

## Letters to the Editor: Cost of Ulcerative Colitis

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### Dear Editor

Ulcerative colitis (UC) is a chronic inflammatory bowel disease, which affects the rectum and colon and may have other extra-intestinal manifestations [1,2]. This incurable disease, increasing over the past years [3,4], has an important economic impact for the Spanish National Healthcare System. However, little is known about the cost of UC patients, especially those indirect costs. In the publication entitled "Costs of ulcerative colitis from a societal perspective in a regional health care area in Spain: a database Study", a detailed observational, longitudinal and retrospective study, the authors estimate the costs associated to the management of ulcerative colitis (UC) from a social perspective in a regional healthcare area in Spain [5].

Between January 2002 and May 2012, data of patients with diagnosis of UC from six primary care centers and one hospital were recorded. A total of 285 subjects older than 18 years, who had at least two clinical and resource use data recorded and had 12 complete months follow-up since the diagnosis were included in the study. In order to estimate costs, variables such as general practitioner (GP) visits, gastroenterologist visits, mental health visits, hospitalizations, emergency room, complementary test, medication, sick leave and absenteeism were taken in account.

Mean direct annual cost of UC patients was €1,754.10 (95%CI: 1,473.37 – 2,034.83) (Table 1), being hospitalizations (47.88%) and pharmacological treatments (28.31%) the main components. These figures were in concordance with previous European publications [6,7]. Patients visited the GP a mean of 8.05 (SD: 5.81) times per year and were hospitalized less than once a year [mean: 0.62 (SD: 0.73)] with mean duration of 4.13 (SD: 4.23) days per year. Less than one laboratory test per patient [mean 0.70 (SD: 0.55)] was performed per year. Other diagnostic tests, such as radiological images [mean 0.41 (SD: 0.36)] and colonoscopies [mean 0.33 (SD: 0.26)] were made less frequently. Anti-inflammatory drugs were used by 74.0% of patients while immunosuppressive drugs were prescribed in up to 21.4%. Biological treatments were not recorded which could be considered a limitation of the study since this type of therapy are currently rising. In fact, according to a recent study, biological treatments could even represent the 31% of the total cost associated with the disease [7].

Mean annual indirect cost per patient was €399.32 (95%CI: 282.31 – 422.69) representing less than 20% of the total costs (Table 1). This percentage is in the range of previous European studies that calculated that the indirect costs represented between 5% [6] and 68% [8] of total costs. The main component of indirect cost was sick leaves (88.25%) estimated at €311.11, followed by absenteeism with a mean cost of €88.21 per patient per year (95%CI: 32.72 – 50.06). More than half of patients [65.6% (n=191)] were active workers; 145 of them had been on sick leave [mean 0.66 times (SD: 0.70) per year] for 28.43 days (SD: 34.45). Only 64 patients had a UC-related sick leave for 26.17 days

(SD: 37.43). Absenteeism due to medical visits in these patients caused losing a mean of 29.55 working hours (SD: 21.38) per year. However, indirect cost could be underestimating since data about presentism and loss of leisure are not taken in account in the majority of works, including the present study. In this sense, other recent study detected significantly more presentism in patients with Intestinal Bowel Disease (62.9%) compared with controls (27.3%), even in remissive patients (54.7%) with an indirect cost about \$17,766 per year [9].

Health resource cost/ productivity cost	Mean (SD)	95% CI
<b>Direct cost</b>		
GP visits	€250.52 (203.79)	226.86 – 274.18
Gastroenterologist visits	€54.89 (116.70)	41.34 – 68.44
Mental health visits	€1.19 (11.23)	-0.11 – 2.49
Hospitalizations	€853.30 (2,157.77)	602.79 – 1,103.81
Emergency room	€61.07 (90.77)	50.53 – 71.61
Complementary tests	€50.06 (69.74)	41.96 – 58.16
Medication	€496.52 (574.63)	429.81 – 563.23
Total Direct Cost	€1,754.10 (2,418.08)	1,473.37 – 2,034.83
<b>Indirect cost</b>		
Sick leave	€311.11 (610.09)	240.28 – 381.94
Absenteeism	€88.21 (70.19)	32.72 – 50.06
Total Indirect Cost	€399.32 (621.47)	282.31 – 422.69

**Table 1:** An annual direct and indirect cost estimates.

In conclusion, UC is a costly disease for the society and the Spanish National Healthcare System with mean total annual cost of UC patients reached to €2,153.42 (95%CI: 1,809.97 – 2,403.25) where direct and indirect costs represented 81.5% and 18.5%, respectively.

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