



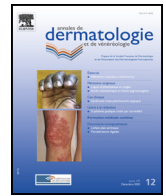
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Original article

Psychological and professional impact of COVID-19 lockdown on French dermatologists: Data from a large survey



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ABSTRACT

Aim: To evaluate the extent to which COVID-19-related lockdown affected dermatologists.

Methods: An anonymous online survey was proposed to all French dermatologists and dermatology residents to assess the impact of COVID-19 lockdown on their professional activity, their level of stress and their psychological state, as well as their coping strategies.

Results: Exactly 800 dermatologists completed the survey. The respondents noted changes in behaviour in their professional and personal environment. The number of cancelled or rescheduled appointments was very high, with a huge financial impact for private practitioners. Stigmatisation was also reported. Anxiety and a feeling of increased stress were very frequent. Increased substance use was also reported. **Conclusion:** The impact of the COVID-19 pandemic and lockdown was significant for French dermatologists, with risks to their own health, profound changes in their practice, and financial and psychological impact, but also the development of new consultation and evaluation strategies to improve their work–life balance.

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The COVID-19 (coronavirus infectious disease 2019) pandemic, related to SARS-CoV-2, has resulted in strict measures to limit overall spread. In France, a strict nationwide lockdown was implemented from March 17 to May 11, with banning of all public gatherings and obliging citizens to remain in their homes, except for grocery shopping, work in key sectors (health, food industry, transportation) and other essential areas. In France, people were also required to fill out a standardised form stating their reason for leaving the house. Outdoor exercise was only permitted once a day, alone and for a maximum period of one hour. Families were permitted to take walks, but only within a 1-kilometre radius of their homes. Walking dogs was allowed; although owners had to write down what time they left home to

make sure they remained within the one-hour limit. Those breaching lockdown rules faced fines of between €135 and €3700, as well as up to six months' prison in the event of multiple violations. Discontinuation of face-to-face work, possibly replaced by teleworking, was clearly recommended for all. As a result, physicians were required to strictly limit face-to-face consultations to emergency situations or telemedicine work. Patients were also obliged to limit medical consultations to urgent situations [1–3]. Hospital admission to dermatology departments was only permitted for patients with a very severe (life-threatening) skin disease not responding to outpatient treatment. COVID-19, especially in times of lockdown, had many apparent consequences on dermatology practice, and there was a need to evaluate these [4–6]. An anonymous online survey was sent to all French dermatologists and dermatology residents to assess the impact of COVID-19 lockdown on their professional activity, their level of stress and their psychological state, as well as their coping strategies.

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1. Materials and methods

From April 25 to May 10 (i.e., from day 39 to day 55 – the last day of the lockdown), we conducted an online anonymous survey. The questionnaire was sent to 372 residents in dermatology and to 3918 dermatologists via the newsletters of the *Société française de dermatologie (SFD)*, the *Fédération française de formation continue et d'évaluation en dermatologie–vénéréologie (FFCEDV)* and the *Futurs dermato–vénérologues de France (FDVF)* using their registration email addresses. A direct link to the questionnaire presented as a Google sheet was included in the message. The answers to the questions were validated. The questionnaire ([Appendix S1, see additional material in the online version of this article](#)) consisted of 6 socio-demographic questions, 3 questions on the consequences of COVID-19 on personal health, 2 on patient health, 7 on personal life, 10 on professional life, 7 on emotional status, and 5 on addictions and use of psychotropic drugs. Hence, the survey included a total of 40 questions and took approximately 15–20 minutes to complete. Answers were registered only for dermatologists working in France (metropolitan France and French overseas territories).

All categorical variables were presented as percentages and data was entered into Microsoft Excel 2007 and Prism 6.0 for statistical analysis. Quantitative variables were expressed as mean and standard deviation. Qualitative variables were expressed as absolute numbers or percentages. ANOVA (Kruskal–Wallis Test) was used where there were more than 2 groups, with post-hoc analysis for pair-wise comparison (Dunnett's test). Most of the data sets showed non-Gaussian distribution and non-parametric tests were thus selected. The significance level was set at 5%.

2. Results

2.1. Sociographic characterisation of the study population

Notably, 715 respondents answered within the first 3 days of the survey. Exactly 800 dermatologists completed the survey (response rate: 18.6%); 80.2% were women and 19.8% were men, 94.6% were fully accredited dermatologists and 5.4% were dermatology residents; 82.5% had a private practice and 17.5% were employees (16% in hospitals) ([Table S1, see additional material in the online version of this article](#)).

2.2. COVID-19: medico–socio–economic situation

2.2.1. Risk factors and exposure

Most dermatologists were in a high-risk group for severe COVID-19. Indeed, 58.7% were aged between 50 and 70 years, 4% were aged over 70 years, 7.4% had hypertension and 6.1% were overweight or obese. Other risk factors were reported by fewer than 5% of respondents. SARS-CoV-2-positive nasopharyngeal PCR was reported by 3.7% of respondents, while 19.4% thought they had been infected because they presented the classic symptoms of COVID-19, but without confirmatory positive testing; 36.2% thought they had not been infected, and 40.7% did not know. Regarding COVID-19 in patients, 53.7% of respondents felt they had encountered patients with cutaneous symptoms of COVID-19, and 27.5% felt they had encountered patients with extra-cutaneous symptoms.

2.2.2. COVID-19-protection

Concerning use of personal protection, dermatologists used masks (97.9%), hydro-alcoholic gel (95.4%), soap (87.0%), gloves (83.5%), white coats (64.4%), and, less frequently, glasses (44.1%), mobcaps (14.1%) or overshoes (5.4%). Among the respondents, 10.7% indicated that they had created their own personal protective kit. Since the beginning of the epidemic, 41.9% used gloves, but wished to stop after the end of the epidemic; while 29.5% wanted to

retain this approach permanently. Conversely, 19.5% did not wish to use gloves due to negative effects on the patient–doctor relationship; 9.9% because they did not physically touch patients; and 2.5% due to problems of materials supply.

2.3. Work-related consequences

2.3.1. Professional relationships

In their professional environment, respondents noted changes in their behaviour since the start of lockdown: closer relationships for 35.8%, social distancing for 16.5%, increased tension for 12.5%, and impaired team spirit for 4.5%. Increased use of phones (48.7%), e-mails (44.1%) and videoconferences (29.0%) were also noted.

2.3.2. Professional activities

Very high numbers of cancelled or rescheduled appointments were reported ([Fig. S1, see additional material in the online version of this article](#)). As a result, loss of income was huge for dermatologists in private practice, while there was no impact for other dermatologists ([Fig. 1](#)). Consequently, 16.2% of respondents decided to take out a loan while 66.2% decided not to, and 17.6% did not know what they would do. Two-thirds of colleagues practiced telemedicine and two-thirds maintained some face-to-face consultations. Among the respondents, 15.2% had non-dermatological but medical activities, and 14.1% had ceased all activities. During teleconsultations, 45.3% of dermatologists felt the patient–physician relationship was worse, 31.9% felt it was much worse, 19.5% felt it was unchanged, 4.1% felt it was better, and 0.8% thought it was much better.

2.3.3. Preventive measures and reaction of the social environment

On returning home, 94.4% of dermatologists washed their hands; 56.3% put their shoes away separately, and 41.3% put their clothes away separately. They were afraid of passing the virus to their family (49.1%); their household members (45.1%); their patients (43.3%); their employees (21.3%); their friends (20.3%); or those in their social and leisure circles (15.3%); while 23.5% were not. Among respondents, 75.1% felt no stigmatisation. When stigmatisation was felt, it appeared to be expressed by patients (14.4%); neighbours (6.5%); family (5.7%); friends (4.2%); shopkeepers (4.0%); and household members (3.1%).

2.4. Consequences on relations

2.4.1. Support

Respondents considered that their partner (66.3%), their friends (56.6%), their children (51.7%), their parents (32.7%), or other persons (12.2%) were supportive during the acute COVID crisis. However, 11.0% thought that nobody was helpful to them.

2.4.2. Emotional consequences

Regarding COVID-19 and the feeling of being worried about themselves, 2.4% of dermatologists were enormously worried about themselves, while 12.4% were very worried, 59.6% a little, and 25.7% not at all ([Fig. S2, see additional material in the online version of this article](#)). Social distancing affected the emotional status of 50.1% of the participants slightly, 25% considerably, 5.4% greatly, and 19.1% not at all. Dermatologists working in hospitals were more affected ([Fig. S3, see additional material in the online version of this article](#)). When we asked which were the 3 most predominant personal feelings since the beginning of the pandemic, a wide variety of answers was given, but most dermatologists reported anxiety and feelings of greater stress ([Table 1](#)).

The most frequent concerns were fear of loved ones being affected by COVID-19 (87.0%), a high post-lockdown workload

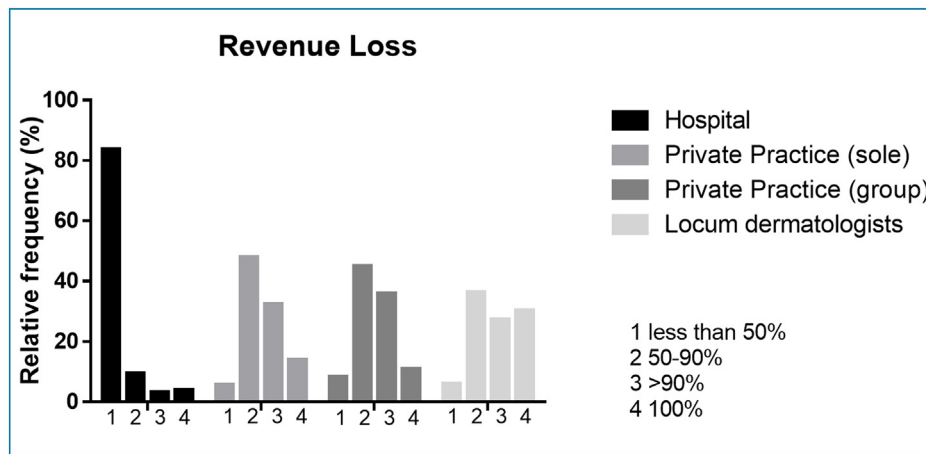


Fig. 1. Loss of income. Physicians working in hospitals experienced significantly lower financial loss (ANOVA; $P > 0.001$) compared with groups working in private practice and the locum group ($P < 0.01$ for the respective pair-wise comparisons).

Table 1

The most predominant personal feelings since onset of the pandemic (up to three categories could be selected).

Category	N	% (of total population)
More stressed than usual	404	50.4
Increased anxiety	332	41.1
Feeling of worthlessness	319	39.8
Pride in capacity of being a healthcare professional	226	28.2
Feeling of anger	188	23.5
Less stressed than usual	144	18.0
Increased feeling of loneliness	131	16.4
Increased feeling of purpose	129	16.1
More depressive feelings	64	8.0
Suicidal ideation	5	0.6

(62.5%), personal economic consequences (59.4%), consequences on patient’s health (32.3%), and fear of being infected by the virus (29.3%). Positive feelings were also reported: pride in being an HCP (28.2%) and a heightened sense of purpose (16.1%). Between 3 and 4% (6% in the redeployment group) of respondents were seeking professional psychological support. The groups did not differ statistically. A large majority were satisfied that they were being adequately supported.

2.5. Personal consequences

2.5.1. Personal lockdown situation and activities at home

Among respondents, 52.2% were confined with their family and 31.8% with their partner, while 13.7% were alone (other situations: 2.3%). One or more household member(s) in lockdown were HCPs in 41.1% of cases. Respondents noted changes in behaviour within their own households since the start of lockdown: closer relationships (54.1%), more frequent disputes (12.1%), relationship spacing (5.1%) or physical abuse (1 person). Increased use of Internet (56.6%), phone (56.1%) and e-mails (33.7%) were also noted. Several activities were increased: cooking (59.3%), sport (34.3%), listening to music (25.5%), walking (23.5%), yoga (13.2%), meditation (12.0%), and actively playing music (6.4%). Dermatologists generally felt these activities to be beneficial (59.1%) while 13.4% felt that they were not, and 27.5% did not know.

2.5.2. Recreational drugs

Respondents declared that they never drank alcohol (50.7%) while 86.6% never smoked tobacco. Psychotropic drugs were never used by 88.9% while benzodiazepines were used by 5.5%, serotonin reuptake inhibitors by 4.5%, hypnotics by 2.6% and other

psychotropic drugs by 1.9%. However, some respondents admitted that lockdown was followed by increased consumption of alcohol (20.5%), tobacco (5.5%), psychotropic drugs (3.6%), or cannabis (0.2%). The increase in substance use was higher among hospital dermatologists (Fig. 2).

2.6. Changes in the future

2.6.1. Work–Life balance/Reflections on future activities

During lockdown, 37% of respondents indicated a wish for more teleconsultations after the crisis, while 35.8% wished to reduce their activity, 29.8% wished to take more time for their personal life, 22.3% wished to have more consultations than before the epidemic to make up for lost time, and 21.3% wanted more consultations for financial reasons. However, 15% thought that their professional practice would be unchanged after the epidemic.

3. Discussion

To the best of our knowledge, this study was the first to evaluate so completely the impact on dermatologists of the COVID-19-induced lockdown, which is an important moment in the history of dermatology. Dermatologists were frequently, and legitimately, concerned about themselves. They commonly used the recommended means of protection, despite the known capacity of personal protective equipment to induce facial dermatoses or hand dermatitis [7,8]. Dermatologists reported numerous modifications of their social relationships. Fortunately, most colleagues observed closer relationships in their workplace and even more often in their household. This could be partly related to the presence of one or more HCPs in households, with the possibility of discussing common concerns. Dermatological activities were severely affected by the lockdown. In private practice, a huge financial impact was reported despite government financial assistance. Hospital dermatologists were, in some cases, recruited for non-dermatological activities in emergency departments, mainly (but not only) screening/triage, or in newly created departments and wards specifically for COVID-19. The consequences were greater in the most severely affected regions of France, namely Eastern France, Île-de-France (Paris metropolitan area), Northern France and Burgundy–Franche-Comté. The pandemic was accompanied by large-scale development of telemedicine in France, as shown by our study and others [9]. In many cases, dermatologists were not completely satisfied with this approach. Chinese and Macedonian studies also showed changes in reasons for dermatological

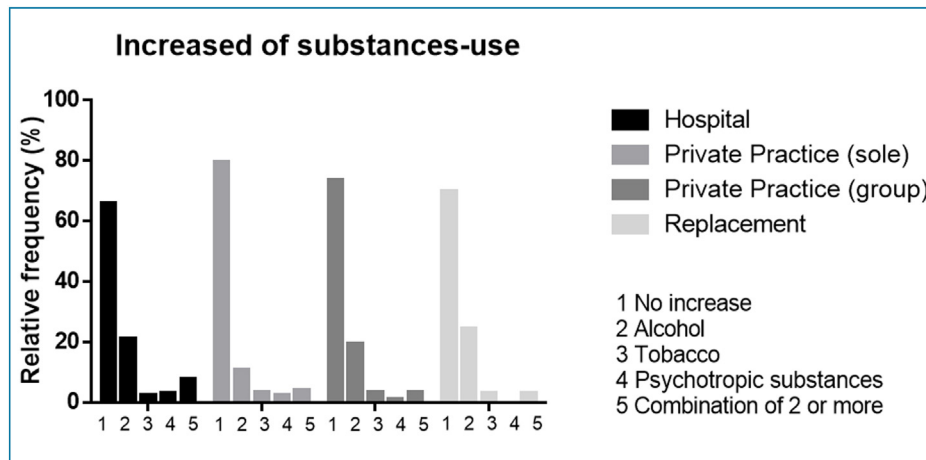


Fig. 2. Increase in substance use. In all four groups, up to 35% of physicians reported an increase in substance use, with a significantly higher increase among hospital doctors compared to private practitioners (sole); (ANOVA: $P=0.0308$; direct comparison; $P<0.05$ hospital vs. sole private practice).

consultations [10,11]. Dermatologists frequently felt stigmatised, which should be studied further. Stigmatisation of HCPs and the fears of contaminating others are known risk factors for mental health disorders among HCPs [12].

Feelings of stress and anxiety were common among dermatologists. For those in private practice, the personal economic consequences were the main cause. For those in hospitals, fears were related more to the disease itself. For both, a heavy post-lockdown workload was feared. Depression, anxiety, insomnia and psychological distress are known to be increasingly frequent as HCPs are confronted with this disease [13]. Among the French population, higher risk of anxiety during lockdown was seen to be associated with numerous characteristics [14]:

- socio-demographic characteristics: being a woman, being a parent of children aged 16 years or younger, experiencing a difficult financial situation;
- living conditions related to the epidemic situation: working from home and having a friend or relative who has been ill or has had symptoms of COVID-19;
- knowledge, attitudes, and practices about COVID-19: seeing COVID-19 as a serious disease and feeling vulnerable to it.

Conversely, risk of anxiety was reduced by a good understanding of the disease transmission route, compliance with containment measures, the ability to adopt protective measures, and confidence in government action [13].

Another study showed that female gender, a pre-existing psychiatric condition, and prior exposure to trauma constituted notable risk factors, whereas optimism, ability to share concerns with family and friends as usual, positive predictions about COVID-19, and daily exercise were predictors for fewer psychological symptoms [15]. In HCPs working in hospitals (including dermatologists), stress is more focused on disease characteristics, such as the rapid spread of COVID-19, the severity of symptoms it can cause in infected individuals, changing knowledge on the disease, and deaths among health professionals [12]. Stress may also be caused by organisational factors or concerns about inability to provide competent care in this new area. HCPs are at increased risk for high levels of stress, anxiety, depression, burnout, addiction, and post-traumatic stress disorder, which could have long-term psychological implications [12]. A study was performed among Indian ophthalmologists, but the psychological consequences were not evaluated [16]. Another study showed high levels of stress in orthopedic surgeons [17]. The authors considered that stress may be due

to loss of practice, financial burden, family health risk, or the anxiety of being asked to work in frontline care. Unfortunately, we did not measure stress levels. An Indian study suggests that stress levels may be lower in dermatologists than in other physicians ($P=0.1$) [18]. An indirect measurement is provided by the increase in substance use, which was seen in all categories, but especially among hospital workers and surrogate doctors. Three years after the SARS-CoV-1 epidemic, alcohol abuse/dependence symptoms were higher ($OR>3$) among hospital employees in Beijing [19]. An association was also noted with being quarantined or working in high-risk sites during the outbreak. Post-traumatic syndrome and depression, as well as recourse to drinking as a coping strategy, were also significantly associated with increased alcohol abuse/dependence symptoms.

In conclusion, the COVID-19 epidemic and lockdown had a marked impact on French dermatologists, including risks for their own health, deep changes in their practice, financial impact and psychological consequences. This study provides a unique picture of the experience and practice of French dermatologists during lockdown and should be used for further studies on the long-term consequences, and on subsequent historical studies.

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Disclosure of interest

The authors declare that they have no competing interest.

Appendix A. Supplementary data

Supplementary data associated with this article can be found, in the online version, at <https://doi.org/10.1016/j.annder.2021.01.004>.

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