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General practitioners' experiences during the Covid-19 epidemic in the Bouches-du-Rhône department: Anxiety, impact on practice and doctor-patient relationship

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1 **English title**

2 General practitioners' experiences during the Covid-19 epidemic in the Bouches-du-Rhône
3 department: anxiety, impact on practice and doctor-patient relationship

4

5 **French title**

6 Vécu des médecins généralistes durant l'épidémie du Covid-19 dans le département des
7 Bouches-du-Rhône : anxiété, impact sur la pratique et relation médecin patient

8

9

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39 **Credit Author Statement**

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41 Original Draft, Writing - Review & Editing. **BELTRAN ANZOLA Any:** Formal analysis,
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47

1 **Abstract**

2 **Objectives:** The COVID-19 pandemic has strongly affected France and has put a strain on its
3 health professionals. As documented by literature, health professionals are at higher risk than
4 the general population regarding their mental welfare. The study's objective was to measure
5 the anxiety levels and its determinants of general practitioners of a French department during
6 the first COVID-19 pandemic containment.

7 **Materials and Methods:** A survey through a self-completion questionnaire was sent to 250
8 general practitioners of the Bouches-du-Rhône department. Their anxiety state was measured
9 using the Spielberg validated questionnaire the STAI-Y. Their experience, work
10 organizations, and doctor/patient relationship were measured by ad hoc items developed
11 during a focus group of five general practitioners.

12 **Results:** Of the 60 general practitioners included in the survey, nearly 40% had high to very
13 high levels of anxiety. The determinants of this anxiety were the female gender, the
14 unsatisfactory working conditions, the constrains required to work reorganization
15 (consultations and waiting room), and the worry of not being able to respond to the fears and
16 questions of patients, thus a lower decision latitude in their work.

17 **Conclusion:** This survey documented the levels of general practitioners' anxiety, as well as
18 the determinants of this anxiety. Physicians offered a unanimous opinion of their general
19 feeling of "disorganization and loneliness". General practitioners have demonstrated great
20 adaptability and flexibility despite the difficulties, which has caused them major anxiety. This
21 pandemic's resultant experiences can help better understand the vulnerability of caregivers to
22 mental anguish/stress in order to strengthen primary prevention strategies.

23

24 **Résumé**

25 **Objectifs :** La pandémie de COVID-19 a fortement touché la France et a mis à rude épreuve
26 les professionnels de santé. Étant déjà plus à risque que la population générale sur le plan de
27 la santé mentale, l'objectif de cette étude était de mesurer les niveaux d'anxiété et ses
28 déterminants des médecins généralistes d'un département français, pendant la première
29 période de confinement.

30 **Méthode :** Une enquête a été envoyée à 250 médecins généralistes du département des
31 Bouches-du-Rhône. Leur état d'anxiété a été mesuré par le questionnaire de Spielberg. Leur
32 vécu, l'organisation du travail et la relation médecin/patient ont été mesurés par des items ad-
33 hoc.

34 **Résultats :** Sur les 60 médecins généralistes inclus, près de 40% présentaient des niveaux
35 d'anxiété élevés à très élevés. Les déterminants de cette anxiété étaient le sexe féminin, les
36 conditions de travail insatisfaisantes, les contraintes de la réorganisation du travail
37 (consultations et salle d'attente), et le souci de ne pas pouvoir répondre aux craintes et
38 interrogations des patients donc une moindre latitude décisionnelle dans leur travail.

39 **Conclusion :** Les résultats ont documenté les niveaux d'anxiété des médecins généralistes,
40 ainsi que ses déterminants. Dans cette enquête, les médecins ont exprimé une opinion
41 unanime sur leur sentiment général de «désorganisation et solitude». Ils ont fait preuve d'une
42 grande adaptabilité et flexibilité malgré les difficultés, ce qui leur a causé une anxiété
43 importante. Le vécu de cette pandémie peut aider à mieux comprendre la vulnérabilité des
44 soignants à la souffrance psychologique afin de renforcer les stratégies de prévention
45 primaire.

46 **Keywords**

47 COVID-19 - General practitioners - Anxiety - Working conditions – Teleconsultation

48

49 **Mots clés**

50 COVID-19 – Médecins traitants – Anxiété – Condition de travail – Téléconsultation

51

52 **Word count:** 3251

53 **INTRODUCTION**

54 A new Severe Acute Respiratory Syndrome (SARS-CoV-2) caused by a coronavirus,
55 emerged from China in December 2019 which is responsible for the COVID-19 pandemic
56 since March 2020. France, as did other countries, implemented widespread containment
57 measures to curb the development of the COVID-19 pandemic and to avoid overtaxing the
58 healthcare system [1].

59 As seen in prior emerging epidemics [2] (H1N1, EBOLA), the sudden onset and potential
60 deaths by an unknown virus put healthcare workers, in general, and doctors, in particular,
61 under pressure. During the COVID-19 outbreak, a meta-analysis of 13 studies, consisting of
62 3,306,362 healthcare workers, showed that a significant proportion of these workers suffered
63 from mood and sleep disorders which highlighted the need to find ways to mitigate mental
64 health risks and adjust their responses during a pandemic [3].

65 In France, while some hospital health-care professionals were widely mobilized, the general
66 practitioners (GPs) had little involvement in any screening and care of COVID-19 in line with
67 the strategies favored by health authorities [4]. However, GPs had to change their practice
68 routines in order to continue delivering primary care. The fear of being contaminated or of
69 contaminating their patients and the tensions related to obtaining protection for their patients
70 and for themselves, made the working conditions even more difficult [5]. Physicians were
71 also facing an estimated 13 to 24% decline in their activity and revenues [6], and the societal
72 and psychological effects generated by the confinement of their patients, with or without pre-
73 existing mental disorders, impacted the doctor-patient relationship [7].

74 In a French study published in 2009, a burnout in 25% of GPs in the Provence-Alpes-Côte-
75 d'Azur PACA region was reported [8] and was ascribed to long working hours, to a high
76 mental workload, to managing the end of life patients, to unrealistic patient expectations, to
77 work/family conflicts, to medical skills being called into question, and to legal disputes.

78 While the Bouches-du-Rhône department of PACA region was not the most affected
79 department in the French territories [9] by the COVID-19 in the first wave, we believed it
80 important to look at the emotions, anxieties and their determinant factors, as experienced by
81 those general practitioners in the Bouches-du-Rhône during the SARS-CoV-2 epidemic
82 confinement period, by reason of their documented mental health risks.

83 Thus our study's primary objective was to measure the anxiety levels of general practitioners
84 in the Bouches-du-Rhône department of France during the first COVID-19 pandemic
85 containment. Our secondary objectives were to study in a descriptive way, the experience of
86 general practitioners, their work organization, their relationship with their patients, and the
87 determinants influencing the physicians' anxiety levels.

88 MATERIALS AND METHODS

89 Study design

90 This study is designed as an observational, descriptive and cross-sectional study, based on a
91 survey through a self-completion questionnaire, administered to General Practitioners (GPs)
92 in the French department of the Provence-Alpes-Côte-d'Azur (PACA) region.

93 Population

94 The eligible population consisted of active general practitioners in the Bouches-du-Rhône
95 department of the Provence-Alpes-Côte d'Azur (PACA) region in France. The inclusion
96 criteria were General practitioners (GPs), practicing in the Bouches-du-Rhône department
97 who returned the questionnaire, the return of the responses by participating physicians was the
98 witness of this non-opposition. The criteria for non-inclusion were non-respondents to the
99 questionnaire and GPs practicing outside the Bouches-du-Rhône department.

100 Evaluation criteria

101 *Assessment of anxiety:* The Spielberg questionnaire (STAI) [10] was used to assess the GP's
102 anxiety (level) at the time of COVID-19 period containment. The STAI is a two-part,
103 validated, self-administered questionnaire: Y-A form of the anxiety state, and Y-B form on
104 the anxiety trait. Only the Y-A STAI form was used to assess the state of anxiety. The Y-A
105 STAI consists of 20 questions. This questionnaire used a 4-point Likert scale, evaluating the
106 intensity of the subjects' feelings: no, somewhat no, somewhat yes, and yes [11]. Each
107 response was scored from 1 to 4, with 1 indicating the lowest level of anxiety and 4 the
108 highest level. Total scores varied from 20 to 80. For ease of interpretation, the results were
109 classified into five levels: Very high stress (≥ 66), High stress (56 to 65), Medium stress (46
110 to 55), Low stress (36 to 45), Very low stress (≤ 35).

111 *Evaluation of the physician's organization, experience, and doctor-patient relationships*
112 *during confinement:* So as to develop our questionnaire's three reflective themes, we used a

113 focus group method and interviewed five general practitioners, male and female, with varying
114 ages who practiced during this period. This focus group enabled an open discussion. There
115 was a grid of questions with the emergence of issues around the three themes. We expounded
116 a synthesis and analysis of the focus group's content. The final questionnaire (supplementary
117 material) contained the 20 questions of Y-A STAI form and 18 supplemental questions
118 focusing on three parts: experience, work organization, and doctor/patient relationship.

119 **Data collection procedure**

120 The questionnaire was transcribed in Google Forms and e-mailed between July 1st and
121 August 20th, 2020 to 250 GPs of Bouches-du-Rhône department who met our inclusion
122 criteria. A follow-up reminder was sent 15 days afterwards (to non-respondents). The GPs had
123 to validate the 38 questions in order to complete the questionnaire and to avoid missing data.
124 The questionnaire remained anonymous with no personal data requested. The duration of each
125 GP's participation to complete the questionnaire was estimated to be approximately five
126 minutes.

127 **Statistical analysis**

128 A descriptive analysis of the population was conducted on the entire sample. Qualitative
129 variables appeared as percentages and quantitative variables as means with standard
130 deviations. A univariate analysis design to study the nature of the relationships between the
131 variables of interest and the level of anxiety was proposed. The determination of correlations
132 with anxiety levels used a step-by-step multivariate analysis. A multivariate analysis was
133 performed after including all variables below 0.20 in the univariate analysis, after which each
134 non-significant variable, step by step, was removed until a significant result was obtained, i.e.
135 $p < 0.05$. All physician responses were included, and the analysis covered all responses to the
136 38 questions provided by our sample of 60 physicians GPs.

137 **RESULTS**

138 *Study population*

139 Our eligible population came from a list of e-mail addresses of 400 general practitioners in the
140 PACA region. Of the 250 questionnaires sent, we received 60 responses, thus having a
141 participation rate of 24% (fig. 1).

142 *Characteristics of the study population and description of anxiety amongst GPs*

143 Descriptive characteristics: the gender, age, practice location, and practice activity are
144 grouped together in Table 1. The distribution of men and women in the group is evenly
145 distributed. More than three-quarters of the GPs were in urban group practices. The average
146 STAI score among the 60 GPs surveyed was 51.45 (\pm 10.26), which corresponds to a medium
147 stress level. It should be noted that three quarters of the GPs have, on the medium, high to
148 very high anxiety scores. Nearly 40% have a high to very high score (Table 2).

149 *Correlation between GP's' anxiety level and work organization and patient relationships*

150 The univariate analysis results about the anxiety correlations to the GPs experience, work
151 organization and doctor-patient relationship are shown in Table 3.

152 *Working conditions related to the level of anxiety:* There were 63.3% (n = 38) of GPs,
153 who had an increase of their level of anxiety when they felt had unsatisfactory working
154 conditions (β = -7.5 and p-value = 0.005). Three-quarters of GPs (n = 45) felt that they did not
155 have enough equipment to protect themselves (masks, gloves, hydroalcoholic gel...) however,
156 this penury was not correlated with anxiety. There were 90.0% (n = 54) of physicians who
157 reorganized their schedules and 83.3% (n = 50) reorganized their waiting rooms, but this is
158 not correlated with anxiety. There were 73.3% (n = 44) of the physicians who felt that this
159 total reorganization was a constraint and was experienced as a source of stress increase their
160 level of anxiety (β = -8.5 and p-value = 0.004). There were 41.7% (n = 25) of GPs quite
161 worried about a loss of income but there was no correlation with anxiety.

162 *Information on COVID-19:* The GPs' methods of receiving COVID-19 information
163 are listed by order of importance: 1- High-level health authorities, 2- Scientific press
164 publications, 3- Public media, 4 Colleagues, 5 Patients and 6 Others. There were 68.3% (n =
165 41) of physicians who felt they were not sufficiently informed about the epidemic at the time
166 of confinement and this correlated with higher anxiety levels ($\beta = -6.204$ and p-value =
167 0.028).

168 *Teleconsultation:* There were 86.7% of GPs (n = 52) who teleconsulted with their
169 patients during the containment, but only 27.3 of GPs (n = 15) were interested in using this
170 mode of consultation on a long-term basis. There is no correlation between teleconsultation
171 and anxiety.

172 *City-hospital link:* Of those physicians surveyed, nearly 61.7% (n = 37) felt that the
173 city-hospital link for the management of patients with COVID-19 was not optimal, and 86.7%
174 of physicians (n = 52) reported management of other pathologic conditions was also not
175 optimal. This did not generate any anxiety for the GPs.

176 *Doctor-patient relationships:* Fewer than one in four (n = 14) GPs felt unable to
177 respond to their patients' fears and questions, and this correlated with a high level of anxiety
178 ($\beta = -6.307$ and p-value = 0.043). Approximately 36.7% of the physicians (n = 22) felt their
179 patients did not behave appropriately during the crisis, but there was no correlation with
180 anxiety. More than 75% of the GPs (n = 46) felt that this crisis strengthened their doctor-
181 patient relationships.

182 *Determinants of the GPs' anxiety*

183 The multivariate analysis results are shown in Table 4. There is a significantly higher
184 correlation of anxiety experienced by female physicians ($\beta = -7.410$ and p-value = 0.002).
185 Unsatisfactory working conditions ($\beta = 5.521$ and p-value = 0.027) and reorganization
186 perceived as a constraint ($\beta = -5.670$ and p-value = 0.046) was reported as generating this

187 anxiety. The answers given by the majority of physicians in response to their patients' fears
188 and questions are experienced as a source of anxiety ($\beta = 5.447$ and p-value = 0.045).

189

190 **DISCUSSION**

191 The Lancet Psychiatry [12] recently called for articles to be submitted concerning studies on
192 the pandemic's effect on the mental health of the general population and vulnerable groups
193 such as health care professionals. Indeed, it is documented that health care professionals, in
194 particular, GPs experience more anxiety and depressive disorders, use more psychotropic
195 drugs, and have a higher suicide rate than the general population [8]. During this crisis, GPs
196 managed 80% of COVID-19 patients [4], which could have impacted their mental health.

197 The results of this study showed that GPs, who responded to the survey, have a medium level
198 of anxiety but that nearly 40% have a high to very high score during the pandemic crisis. In
199 our work, the anxiety was more frequency in female GPs. This finding is consistent with other
200 studies in the general population [13]. However, other characteristics such as age, exercise
201 and the environment do not affect anxiety levels.

202 In addition, our results showed that the sudden and unexpected occurrence of the COVID-19
203 pandemic had a destabilizing effect on GPs as it impacted their organization and relationship
204 with patients. GPs (68%) felt they had not been sufficiently informed at the time of
205 containment, regardless of the sources of information as high-level health authorities,
206 scientific press publications, colleagues. For those who were not able to respond to their
207 patients' fears and questions, the level of anxiety was significantly higher. This lack of
208 information made it difficult for general practitioners to answer patients' questions,
209 particularly those issues raised by the omnipresent media. This may have increased the
210 physicians' typically high mental workload [8,14].

211 Moreover, the doctor-patient relationship was paramount during this epidemic, because the
212 general practitioner became engaged to patient issues that were sometimes more personal than
213 medical questions that extended beyond health issues. Indeed the confinement-imposed
214 separation from loved ones, loss of freedom, isolation or, on the contrary, the gathering of

215 families in small spaces, uncertainty about the disease for oneself or for others, and
216 uncertainty about a return to socio-economic normalcy.

217 All this impacted the psychological well-being of the general population which they then
218 conveyed and transferred to their physician [15].

219 It may have appeared contradictory in our results to note that the methods of changing the
220 individual's organization did not influence the level of anxiety as such and that, on the
221 contrary, all of these constraints and a negative overall perception of a sudden, unprepared
222 reorganization are significantly correlated with a higher level of anxiety. In fact, it is the sum
223 of the constraints that was perceived as an anxiogenic response.

224 The disruption of professional life and the discomfort of the new practice styles had a
225 significant impact on the anxiety level of the doctor, who was no longer in his/her usual
226 comfort zone in front of the patient. Generally, a work situation is characterized by a
227 combination of a psychological demand (workload): quantity of work, time constraints,
228 contradictory demands, frequent interruption with decision-making latitude: possibility of
229 making decisions, being creative, having the means of work. This dimension covers two
230 notions: 1 the possibility of choosing how to do the job and of participating in the wishes, 2
231 the use of skills and develop new one. The GPs job has a decision making latitude high with a
232 high workload thus an active work. The pandemic has greatly reduced decision-making
233 latitude [16].

234 General practitioners performed with insecurity which was aggravated by working conditions
235 that were considered to be unusual and less than optimal [14].

236 A recent COVID-19 epidemic study showed that hospital and private doctors experienced an
237 increased risk of anxiety, depression, exhaustion, addiction and post-traumatic stress disorder.

238 The contributing factors were organizational, such as the lack of personal protective

239 equipment, the reassignment of posts, the lack of communication, the lack of treatment
240 materials and the disruption of the daily family and social life [5].

241 Another study conducted during the lockdown found that 60% of GPs felt they did not have
242 enough equipment to protect themselves and their patients [17]. Our study found similar
243 proportions amongst 75% of general practitioners. On the other hand, the lack of protective
244 materials was not significantly correlated with a high level of anxiety as repeatedly denounced
245 in the mainstream media [18]. Finally, the fear of being contaminated with SARS-Cov-2 was
246 not addressed in the study questionnaire, it is likely that doctors did not feel particularly at
247 risk despite the lack of masks.

248 Teleconsultation, widely adopted by the study's participating physicians, did not generate
249 anxiety as such. However, few physicians wished to continue teleconsultations for the long
250 term. Due to the vast majority of practices being computerized, doctors used teleconferencing
251 without hesitation and without experiencing any technical difficulties. Even though
252 teleconsultation seems a suitable option in response to unusual situations, it is not considered
253 optimal for replacing a face-to-face consultation. Since the virus continues to persist, some
254 patients remain reluctant to visit their doctor's office and teleconferencing continue to be
255 used, despite it not being the preferred option for their medical consultation.

256 While 41% of general practitioners in our study were worried about a possible loss of income,
257 their ability to access State financial assistance helped assuage their anxiety levels [19].

258 The strength of our study is the using online survey as a method of collecting data because of
259 the low cost, speed of data collection, which was important during this period of a health
260 crisis, reduction of errors during data entry, and greater freedom of the respondent [20].

261 However, this method presents some disadvantages as the difficulties linked to the control of
262 the sampling and the inherent limitations (representativeness, i.e. non-probability survey,
263 confidentiality, anonymity, self-selection bias (most connected) [20]. The present study,

264 included 60 of the 2,329 general practitioners (i.e. 2.6%) counted in the Bouches-du-Rhône
265 department of France in 2018 by the Regional Unions of Health Professionals (*Unions*
266 *Régionales des Professionnels de Santé - URPS*) [21]. However, our study's group is
267 representative of physicians' age in the Bouches-du-Rhône: 88% being over 55 years old, and
268 75% in our group being over 40 years old. Similarly, our study had 76.7% of physicians in
269 group practices, in city practice, which corresponds to the group practice population in the
270 Bouches-du-Rhône [21]. Another bias is that the doctors who agreed to answer our
271 questionnaire were possibly the most concerned. Nonetheless, the participation rate for the
272 number of doctors questioned is quite high: 24%, and several of our significant results are
273 consistent with the literature. In addition, the literature suggests that people who respond to an
274 online survey tend to reveal themselves more in front of the computer and to be less biased in
275 their response for reasons of social acceptability [20].

276 In this emerging virus pandemic with its extraordinary brutality and unprecedented nature,
277 GPs may have experienced feelings of isolation, doubt, uncertainty and financial hardship. In
278 fact, an acute traumatic event can cause psychopathological disorders. That is, a tendency to
279 develop minimal somatic symptoms and/or a change in the observable social behavior of the
280 subject. Psychic and or emotional disorders would be the result of the encounter of a person,
281 having his threshold of vulnerability and his type of vulnerability, with factors of
282 overexpression (stress), in the absence of anti-stress protective factors (or when these are
283 insufficient). Four psychopathological domains are observable: depression, anxiety, behavior
284 (objectively observable), and hypochondria. Anxiety is, therefore, a psychopathological
285 disorder, but there are other factors, that can be assessed by another approach by a
286 complementary qualitative study.

287 Quality health care needs to be practiced in a stable environment with clear missions and non-
288 contradictory information from health care authorities. Usually this job satisfaction is

289 associated with large decisional latitude although the initial workload is heavy. Lacking these
290 guidelines, general practitioners had to show responsibility and sometimes creativity.
291 These observations emerged in the free comments section of our study, praised by 1 doctor in
292 3: "They have been neglected, and strongly criticize the Regional Health Agency of France
293 (*Agence regional de santé – ARS*) and more generally their management of the crisis". GPs
294 have long bemoaned the lack of communication between the local practitioners and hospitals.
295 The connection has proved even faultier in the management of this crisis suggesting this
296 problem needs to be improved upon in the future.

297 Recently there has been advancements in the city-hospital link with the creation of territorial
298 professional health communities since this COVID-19 crisis, promoting the doctor-patient
299 link with a patient-centered approach [22]. We believe the results of our study can help guide
300 health decisions in the event of a new wave of SARS-CoV-2 or future epidemics.

301 **CONCLUSION**

302 This study offers thought-provoking results concerning anxiety and its determinants among
303 GPs in Bouches-du-Rhône department of France during the first wave of the COVID-19
304 epidemic.

305 At the end of our survey, physicians offered a unanimous opinion of their general feeling of
306 "disorganization and loneliness". Society as a whole is beginning to learn the lessons of the
307 crisis and to better anticipate these problems. GPs have demonstrated great adaptability and
308 flexibility despite the considerable cumulative difficulties that have caused many of them
309 major anxiety. This pandemic should help us to better understand the vulnerability of
310 caregivers to mental anguish/stress in order to strengthen primary prevention strategies. The
311 pandemic will make it possible to intensify training in the psychological issues of care,
312 relationships, and the management of health crisis. This preliminary work suggests that a
313 larger study, with a broader national sample, would allow a better overall assessment of the
314 health and evaluation of the constraints of the psychosocial environment at work of GPs
315 during the crisis of COVID-19.

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318

319 **Disclosure of interest**

320 The authors declare that they have no competing interest.

321

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388

389 **Table 1.** Characteristics of population GPs studied

Characteristics	Population studied (n=60)	%
Gender		
Female	30	50.0
Male	30	50.0
Age		
Under 30	4	6.7
Between 30 and 39	11	18.3
Between 40 et 49	15	25.0
Between 50 et 59	14	23.3
60 and over	16	26.7
Practice Type		
Single	14	23.3
With other physicians	46	76.7
Location		
Urban	50	83.3
Rural	10	16.7

390

391 **Table 2.** Anxiety of general practitioners: results of the STAI-Y

STAI-Y	Population studied (n=60)	% / mean (\pmSD)
Mean	60	51.45 (\pm 10.26)
Class		
Very low	4	6.7
Low	11	18.3
Medium	22	36.7
High	21	35.0
Very High	2	3.3

392 Legend: Data is expressed as a number (n), percentage (%) or standard deviation (\pm SD).

393 STAI-Y class: results are classified in 5 levels: very high stress (≥ 66), high stress (56 to 65),

394 medium stress (46 to 55), low stress (36 to 45), very low stress (≤ 35).

395

396 **Table 3.** Correlations between GPs' anxiety level and work organization, and patient relationships (univariate analysis)

Characteristics	N total	Variables	n	%	STAI-Y		p-value	Coefficient β
					Mean	SD		
Gender	60	Female	30	50.0	54.9	10.4	.009	-6.833
Age	60	Over 40 years old	45	75.0	51.5	10.1	.983	-.067
Practice type	60	Alone	14	23.3	49.4	10.2	.405	2.637
Practice location	60	Urban	50	83.3	51.1	10.2	.605	1.860
Working conditions	60	Unsatisfactory	38	63.3	54.2	8.6	.005	-7.529
Levels of protection	60	Insufficient materials	45	75.0	51.6	9.6	.892	-.422
Practice reorganization	60	Modified scheduling (yes)	54	90.0	51.5	10.1	.878	-.685
	60	Reduction of staff activities (yes)	14	23.3	50.9	6.2	.830	.680
	60	Reorganization the waiting room (yes)	50	83.3	51.1	9.6	.559	2.100
	60	Employment of additional personnel (yes)	9	15.0	53.3	7.2	.555	-2.216
	60	No modifications (yes)	3	5.0	57.3	13.3	.312	-6.193
Changes perceived as restrictive	60	Yes	44	73.3	53.7	8.2	.004	-8.455
Revenue loss	60	Worrisome	25	41.7	51.6	11.3	.905	-.326
Covid-19: Sources of information	60	Health authorities (yes)	47	78.3	50.5	10.5	.190	4.237
	60	Scientific press (yes)	37	61.7	51.2	11.1	.786	.751
	60	Public media (yes)	19	31.7	53.6	9.3	.266	-3.193
	60	Colleagues (yes)	34	56.7	51.1	11.8	.758	.835
	60	Patients (yes)	8	13.3	54.8	10.2	.333	-3.808
	60	Other (yes)	10	16.7	52.0	12.0	.855	-.660
Satisfaction of Information (at time of confinement)	60	No	41	68.3	53.4	11.1	.028	-6.204
Teleconsultations during crisis	60	Yes	52	86.7	50.8	10.1	.193	5.106
Ongoing teleconferencing	60	Yes	15	27.3	48.7	10.3	.209	3.027
City-Hospital link	60	Ease of hospital referrals for Covid-19 + patients (no)	37	61.7	52.8	10.4	.186	-3.620
	60	Ease in referring patients with another pathology (no)	52	86.7	51.8	10.1	.520	-2.538
Patient questions and fears	60	Unsatisfied with responses given	14	23.3	56.3	7.5	.043	-6.307
Patient comportment	60	No appropriate	22	36.7	53.6	9.4	.212	-3.452
Physician-patient relationship	60	Reinforced following the crisis (yes)	46	76.7	51.4	10.7	.960	.158

397 Legend: the data are expressed in number, mean, percentage (%) or standard deviation (\pm SD).

398 STAI-Y class: the results are classified into 5 levels: very high stress (≥ 66); high stress (56 to 65); moderate stress (46 to 55); low stress (36 to

399 45); very low stress (≤ 35).

400 β . beta: Anxiety scores comparisons are based on physicians' characteristics, their experiences, organization during confinement and physician-

401 patient relationship using simple logistic regression. The beta coefficient is the average difference in the score in anxiety between the two groups.

402 P-value if the difference is significant the p is $<$ or equal to 0.05.

403 **Table 4.** Determinants of the anxiety state of general practitioners (multivariate analysis)

Parameters	Coefficient β	SD	p-value
Gender	-7.410	2.291	0.002
Work conditions	5.521	2.430	0.027
Constraints	-5.670	2.776	0.046
Patient questions	5.447	2.661	0.045

404 Legend: the data are expressed in numbers, mean, percentage (%) or standard deviation (\pm)
405 SD).

406 β , beta: mean difference in anxiety between the two groups compared.

407 P-value if the difference is significant the p is \leq or equal to 0.05.

408 A multivariate analysis in multiple logistic regression is performed after having included all
409 the variables less than 0.20 of the univariate analysis, then by removing each non-significant
410 variable step by step, until obtaining a p value <0.05 .

411 **Figure 1.** Flow chart

412 Legend: PACA (Provence-Alpes-Côte-d'Azur)

Figure 1. Flow chart

