetable. We found that most consultations of patients on interferon-based treatment for CHC were due to adverse effects, and that providing patients with the opportunity to consult with professionals by telephone facilitated contact. The multidisciplinary team will incorporate the lessons learned from this study to improve the self-care educational program.

### Acknowledgment

Special thanks to all staff members who answer the phone and deal with emergency visits.

### References

1. Bruguera M, Forns X (2006) Hepatitis C in Spain. *Med Clin (Barc)* 127(3): 113-117.
2. Rogers G, Campbell L (2003) Hepatitis C virus: its prevalence, implications and management. *Nursing Times* 99(50): 30-31.
3. Dienstag JL, McHutchison JG (2006) American Gastroenterological Association technical review on the management of hepatitis C. *Gastroenterology* 130(1): 231-264.
4. Carrion JA, Gonzalez Colominas E, Garcia Retortillo M, Cañete N, Cirera I, et al. (2013) A multidisciplinary support programme increases the efficiency of pegylated interferon alfa-2a and ribavirin in hepatitis C. *J Hepatol* 59(5): 926-933.
5. Vergara M, Gallach M, Dalmau B, Gil M, Miquel M, et al. (2008) Results of pegylated interferon and ribavirin for the treatment of chronic hepatitis C in clinical practice: a 5-year experience. *Gastroenterol Hepatol* 31(5): 274-279.
6. Strader DB, Wright T, Thomas DL, Seeff LDB (2009) Diagnosis, management, and treatment of hepatitis C. *Hepatology* 49(4): 1335-1374.
7. Iñarrairaegui M, Elizalde I, Martínez Echeverría A, Zozaya JM, Beloqui R, et al. (2004) Treatment of chronic hepatitis C virus infection. *An Sist Sanit Navar* 27 Suppl 2: 69-80.
8. Thompson AJ, McHutchison JG (2012) Will IL28B polymorphism remain relevant in the era of direct-acting antiviral agents for hepatitis C virus? *Hepatology* 56(1): 373-381.
9. Chopra A, Klein PL, Drinnan T, Lee SS (2013) How to optimize HCV therapy in genotype 1 patients: management of side-effects. *Liver Int* 33(Suppl 1): 30-34.
10. [http://www.redaccionmedica.com/contenido/images/PROTOprotocolo\\_sofos.pdf](http://www.redaccionmedica.com/contenido/images/PROTOprotocolo_sofos.pdf).
11. Manns MP, Wedemeyer H, Cornberg M (2006) Treating viral hepatitis C: efficacy, side effects, and complications *Gut* 55(9): 1350-1359.
12. Gervais A, Boyer N, Marcellin P (2001) Tolerability of treatments for viral hepatitis. *Drug Saf* 24(5): 375-384.
13. McHutchison JG, Manns M, Patel K, Poynard D, Lindsay KL, et al. (2002) Adherence to combination therapy enhances sustained response in genotype-1-infected patients with chronic hepatitis C. *Gastroenterology* 123(4): 1061-1069.
14. Le Lan C, Guillygomarc'h A, Danielou H, Le Dréau G, Lainé F, et al. (2012) A multi-disciplinary approach to treating hepatitis C with interferon and ribavirin in alcohol-dependent patients with ongoing abuse. *J Hepatol* 56(2): 334-340.
15. De Montjoye BB, Ferrand I, Sogni P, Podevin P (2006) Management of psychological disorders in patients with chronic hepatitis C. *Encephale* 32(2 Pt 1): 198-203.
16. Poll R (2009) The role of the community nurse in hepatitis C diagnosis and treatment. *Br J Community Nurs* 14(7): 292, 294-296.
17. Gisbert Ortiz M, Baydal Cardona R, Lopez Benito I (2002) Nursing and telephone technology for the care of chronic patients. *Rev Enferm* 25(1): 38-39.
18. Leppanen V (2010) Power in telephone-advice nursing. *Nurs Inq* 17(1): 15-26.
19. Hopwood M, Treloar C (2007) Pretreatment preparation and management of interferon-based therapy for hepatitis C virus infection. *J Adv Nurs* 59(3): 248-254.