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# Journal Pre-proof

Changes in the management of IBD patients since the onset of COVID-19 pandemic. A path towards the implementation of telemedicine in Spain?

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Líneas 102 y 103, página 5 (Introducción) – CAMBIOS REALIZADOS

Líneas 255 y 256, página 10 (Discusión) – CAMBIOS REALIZADOS

1 Changes in the management of IBD patients since the onset of  
2 COVID-19 pandemic. A path towards the implementation of  
3 telemedicine in Spain?

4

5 Cambios en el manejo de la EII desde la pandemia por COVID-  
6 19: ¿Un nuevo inicio de la telemedicina en España?

7

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9 Manuel Barreiro-de Acosta, MD, PhD<sup>5</sup>; Luis Bujanda, MD, PhD<sup>3,6</sup>; Fernando de la Portilla MD, PhD<sup>7,8</sup>;  
10 Mariam Aguas, MD, PhD<sup>1,3,4</sup> on behalf of AEG, AEGP and GETECCU.

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34

35 **40-WORD SUMMARY:**

36 Covid-19 pandemic changed the daily practice for IBD management. Telemedicine resources have  
37 been implemented in IBD units during the pandemic, but efforts must be made to enhance  
38 telemedicine to meet professionals' and patients' needs.

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## 41 ABSTRACT

42 **Background:** COVID-19 pandemic increased medical services demand aside from interrupting daily  
43 clinical practice for other diseases such as Inflammatory Bowel Disease (IBD). Here we present the  
44 results of a survey to gain the perception of IBD specialists in their patient-management using  
45 telemedicine in their daily practice.

46 **Methods:** This was an observational survey study among physicians focused on IBD  
47 (gastroenterologist, surgeons, and pediatricians) members of the Spanish Working Group on Crohn's  
48 Disease and Ulcerative Colitis (GETECCU), the Spanish Association of Gastroenterology (AEG), and the  
49 Spanish Association of Coloproctology (AACP), regarding changes of management of IBD patients.

50 **Results:** We received a total of 269 responses to the survey (from May to June 2020). Before the  
51 pandemic, nearly all the respondents reported performing very frequently their visits face-to-face  
52 (n=251, 93.3%) while, during the pandemic, the telephone visits were the most frequent visits  
53 performed (n=138, 51.3%). Regarding communication difficulties, 157 (58.4%) respondents reported  
54 the impossibility of performing a proper examination as the most relevant issue. Also, 114 (42.4%)  
55 respondents considered remote visits more time-consuming than face-to-face visits. Most  
56 gastroenterologists (n=188, 83.2%) considered patients with active perianal disease in special need of  
57 face-to-face consultation and more than half of the surgeons (n=35, 50.7%) reported having performed  
58 an immediate postoperative follow-up remotely.

59 **Conclusions:** Most IBD units have implemented remote visits during the pandemic, but most  
60 professionals found them more time-consuming and unsuitable for some disease profiles. Therefore,  
61 there is a need for the development of better telemedicine systems that can meet professionals' and  
62 patients' requirements.

63

## 64 KEYWORDS

65 IBD; Inflammatory Bowel Disease; COVID-19; Telemedicine; Survey

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## 70 RESUMEN

71 **Introducción:** La pandemia por COVID-19 ha supuesto un incremento en la demanda de atención  
72 sanitaria y ha modificado el modelo asistencial de algunas patologías como la Enfermedad Inflamatoria  
73 Intestinal (EII). Presentamos los resultados de una encuesta sobre el papel de la telemedicina en el  
74 manejo de pacientes con EII.

75 **Material y métodos:** Estudio observacional mediante encuesta dirigida a gastroenterólogos, cirujanos  
76 y pediatras especializados en EII, miembros del Grupo Español de Trabajo en Enfermedad de Crohn y  
77 Colitis Ulcerosa (GETECCU), la Asociación Española de Gastroenterología (AEG) y/o la Asociación  
78 Española de Coloproctología (AECP).

79 **Resultados:** Recibimos un total de 269 respuestas (mayo a junio de 2020). Antes de la pandemia, el  
80 93,3% de los participantes afirmó llevar a cabo la mayor parte de sus consultas de manera presencial.  
81 Durante la pandemia, la consulta telefónica se ha convertido en la modalidad preferida por el 51,3%.  
82 El principal inconveniente de la asistencia telemática fue la imposibilidad de llevar a cabo una  
83 exploración física según el 58,4%. Además, el 42,4% aseguró emplear más tiempo en este tipo de  
84 consultas. Entre gastroenterólogos, el 83,2% consideró que el paciente que más puede beneficiarse de  
85 la visita presencial es aquel con enfermedad perianal activa. Y, por último, el 50,7% de los cirujanos  
86 afirmó haber realizado controles remotos en el postoperatorio inmediato.

87 **Conclusiones:** Si bien las unidades de EII han implementado durante la pandemia herramientas de  
88 telemedicina, muchos de los encuestados encontraron dificultades en su implementación. Es  
89 necesario adecuar y mejorar estos nuevos canales de asistencia remota para satisfacer las necesidades  
90 de profesionales y pacientes.

91

## 92 PALABRAS CLAVE

93 EII; Enfermedad Inflamatoria Intestinal, COVID-19; Telemedicina; Encuesta

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## 100 INTRODUCTION

101 Coronavirus disease 2019 (COVID-19), caused by the new severe acute respiratory syndrome  
102 coronavirus 2 (SARS-CoV-2), was declared a pandemic by the WHO in March 2020. By the end of July  
103 2021, nearly 190 million cases of COVID-19 had been reported worldwide (1), dramatically increasing  
104 the demand for medical services and directly and indirectly collapsing healthcare systems at all levels  
105 of care. Very few cases of COVID-19 have been reported to date in patients with inflammatory bowel  
106 disease (IBD) (2, 3). However, the precise extent of the clinical manifestations of COVID-19 in  
107 individuals with immune-inflammatory diseases is still unknown (2), and the appropriate and follow-  
108 up of IBD patients have become a challenge.

109 One of the main concerns of patients with IBD during the pandemic has been the interruption of face-  
110 to-face medical visits, due to mobility restrictions and lockdowns imposed in most countries during the  
111 months of maximum spread of the virus. Moreover, the decrease in endoscopic explorations and  
112 scheduled surgeries, the interruption of some clinical trials, as well as usual daily practice, have  
113 generated considerable concern among both patients and health professionals (4, 5). In Spain, because  
114 of the pandemic restrictions, many health centers activated telephone and email helplines to answer  
115 patients' queries on the risk of infection by SARS-CoV-2, their prescribed treatment, or IBD itself.

116 For all these reasons, remote consultation has become an essential tool to minimize face-to-face visits  
117 in the hospitals, while ensuring adequate monitoring and control of the disease in these patients. In  
118 other countries, some preexisting remote monitoring platforms, such as TELE-IBD, myIBDcoach, and  
119 HealthPROMISE, have proven to be safe and effective in ensuring the appropriate follow-up of IBD  
120 patients (6-9).

121 In Spain, our study group developed the web platform TECCU, which proved to be a safe, cost-effective  
122 strategy to improve health outcomes, especially in complex IBD patients (10, 11). Besides providing  
123 remote healthcare, telemedicine is extremely useful during a pandemic for minimizing exposure to the  
124 virus. Moreover, telemedicine enhances education and telemonitoring that can promote patients'  
125 empowerment and self-management (12, 13) and could also alleviate the pressure on healthcare  
126 system in routine practice. However, its forced implementation as a response to the current situation  
127 may raise some concerns about its use in some settings. Therefore, the main aim of this study was to  
128 gather information on the changes and challenges perceived by IBD specialists, including general  
129 gastroenterologists, pediatricians, and surgeons in the management of IBD patients using remote  
130 systems in their daily practice, to understand the advantages and disadvantages of telemedicine during  
131 the COVID-19 pandemic.

## 132 MATERIALS AND METHODS

133 *Study design and respondents*

134 This was an observational survey study conducted to assess changes in the management of IBD  
135 patients due to the COVID-19 pandemic and the satisfaction of health professionals with the available  
136 remote visit systems.

137 We designed an 18-question survey using the SurveyMonkey platform. Questions included  
138 demographic characteristics and questions related to medical practice before and after the onset of  
139 the pandemic. Five specific questions addressing specialists on their practice were also included.  
140 Answers were collected anonymously, and all the information was processed following Organic Law  
141 3/2018 on the Protection of Personal Data and guarantee of digital rights (LOPDGDD).

142 The survey was revised and approved by the Spanish Working Group on Crohn's Disease and Ulcerative  
143 Colitis (GETECCU), the Spanish Association of Gastroenterology (AEG), and the Spanish Association of  
144 Coloproctology (AACP), and sent on their behalf to their members (IBD specialists including general  
145 gastroenterologists, pediatricists, and surgeons) by email on May 25<sup>th</sup>, 2020. Two additional reminders  
146 were made later before the deadline for submission (June 28<sup>th</sup>, 2020).

147 *Statistical Analysis*

148 A descriptive analysis of the survey responses was made, with continuous variables reported as  
149 medians and interquartile range, and categorical variables reported as percentages (%) with 95%  
150 confidence intervals.

151



## 152 RESULTS

### 153 *Respondents and participation*

154 Surveys were sent to the mailing lists of the members of the Spanish scientific societies AEG, GETECCU,  
155 and AECP ( $n = 1383$ ,  $n = 940$ , and  $n = 582$ , respectively). However, some of the professionals are  
156 members of more than one society, so the total number of surveys received by professionals, taking  
157 into account possible redundancies, was 1286. The total number of valid responses received between  
158 May 25<sup>th</sup> and June 28<sup>th</sup> of 2020 was 269 (**Figure 1**).

159 Catalonia and the Valencian Community were the regions with most respondents, followed by Madrid  
160 Community and Andalusia (**Figure 2**). Most respondents were gastroenterologists, followed by  
161 surgeons and pediatricians (80.7%, 217/269; 16.4%, 44/269; and 3.0%, 8/269; respectively), and  
162 younger than 40 or between 40 and 50 years old (39.4%, 106/269 and 34.6%, 93/269, respectively).  
163 Three out of four health professionals worked in a public university hospital and very few worked in  
164 private centers (75.1%, 202/269 and 2.2%, 6/269, respectively). Almost all respondents used electronic  
165 medical records in their daily practice (97.8%, 263/269).

### 166 *Routine practice visits before COVID-19*

167 Regarding the routine practice of respondents before the onset of the pandemic, nearly all reported  
168 conducting most of their patient visits face-to-face (75-100%) (**Table 1, Figure 3**). Most respondents  
169 reported offering medical care by telephone occasionally (0-25% of visits). More than half of the  
170 respondents acknowledged occasionally following up patients via email (0-25% of visits), or while one  
171 fifth did this slightly more frequently (25-50%). Notably, more than half of the respondents reported  
172 that contacting patients by video calls was not an option in their routine practice (**Table 1, Figure 3**).

### 173 *Routine practice visits during COVID-19: performance of remote visits*

174 Since the onset of the pandemic, all respondents reported using telephone medical care for some of  
175 their patients (**Table 1, Figure 3**). Half of the respondents conducted visits by telephone in almost all  
176 cases (75-100% of the visits), and a further third conducted half or more of their visits by telephone.  
177 Remarkably, since the onset of the pandemic, the number of respondents using email to assist their  
178 patients increased. Before the pandemic, only 1 participant out of 269 reported using email frequently  
179 (i.e., more than 50% of the visits), whereas after the onset of the pandemic, this proportion increased  
180 to 32 out of 269 respondents (**Table 1, Figure 3**).

181 Notably, the use of video call consultations was not an option for more than half of the respondents  
182 (61.7%, 166/269) and nearly one out of three respondents (34.2%, 92/269) reported using video call  
183 consultation very occasionally (0-25% of the visits) (**Table 1, Figure 3**).

#### 184 *Email availability and use*

185 Nearly half of the respondents (46.1%, 124/269) reported that they did not have an email account for  
186 medical consultations. Of the respondents who did have an email account for medical consultations  
187 with their patients (53.9%, 145/269), more than half (27.9%, 75/269) reported that they controlled the  
188 account themselves while nearly one-third (17.5%, 47/269) reported that the specialist nurse  
189 maintained control of the email account.

190 Just over half of the respondents (51.7%, 139/269) reported using email for medical consultations with  
191 patients. Of these, more than half (64%, 89/139) were consultations related to the disease, while the  
192 remaining consultations (36%, 50/139) were related to administrative aspects (change of  
193 appointments, medical reports, prescriptions, etc.).

#### 194 *Challenges perceived during remote visits*

195 More than half of the respondents reported some disadvantages associated with remote visits  
196 compared to face-to-face visits (**Table 1**). The inconvenience reported most frequently as very relevant  
197 was the impossibility of examining patients. Respondents also considered it very relevant that some  
198 consultations are not completed properly (e.g., missing visits or tests). Furthermore, 38 out of 269  
199 respondents indicated that the physician-patient emotional relationship is more difficult in remote  
200 visits, and 18 out of 269 respondents noted that the patients' difficulties in communicating their  
201 current health status prevents a correct assessment (**Table 1**).

202 Most respondents reported that remote visits take longer than face-to-face visits or at least the same  
203 amount of time. Less than a third of respondents reported spending less time in remote visits than in  
204 face-to-face visits (**Table 1**).

205

#### 206 *Specific questions for the specialists*

207 Some of the last questions of the questionnaire specifically addressed gastroenterologists and others  
208 to surgeons.

209 Most gastroenterologists believe that face-to-face visits are essential for patients with active perianal  
210 disease and cases of clinical exacerbation (**Table 2**).

211 Half of the surgeons reported that they had conducted immediate postoperative follow-ups remotely  
212 and most of them considered the main difficulty was revision of the surgical wound (**Table 3**).

213

## 214 DISCUSSION

215 The COVID-19 pandemic has created a huge challenge for the safe provision of quality care. Spain is  
216 one of the most affected countries and this has dramatically altered care pathways in healthcare  
217 centers and, with it, our routine management of outpatients with IBD (4, 5, 14-16). The results of our  
218 study showed that many IBD units have adapted to the circumstances using telephone and e-mail to  
219 contact their patients, and these tools have expanded their presence in clinical practice during the  
220 pandemic. They are usually considered useful and cost-effective, but the perspective of healthcare  
221 professionals with their use has not been addressed thus far.

222 Although patients with IBD are at increased risk of infection due to immunosuppression, the incidence  
223 of SARS-CoV-2 infection in IBD patients is estimated to be similar to that of the general population (3,  
224 17). Data are still scarce and minimizing exposure in these patients is a priority. To this end, a key tool  
225 during the pandemic has been the use of telemedicine, understood as the provision of medical care  
226 using communication technologies in the form of text, video, or audio (17). This strategy not only  
227 reduces the individual risk of exposure to the virus but also reduces community transmission in high-  
228 traffic areas such as hospitals and health centers, care burdens at times of high demand, and the use  
229 of personal protective equipment. It is also safe, easy to use, and well accepted by most patients (6, 8,  
230 18).

231 Despite the exceptional nature of the situation in which we find ourselves and the potential benefits  
232 of telemedicine, its increasing use raises new doubts and uncertainties that are hampering its  
233 widespread implementation. Among them, confusion regarding medical liability due to the absence of  
234 specific regulations governing its use in our legal system of laws and regulations. Moreover,  
235 telemedicine has been successful in some patients and in certain disease profiles, but not in others,  
236 and some patients have an inherent need for face-to-face physical explorations, such as those with  
237 active perianal disease, as pointed out by the gastroenterologists who participated in this survey. Thus,  
238 the favorable efficacy and cost-effectiveness reported in previous trials (11) may not apply to all  
239 patients and, besides, more than 70% of respondents in our survey reported that telephone  
240 consultations were not time-saving procedures. In addition to the disadvantages of remote visits most  
241 frequently reported by the study respondents, namely the impossibility to perform examinations and

242 complete visits properly and inhibition of the physician-patient relationship, another limitation to  
243 consider is access to telemedicine, especially for older patients, whether due to the lack of a device or  
244 the difficulties that patients may encounter in its use. Another important barrier may be the  
245 integration of IBD telemedicine platforms in electronic medical records, although some efforts have  
246 been made towards solving this specific issue (19). Regardless of the current or future possible  
247 pandemic events, telemedicine shows the potential, in terms of cost-effectivity and suitability to be  
248 the future standard to manage IBD patients(11, 15). Thus, efforts must be focused on the further  
249 promotion and the application of telemedicine platforms properly integrated into all levels of the  
250 health care system.

251 This study has some limitations. First, the survey was delivered on behalf of the Spanish scientific  
252 societies to all their members, but the representativity of the results must be read in the context of  
253 the participation of healthcare providers with a special interest in IBD management. Thus, their  
254 responses may not represent the reality of the whole population of gastroenterologists, surgeons, and  
255 pediatricians. The low response rate is another limitation of the study, especially between surgeons  
256 and pediatricians. Epidemiological variations in the incidences of COVID-19 among regions in Spain can  
257 also reflect different healthcare burdens or even different management approaches that may be  
258 reflected in the different responses from respondents on the use of telemedicine.

## 259 CONCLUSIONS

260 The COVID-19 pandemic has generated numerous social and healthcare challenges, while daily  
261 practice has changed dramatically to respond to the imperative need to adapt to ensure the continuity  
262 of care of our IBD patients. Our results show that most IBD units have implemented remote visits for  
263 the management of IBD patients. However, most professionals found remote visits more time-  
264 consuming than face-to-face visits and some disease profiles, such as postoperative care or active  
265 perianal disease, are considered unsuitable candidates for remote care. Therefore, there is a need for  
266 the development of adequate telemedicine systems with a patient-centered design that can perform  
267 according to professionals' and patients' requirements.

268

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271 (GETECCU), the Spanish Association of Gastroenterology (AEG), and the Spanish Association of  
272 Coloproctology (AACP).

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- 332

## 333 TABLES

334 **Table 1. Questions included in the questionnaire on medical practice before and after the onset of the COVID-**  
335 **19 pandemic.**

	N (%)
<b>Visits</b>	
What type of consultation was more frequent in your daily practice BEFORE the COVID-19 pandemic?	
Face-to-face	
Occasionally (0-25%)	3 (1.1)
Rarely (25-50%)	0 (0.0)
Frequently (50-75%)	14 (5.2)
Very frequently (75-100%)	251 (93.3)
Not available	1 (0.4)
Telephone visits	
Occasionally (0-25%)	219 (81.4)
Rarely (25-50%)	13 (4.8)
Frequently (50-75%)	1 (0.4)
Very frequently (75-100%)	1 (0.4)
Not available	35 (13.0)
Email	
Occasionally (0-25%)	146 (54.3)
Rarely (25-50%)	14 (5.2)
Frequently (50-75%)	1 (0.4)
Very frequently (75-100%)	1 (0.4)
Not available	107 (39.8)
Video calls	
Occasionally (0-25%)	99 (36.8)
Rarely (25-50%)	1 (0.4)
Frequently (50-75%)	0 (0.0)
Very frequently (75-100%)	1 (0.4)
Not available	168 (62.5)
How did you manage your patients DURING the COVID-19 pandemic?	
By telephone	
Occasionally (0-25%)	12 (4.5)
Rarely (25-50%)	26 (9.7)
Frequently (50-75%)	93 (34.6)
Very frequently (75-100%)	138 (51.3)
Not available	0 (0.0)
By email	
Occasionally (0-25%)	115 (42.8)
Rarely (25-50%)	33 (12.3)
Frequently (50-75%)	19 (7.1)
Very frequently (75-100%)	13 (4.8)
Not available	89 (33.1)
Video Call	
Occasionally (0-25%)	92 (34.2)



Rarely (25-50%)	5 (1.9)
Frequently (50-75%)	6 (2.2)
Very frequently (75-100%)	0 (0.0)
Not available	166 (61.7)
What kind of visits could be made DURING the COVID-19 pandemic?	
All (first and successive visits)	121 (45.0)
Only successive visits	41 (15.3)
Only first visits	4 (1.5)
Some first and some successive visits	103 (38.3)
<b>Difficulties during remote visits</b>	
Have you had any communication difficulties with your patients during remote visits?	
Yes	157 (58.4)
No	112 (41.6)
What is the most relevant difficulty encountered during remote visits	
Impossibility of performing an examination	
Slightly relevant	20 (7.4)
Somehow relevant	64 (23.8)
Fairly relevant	90 (33.5)
Very relevant	95 (33.3)
Patients do not report their health status properly	
Slightly relevant	69 (25.7)
Somehow relevant	105 (39.0)
Fairly relevant	77 (28.6)
Very relevant	18 (6.7)
Impossibility of completing some visits (missing visits or lack of tests results)	
Slightly relevant	59 (21.9)
Somehow relevant	71 (26.4)
Fairly relevant	87 (32.3)
Very relevant	52 (19.3)
Physician-patient emotional relationship becomes difficult	
Slightly relevant	61 (22.7)
Somehow relevant	93 (34.6)
Fairly relevant	77 (28.6)
Very relevant	38 (14.1)
Compared to face-to-face visits, remote visits last...	
More time	114 (42.4)
Less time	76 (28.3)
Same amount of time	79 (29.4)

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**Table 2. Specific questions for gastroenterologists regarding medical practice before and after the onset of the pandemic of COVID-19**

	N (%)
What is the average proportion of these pathologies among your patients before the onset of the pandemic?	
Colorectal diseases	
None	26 (11.9)
Low (0-25%)	130 (59.4)
Moderate (25-50%)	47 (21.5)
High (50-75%)	14 (6.4)
Very high (75-100%)	2 (0.9)
Inflammatory bowel disease	
None	12 (5.3)
Low (0-25%)	65 (28.6)
Moderate (25-50%)	47 (20.7)
High (50-75%)	42 (18.5)
Very high (75-100%)	61 (26.9)
Pancreatic disease	
None	50 (23.2)
Low (0-25%)	146 (67.6)
Moderate (25-50%)	17 (7.9)
High (50-75%)	3 (1.4)
Very high (75-100%)	12 (5.5)
Functional disease	
None	10 (4.6)
Low (0-25%)	79 (36.1)
Moderate (25-50%)	59 (26.9)
High (50-75%)	59 (26.9)
Very high (75-100%)	12 (5.5)
Among your IBD patients, which have a special need of a face-to-face consultation?*	
Patients with active perianal disease	188 (83.2)
Patients with a clinical exacerbation	155 (68.6)
Patients receiving biological treatment	22 (9.7)
Elderly patients	44 (19.5)
Other	29 (12.8)

\*respondents could have multiple answers to this question

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**Table 3. Specific questions for surgeons regarding medical practice before and after the onset of the pandemic of COVID-19**

	N (%)
What was the average porportion of these diseases among your patients before the onset of the pandemic?	
Colorectal diseases	
None	16 (28.6)
Low (0-25%)	15 (26.8)
Moderate (25-50%)	14 (25.0)
High (50-75%)	10 (17.9)

Very high (75-100%)	1 (1.8)
Inflammatory bowel disease	
None	20 (35.7)
Low (0-25%)	26 (46.4)
Moderate (25-50%)	7 (12.5)
High (50-75%)	1 (1.8)
Very high (75-100%)	2 (3.6)
Proctology	
None	12 (21.4)
Low (0-25%)	13 (23.2)
Moderate (25-50%)	16 (28.6)
High (50-75%)	11 (19.6)
Very high (75-100%)	4 (7.1)
Pelvic floor or functional disease	
None	23 (41.1)
Low (0-25%)	24 (42.9)
Moderate (25-50%)	4 (7.1)
High (50-75%)	3 (5.4)
Very high (75-100%)	2 (3.6)
Have you performed "immediate" postoperative follow-ups remotely? (first visits after surgery or similar)	
Yes	35 (50.7)
No	34 (49.3)
Have you experienced any difficulties?*	
Problems checking the surgical wound	46 (75.4)
Problems checking the stoma	33 (54.1)
Problems explaining or clarifying postoperative care	15 (24.6)
Other	13 (21.3)

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\*respondents could have multiple answers to this question

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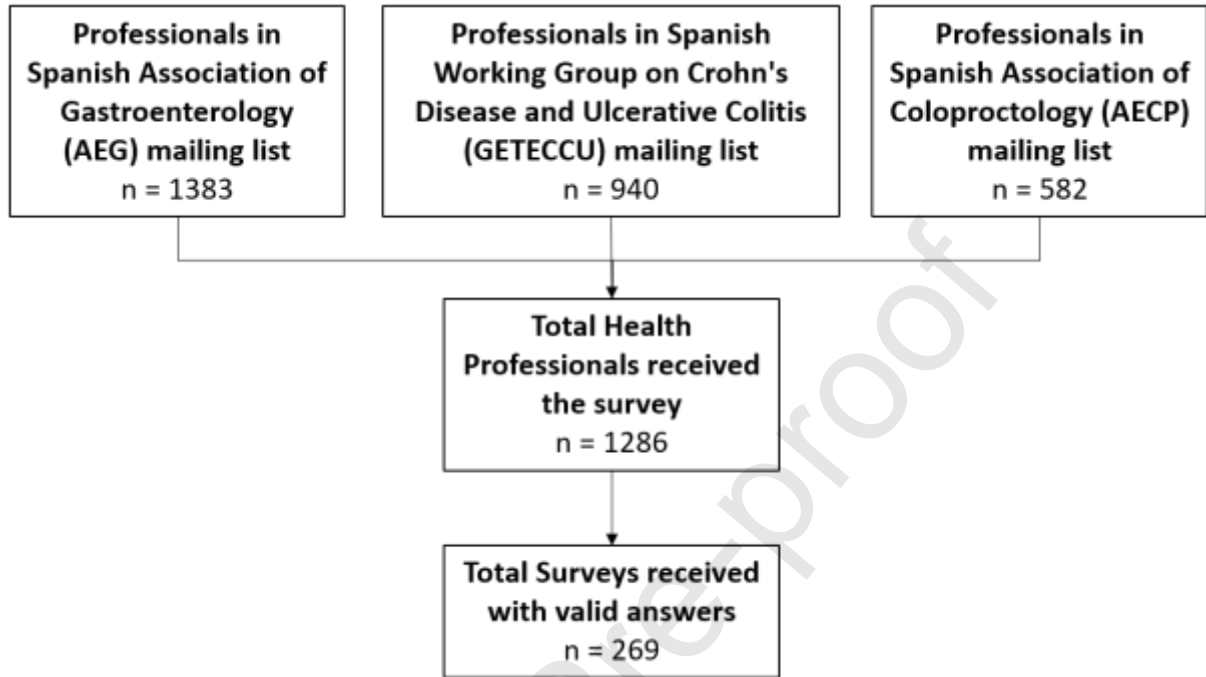
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## 345 FIGURES

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348 Figure 1. Flow chart of surveys during the study.



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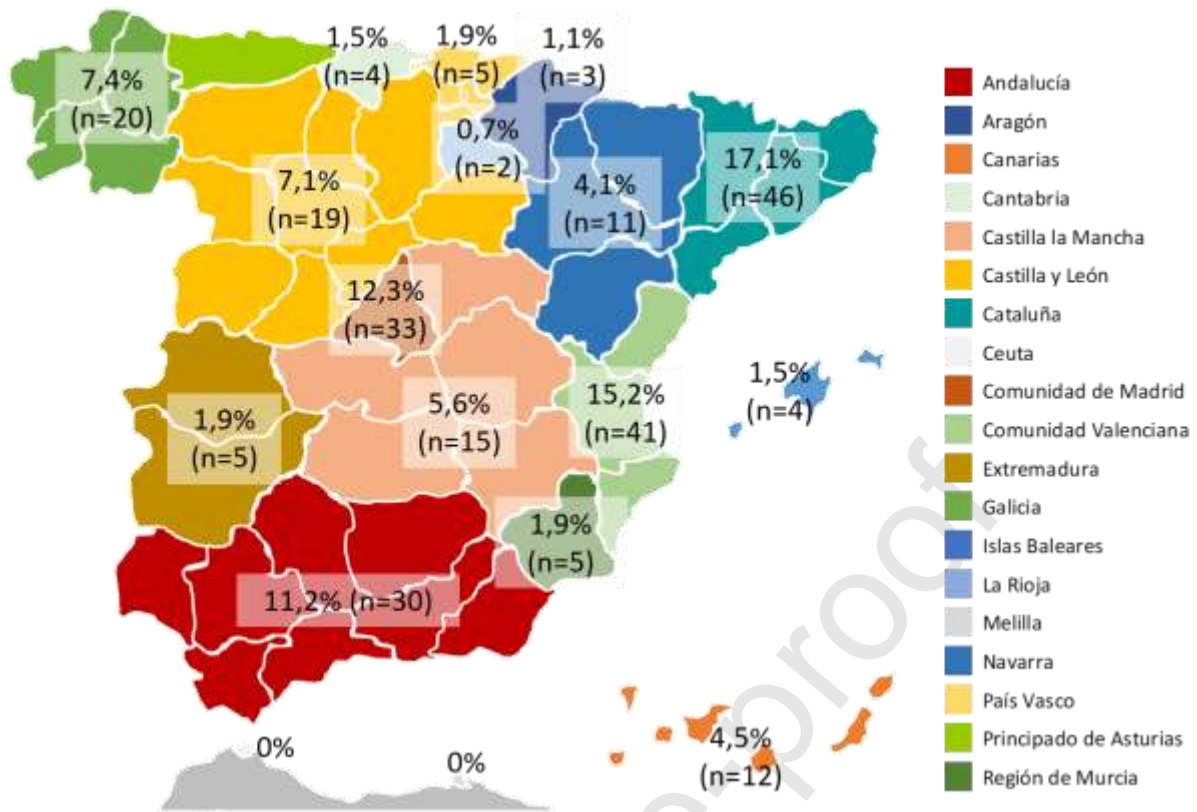
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361 Figure 2. Participation across the autonomous communities of Spain.



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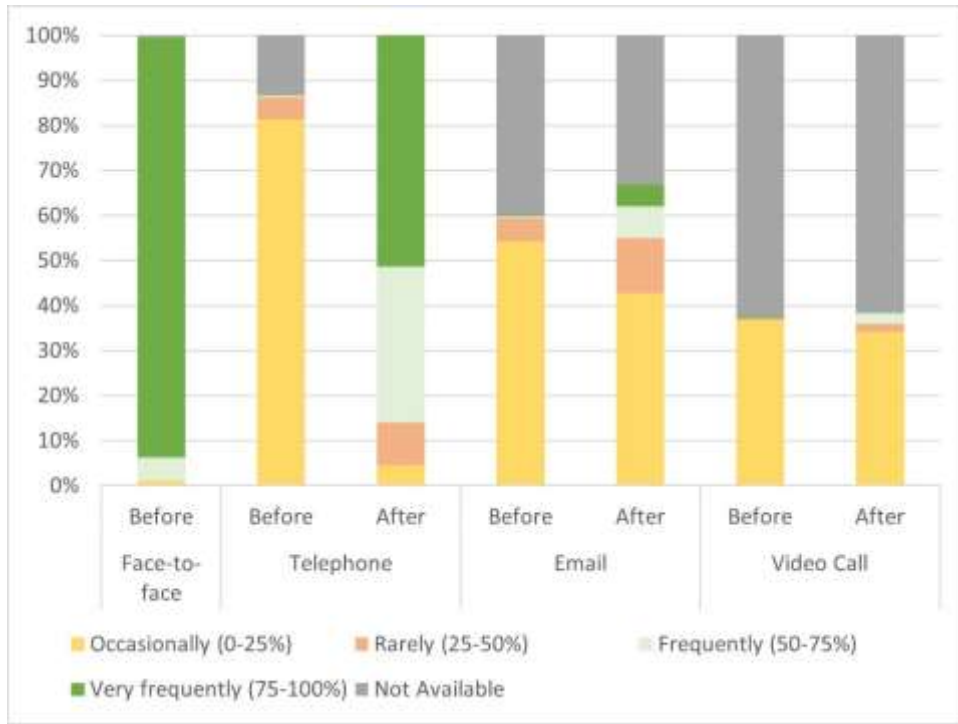
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375 Figure 3. Types of visits and medical consultations before and after the onset of COVID-19 pandemic.



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**Questionnaire**

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**1. In which Spanish region do you have your practice?**

Andalucía  
Aragón  
Principado de Asturias  
Islas Baleares  
Canarias  
Cantabria  
Castilla y León  
Castilla- La Mancha  
Cataluña  
Comunidad Valenciana  
Extremadura  
Galicia  
Comunidad de Madrid  
Región de Murcia  
Comunidad Foral de Navarra  
País Vasco  
La Rioja  
Ceuta  
Melilla

**2. How old are you?**

Younger than 40 years old  
Between 40 and 50 years old  
Between 50 and 60 years old  
Older than 60 years old  
Other

**3. Which is your medical specialty (IBD related)?**

General Gastroenterologist  
Surgeon  
Pediatrician

**4. Which of the following most accurately describes the health facility where you spend most of your time treating patients?**

public university hospital  
public hospital (non-teaching)  
private center  
other

**5. Do you have access to electronic medical records in your institution?**

yes  
no  
both (electronic and paper)

**6. What type of consultation was more frequent in your daily practice BEFORE the COVID-19 pandemic?**

Face-to-face  
Occasionally (0-25%)

Rarely (25-50%)  
 Frequently (50-75%)  
 Very frequently (75-100%)  
 Not Available

Telephonic

Occasionally (0-25%)  
 Rarely (25-50%)  
 Frequently (50-75%)  
 Very frequently (75-100%)  
 Not Available

E-mail

Occasionally (0-25%)  
 Rarely (25-50%)  
 Frequently (50-75%)  
 Very frequently (75-100%)  
 Not Available

Video Call

Occasionally (0-25%)  
 Rarely (25-50%)  
 Frequently (50-75%)  
 Very frequently (75-100%)  
 Not Available

**7. How did you manage your patients DURING the COVID-19 pandemic?**

Telephonic

Occasionally (0-25%)  
 Rarely (25-50%)  
 Frequently (50-75%)  
 Very frequently (75-100%)  
 Not Available

E-mail

Occasionally (0-25%)  
 Rarely (25-50%)  
 Frequently (50-75%)  
 Very frequently (75-100%)  
 Not Available

Video Call

Occasionally (0-25%)  
 Rarely (25-50%)  
 Frequently (50-75%)  
 Very frequently (75-100%)  
 Not Available

Some first and some successive visits

**8. In the telematic assistance of your Service, which health professional is in charge of controlling the email?**

Specialist nurse

Gastroenterologist / Surgeon

Specialist Nurse and Gastroenterologist / Surgeon



Other professionals (TCAEs, administrative staff)

I do not have an email for telematic assistance

**9. The main aim of consultations through email DURING the COVID-19 pandemic was?**

Consultation related to the disease

Consultation related to other conditions of the patient

Consultations related to administrative aspects (change of appointments, medical reports, prescriptions, etc.)

I do not have an email for telematic assistance

**10. What kind of consults were possible to achieve DURING the COVID-19 pandemic?**

All (first and successive visits)

Only successive visits

Only first visits

**11. Have you had any communication difficulties with your patients during remote consults?**

Yes

No

**12. Which is the more relevant difficulty encountered during remote visits**

Impossibility of performing an exploration

Slightly relevant

Somehow relevant

Fairly relevant

Very relevant

Patients do not communicate properly their health status

Slightly relevant

Somehow relevant

Fairly relevant

Very relevant

Impossibility of completing some consults (missing visits or lack of tests results)

Slightly relevant

Somehow relevant

Fairly relevant

Very relevant

Physician-patient emotional relationship becomes difficult

Slightly relevant

Somehow relevant

Fairly relevant

Very relevant

**13. Compared to face-to-face visits, remote visits last**

More time in remote visits

Less time in remote visits

Same amount of time

**14. Specific questions for gastroenterologists**

**14.1. What is the average proportion of these pathologies among your patients before the onset of the pandemic?**

Colorectal diseases

None

Low (0-25%)

Moderate (25-50%)

High (50-75%)

Very high (75-100%)

Inflammatory bowel disease

None

Low (0-25%)

Moderate (25-50%)

High (50-75%)

Very high (75-100%)

Pancreatic disease

None

Low (0-25%)

Moderate (25-50%)

High (50-75%)

Very high (75-100%)

Functional diseases

None

Low (0-25%)

Moderate (25-50%)

High (50-75%)

Very high (75-100%)

**14.2. Among your IBD patients, which have a special need of a face-to-face consultation?\***

Patients with active perianal disease

Patients with a clinical exacerbation

Patients receiving biological treatment

Elderly patients

Other

**15. Specific questions for surgeons**

**15.1. What was the average proportion of these diseases among your patients before the onset of the pandemic?**

Colorectal diseases

None

Low (0-25%)

Moderate (25-50%)

High (50-75%)

Very high (75-100%)

Inflammatory bowel disease

None

Low (0-25%)

Moderate (25-50%)

High (50-75%)

Very high (75-100%)

Proctology

None

Low (0-25%)

Moderate (25-50%)

High (50-75%)

Very high (75-100%)

Pelvic floor or functional disease

- None
- Low (0-25%)
- Moderate (25-50%)
- High (50-75%)
- Very high (75-100%)

**15.2. Have you performed “immediate” postoperative follow-ups remotely? (first visits after surgery or similar)**

- Yes
- No

**15.3. Have you experienced any difficulties?\***

- Problems checking the surgical wound
  - Problems checking the stoma
  - Problems explaining or clarifying postoperative care
  - Other
- 

\*respondents could have multiple answers to this question