


ORIGINAL PAPER

THERAPY AREA: OTHER

Impact of the COVID-19 pandemic on the activity of private medical practices in Morocco

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Abstract

Introduction: The aim of this study was to assess the impact of the COVID-19 pandemic on the activity of private medical practices in Morocco.

Methods: An online survey was carried out in June 2020. The study population consisted of physicians (General practitioners and specialists) who run private practices in different regions of Morocco. The questionnaire comprised three sections: demographic and professional data, the impact noticed by the physicians and the strategies they adopted to tackle this impact.

Results: We analysed 225 responses. Specialists represented 71.6% of the respondents. The majority (94.2%) of the private practices were located in urban areas. Almost all respondents have noticed a change in the demand for medical services, mainly a decrease (96.4%). There was an increase in urgent consultations (30.7%) and consultations for acute motives (39.1%). Respondents also reported less (69.3%) or no (23.1%) regular follow-up visits for patients with chronic diseases. Decreased incomes concerned 97.3% of the practices. Practitioners reacted by working less hours (87.6%), delaying some procedures (78.2%) and applying recommended safety measures (100%). Telemedicine was used in an informal way to facilitate the communication with patients.

Discussion and Conclusion: During this pandemic, private practices were challenged to contribute to the continuity of healthcare services while ensuring the safety of the staff and the patients. Several strategies were adopted to cope with the new situation and to survive its many challenges.

What's known

- The unprecedented situation of the COVID-19 pandemic is profoundly impacting the health-care system.
- Health institutions and medical practices have implemented several changes in response to the pandemic.
- Resources were reallocated, elective procedures were delayed or suspended and preventive measures including wearing masks and distancing were largely adopted.

What's new

- There are unique challenges facing the private medical practices during the COVID-19 era.
- A decrease in the activity resulted in financial constraints added to the other challenges.

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- Coping strategies include those that are common to other healthcare institutions and those specific to private practices.
- Conclusions from our study could be insightful and interesting for discussion at a larger scale.

1 | INTRODUCTION

In early December 2019, an outbreak of coronavirus disease 2019 (COVID-19) started in Wuhan City, Hubei Province, China.¹ In response to the global spread of this infection, the World Health Organization later declared a public health emergency of international concern.²

The COVID-19 pandemic has presented the medical community with a sweeping collection of challenges. Given the nature and scale of the problem and the speed of its spread across the globe, no healthcare system had the necessary infrastructure or human resources to adequately cope with the evolving impact of this novel coronavirus.³ While the resources were redirected to respond to the pandemic, professionals were calling for strategies to secure adequate care provision for non-COVID patients.⁴ Data on the impact of the pandemic on the healthcare organisations are still scarce. So far, the papers that have been published mostly described the hospitals response to the pandemic and inpatients' management.⁵⁻⁷ Few publications addressed the response of private practices to the pandemic.^{2,8-10} Data are needed on how clinics are responding to this situation and how outpatients are managed.

In Morocco, drastic public health countermeasures were implemented starting from March 2020.¹¹ The public health sector has taken the entire responsibility of fighting the pandemic by restructuring and reorganising its services with the intention of expeditiously diagnosing and treating those affected by the disease. Meanwhile, as non-COVID-19-related medical need persists, the medical activity continues in both the public and private sector and healthcare workers continue to be at high risk for contracting the virus in the course of their clinical duties towards patients. Besides the burden faced by all healthcare workers and the healthcare system as a whole, we believe that doctors who run private practices are likely to feel additional pressure from the pandemic as they found themselves suddenly confronted with challenges that go beyond the medical and epidemiological aspects and reach the economic and social domains.

The aim of this study was to assess the impact of the COVID-19 pandemic on private practices in Morocco by identifying the challenges as well as the coping strategies adopted by the physicians in order to maintain their activity with minimum harm.

2 | METHODS

We conducted an online survey in June 2020. The study population consisted of physicians (General practitioners and specialists) who

run private practices in different regions of Morocco. An online survey was developed by the authors on Google Forms. It was tested and distributed through a link using the professional network of the authors. Data collection lasted 10 days from 13 June to 23 June 2020. At that date, 225 physicians completed the survey.

The questionnaire consisted of three main sections: 1/ demographic and professional data; including sex, age, profile (General practitioner or specialist), the area of the practice (urban or rural) and the duration of practice in the private sector in years; 2/ the impact of the pandemic on the activity of private practices and changes noticed by the practitioners in terms of demand for medical services, consultations' types, patient's condition at the moment of the visit, self-medication prior to the consultation and financial challenges; and 3/ the strategies adopted by doctors to tackle these changes: respondents were asked how they managed appointments and consultations, the applied preventive measures, the use of telemedicine as well as the financial decisions that were made.

Data were extracted in the form of an excel sheet which was cleaned and organised then exported to SPSS version 16.0 for Windows. Data were described using frequencies for categorical variables and means and standard deviations for continuous variables. Statistical tests used to explore associations included the Chi-squared and the Exact Fisher's tests. The level of significance was set at 5%.

This research was conducted according to the ethical requirement of research involving human subjects. Completion of the survey was considered as consent to participation. Data were collected and analysed anonymously.

3 | RESULTS

We received and analysed 225 responses. The respondents' mean age was 51.1 ± 11.8 with values ranging from 27 to 70 years old. Males and females were equally represented in the sample. The majority of physicians were specialists (71.6%). The number of years of practice ranged from 1 to 43 years with a median of 12.9 years. A majority (94.2%) of the private practices were located in urban areas. Table 1 summarises the characteristics of the survey participants.

Almost all participants (99.1%) have noticed a change in the demand for medical services, mainly a decrease (96.4%). Only four respondents reported an increase in their activity. The consultations nature and patients' condition were also affected by the context of the pandemic with an increase in the frequency of urgent consultations (30.7%) and consultations for acute motives (39.1%). On the contrary, respondents reported less (69.3%) or no (23.1%) regular follow-up visits for patients with chronic diseases. As a consequence,

TABLE 1 Description of the participants' demographic and professional characteristics

	n	%
Sex		
Male	114	50.7
Female	111	49.3
Age groups (y)		
[25-35]	17	7.55
[35-45]	63	28
[45-55]	41	18.2
[55-65]	66	29.3
[65-70]	38	16.9
Profile		
General practitioner	64	28.4
Specialist	161	71.5
Specialty		
Medicine	117	72.7
Surgery	44	27.3
Experience (y)		
[0-10]	116	51.5
[10-20]	42	18.7
[20-30]	44	19.5
[30-40]	21	9.3
[40-50]	2	0.9
Setting		
Urban	212	94.2
Rural	13	5.8

many of them presented to the consultation in the stage of complications (34.2%).

In 82.2% of the responses, the physicians noticed an increase in the frequency of self-medication prior to the consultation. The financial changes were mainly decreased incomes in almost all practices (97.3%) and increased costs in 45% of them. Table 2 summarises the changes experienced by the participants during the pandemic.

These multiple changes led the respondents to adopt strategies, that would prevent the spread of the virus in the practices starting with requiring appointments and the way they are made by asking patients about symptoms that may be caused by COVID-19 and educate them regarding preventive measures. Table 3 describes the strategies related to patients and consultations management adopted by the private medical practices.

The functioning of the practice and the consultations' process were also subject to some changes, the main ones were working less hours in 87.6% of the cases and a new patient's circuit inside the practice in half of the cases. A percentage of 78.2% of the respondents had to delay procedures or interventions that they judged non-urgent. Almost two-thirds of them used telemedicine (phone calls (63%), video calls (20%) and social media apps (40%)) to communicate with their patients and facilitate the consultations' process.

TABLE 2 Impact of the COVID-19 pandemic as reported by the private physicians

	N	%
Having noticed a change in the demand of medical services	223	99.1
Having noticed a change in the nature of the consultations /patient's condition	206	91.5
Having noticed an increase in the frequency of self-medication prior to the consultation?	184	82.5
Having noticed a decreased income	219	97.3
Having noticed increased costs	102	45.3
Having required appointments during this period?	131	66.8
Having changed the way appointments are made? having had to delay procedures?	165	73.4
having had to delay procedures?	176	78.2
Having experienced difficulties finding the necessary protective equipment	172	77.2
Having used telemedicine	151	67.1
Having received a guide/protocol on how to cope with the pandemic or to manage the practice	49	21.8

Another set of measures concerned the work organisation and included distancing, strict hygiene procedures (cleaning surfaces, washing or disinfecting hands regularly), wearing protective equipment, detecting COVID-19 symptoms (high temperature, coughing) and in rare cases COVID-19 testing. The measures adopted by the physicians and the staff in the practices are detailed in Table 4.

Financially, 84.8% of respondents have not made any change regarding salaries and consultations' prices, while 11.1% reduced the staff's salaries and only one respondent increased the price of the consultation. A majority (77.2%) of the respondents found difficulties in getting the necessary protective equipment. The majority of respondents (78.2%) have not received any guide from health authorities or professional societies on how to cope with the pandemic in terms of the practice management, and 76.7% thought a guide could have been useful.

The comparison of key COVID-19 impact variables according to respondents' gender and age showed that female and younger (<50 years old) physicians required appointments during the pandemic and changed the way patients made appointments more frequently than males and older practitioners. Younger practitioners also reported more difficulties in getting the necessary protective equipment for their practices (Table 5).

Comparing the most important changes and coping strategies adopted by participants according to specialty and seniority, we noticed that all the physicians reported a decline in the demand for medical services. General practitioners noticed more changes compared with specialists in the nature of consultations and patients' condition ($P = .015$). Among specialists, medicine physicians tended to require appointments and change the way appointments were made, and to use telemedicine as compared with their surgeons' colleagues. The change in the appointments process and the use of telemedicine concerned more specialists and doctors with less than

TABLE 3 Strategies related to patients and consultations management adopted by the private medical practices during the COVID-19 pandemic

	n	%
Changes in appointments procedure		
Giving exact appointments to avoid the presence of more than two patients in the office	138	61.3
Allowing access to a limited number of patients at a time	114	50.7
Checking over the phone for the presence of symptoms related to COVID-19 before making the appointment	96	42.7
Asking the patient to come alone without an accompanying person	100	44.4
Asking the patient to take his temperature before coming to the office	25	11.1
Asking the patient to come wearing his mask	171	76
Limiting the number of appointments given per day	113	50.2
Asking about the motive of consultation before giving an appointment	101	44.9
Changes in the functioning of the practice/consultations' process		
Shorter consultation time	52	23.1
Less working hours	197	87.5
Changes in the conduct of the clinical examination (Less contact with the patient)	110	48.9
Reduction in staff number	68	30.2
Changes of the patient circuit inside the practice	113	50.2
Increase in the frequency of prescribing additional examinations	19	8.4

TABLE 4 Preventive strategies adopted in the private medical practices during the COVID-19 pandemic

	n	%
Measures applied inside the practice		
Cleaning surfaces	222	98.7
Installing hand washing/disinfection devices	221	98.2
Securing room ventilation	220	97.8
Removing unnecessary items such as magazines in the waiting room	165	73.3
Changing the arrangement of chairs in the waiting room to ensure sufficient distancing	171	76
Taking patient temperature at the entrance	109	48.4
Installing air purifiers	8	3.5
Measures applied by the staff		
Wearing the face shield	222	98.6
Maintaining a sufficient distance from the patients	209	92.9
Washing hands frequently	220	97.8
Wearing the mob cap	3	1.3
Wearing medical gowns and shoe covers	3	1.3
Taking own temperature before coming to the practice	67	29.8
Getting tested for COVID-19	6	2.7
Measures applied by the physicians		
Wearing the face shield	133	59.1
Wearing a mask during the consultation	224	99.5
Washing hands between patients	220	97.8
Maintaining a sufficient distance from the patient except for the physical examination	203	90.2
Taking own temperature before coming to the practice	60	26.7
Getting tested for COVID-19	8	3.5

9 years of experience. Junior doctors were more likely to report difficulties in getting protective equipment. Specialists reported more frequently having to delay some procedures and examinations

compared with general practitioners ($P < .001$). Table 6 summarises the comparisons of several aspects of the pandemic impact according to the physician profile and years of experience.

TABLE 5 Comparison of the COVID-19 impact patterns according to physicians' age and gender

	Sex		P value	Age		P value
	Male n (%)	Female n (%)		<50 years n (%)	≥50 years n (%)	
Decline in demand for medical services	112 (98.2)	111 (100)	.256	105 (100)	118 (98.3)	.283
Changes in the nature of consultations/patients' conditions	104 (92.2)	102 (91.9)	.958	95 (90.5)	111 (92.5)	.586
Increase in the self-medication use prior to consultation	91 (81.2)	93 (83.8)	.618	82 (78.1)	102 (86.4)	.102
Requiring appointments during the pandemic	55 (84.5)	76 (80.0)	<.001	67 (76.1)	64 (59.3)	.013
Changes in the way appointments are made	68 (59.6)	97 (87.4)	<.001	89 (84.8)	76 (63.3)	<.001
Difficulties in getting the necessary protective equipment	82 (72.6)	91 (82.0)	.093	87 (83.7)	86 (71.7)	.033
Use of telemedicine	71 (62.3)	80 (72.1)	.118	73 (69.5)	78 (65.0)	.471
Delaying non-urgent exams or procedures	91 (79.8)	85 (76.6)	.555	87 (82.9)	89 (74.2)	.115

Values in italic refer to statistically significant tests (p values < 0.05).

4 | DISCUSSION

Private medical practice plays an important role in providing health-care in our country as it represents more than 50% of the health-care services offer. Since the beginning of the pandemic there have been significant changes in doctors' work patterns, leading them to take some specific measures to adapt to this new situation. The main issue reported by almost all respondents was the decreased activity. Nevertheless, the majority maintained their activity in spite of the reduced patients' numbers. The reasons behind this low activity are probably the enforced lockdown and the mobility restrictions encountered. The fear of contracting the virus and spreading it could also explain patients' reluctance to visit their doctors considering the medical practice a risky environment, thereby delaying their visit.

The activity decrease affected most of private practices around the world. A survey carried out in Hong Kong among family doctors revealed reduced clinic service demands in 45% of private practices.¹² Another national survey in Australia showed that the same issue has been encountered by general practitioners (GPs) and specialists. Their results suggest there was a more immediate and consistent fall in the use of healthcare for non-GP specialists because of the ban on non-urgent elective surgery.¹³ A majority (72.5%) of Indian ophthalmologists indicated that they had completely stopped all clinical work during the lockdown.⁹ The drop in incomes comes out as a logical consequence to the decreased activity. In Australia, 65% of GPs and 83% of specialists reported a drop in their monthly income, and almost one-third of surgeons and anaesthetists reported an income drop of 50% or more.¹³

Alongside, the nature of consultations and patient's conditions were also affected showing mainly less follow up for patients with chronic diseases mostly among GPs. The fact that patients with co-morbidities are most likely to develop severe complications in case of infection could explain why they avoided visiting their doctors during this period. All these changes have caused an increase in the frequency of self-medication prior to consultation observed by 81% of the respondents.

Pragmatically, doctors tried to set up some measures to cope with the pandemic starting with the appointments. The purpose behind requiring appointments and regulating their process by limiting the number of appointments given, allowing a limited number of patients at a time, asking about the motive and eventual COVID-19 symptoms aimed to avoid useless and risky contact. To protect other patients from possible cross-infection in clinics, respondents in Hong Kong adjusted non acute patient appointments, shortened consultation times to avoid crowding of patients in the clinic, or divert patients to other clinics. Despite the variations, these infection control measures might be contributory to the zero-infection rate observed among primary care providers.¹² Strict appointment procedure was a key strategy not only for private clinic, but also for other healthcare establishments such as public clinic or outpatients clinics which are part of hospital.¹⁴ Changes in appointments procedures were more frequently reported by female and younger practitioners, as well as by specialists (as compared with general practitioners) and medical specialists (as compared with surgeons). The nature of care demand during the lockdown may explain these results. Specialists (and especially in medical specialists) did not deal with emergency while GPs and surgeons could have found it more challenging to change their appointments procedure because patients could present or be referred to them for urgent situations. Women faced an additional challenge as schools were off and they had to adjust their professional routine to care for their children is a key element to take into consideration while interpreting these findings.

Delaying non-urgent health needs was also a way to avoid the risk of spreading the virus. A majority (78%) of doctors mostly specialists had to defer procedures and explorations, and to limit their activity to what they considered to be necessary based on their own clinical judgement. Regarding surgical procedures, 81.8% of the ophthalmologists who took the survey in India indicated that they were operating only on emergency cases including trauma, retinal detachments and endophthalmitis.⁹ Ear nose and throat (ENT) specialists in Réunion Island also limited endoscopy to just 3.2% of

TABLE 6 Comparison of the COVID-19 impact patterns according to physicians' profile and seniority

	Profile		Specialty type			Experience	
	General Practitioner n (%)	Specialist n (%)	P value	Medicine	Surgery	≤9 years	>9 years
				n (%)	n (%)	n (%)	n (%)
Decline in demand for medical services	62(96.6)	161(100)	.080	119 (100)	44 (100)	116 (100)	107 (98.2)
Changes in the nature of consultations / patients' conditions	054 (84.4)	152 (94.4)	.015	112 (94.1)	42 (95.5)	106 (91.4)	100 (91.7)
Increase in the self-medication use prior to consultation	056 (87.5)	128 (80.5)	.213	94 (80.3)	35 (79.5)	092 (79.3)	092 (86)
Requiring appointments during the pandemic	029 (51.8)	065 (69.9)	.027	78 (78.0)	23 (60.5)	49 (69.0)	45 (57.7)
Changes in the way appointments are made	035 (54.7)	130 (80.7)	<.001	103 (86.6)	28 (63.6)	096 (82.8)	069 (63.3)
Difficulties in getting the necessary protective equipment	49 (76.6)	124 (77.5)	.880	95 (79.8)	31 (72.1)	95 (82.6)	78 (71.6)
Use of telemedicine	27 (42.2)	124 (77)	<.001	96 (80.7)	29 (65.9)	89 (76.7)	62 (56.9)
Delaying non-urgent exams or procedures	37 (57.8)	139 (86.3)	<.001	99 (83.2)	41 (93.2)	97 (83.6)	79 (72.5)

Abbreviation: NA, not applicable. Values in *italic* refer to statistically significant tests (p values < 0.05).

cases alongside with limiting face-to-face consultations to 57,9%.¹⁰ At OrthoCarolina, a "critical access" plan was adopted including seeing only post-operative patients and urgent issues in patients where a telemedicine consultation was inappropriate.⁸ Postponing elective procedures was a major strategy during this pandemic as reported by many publications and guidelines.^{14,15}

Safety measures, considered to be a major prevention pillar during this pandemic, were applied by all doctors at different levels and different degrees. Our study revealed a focus on cleaning surfaces, wearing the mask, washing hands after each patient and social distancing. The same percentage was found in Hong Kong where nearly all respondents (99%) wore masks during consultations and washed hands between or before patient encounter.¹² Among ENT specialists running private practices in Réunion Island, physicians wore gloves in 53.8% of cases and a mask in 92.2%: surgical mask in 71.6% of cases and FFP2 in 28.4%, during face-to-face consultations.¹⁰ Another way to control the spread of the virus in dental practice in North America was COVID-19 screening. Only patients with negative tests requiring low aerosol-generating procedures can be seen in a private clinics equipped with level 1 personal protective equipment (PPE).²

At the beginning of the pandemic, there was a significant lack of protective equipment. Moreover, the prices suddenly and significantly increased making it harder for doctors to get the necessary protective equipment. Doctors with more experience found less difficulty than others in this regard. More private than public doctors in Hong Kong (80% vs 26%) experienced difficulties in stocking personal protective equipment (PPE). A significant proportion of respondents appealed to the government, health service providers and/or professional bodies for securing adequate supply of PPE, especially surgical masks, for frontline healthcare workers as well as the general public.¹² In Morocco, efforts were rapidly engaged to secure a sufficient supply of protective equipment (including masks and disinfectants), while counting on the national industry.

Telemedicine provides a means to bring doctors and patients together without risking contamination. It is an important mode of outpatients' management during this pandemic.^{16,17} With regards to suspected cases of COVID-19, it allows for triage without healthcare worker exposure to the virus. Suspected cases can initially be assessed remotely allowing for investigation and treatment plans to be developed accordingly.³ Although not used nor regulated in Morocco, 67% of doctors have resorted to use it informally to remedy the difficulty of having face-to-face consultations. Telephonic consultations were the most popular mode of reaching out to patients, followed by social media apps such as WhatsApp. Approximately, the same percentages were found among Indian ophthalmologists.⁹ Video calls were used in 20% of cases in our context and in 9,9% of cases in India.⁹ In Australia, the use of telehealth is high, with almost all GPs reporting its use compared with 76% of non-GP specialists.¹³ There also has been a rapid uptake of telepsychiatry to reduce Covid-19 exposure. It is likely to be more effective for previously known patients and more challenging for new ones, especially when it comes to privacy as there might be a third party working either in the doctor's office or with the patient.¹⁸ Other experiences of the

use of telehealth for patient follow up or post-operative visits have been reported.^{19,20}

Despite the financial burden, 84.8% of doctors did not make any changes to increase their incomes. However, 11% reduced the staff salaries and one doctor increased the consultation price. In terms of practice financing, 3% of Australian GPs reported deferring payment on business loans and 4% took on additional loans. This was more frequent among non-GP specialists as compared with GPs (8.5% and 11.8%, respectively). Moreover, 18% of GP practices and 51% of non-GP specialists' private practices applied for the JobKeeper, which indicates a loss of 30% or more in revenue. Only a minority of respondents did not make any changes to the operation of their practices as a result of the pandemic.¹³

Only 20% of the doctors declared having received guidelines from concerned authorities to help them deal with the evolving pandemic. Three out of four respondents declared that a guide would have been very useful. This shows a lack in support given to doctors and explains the stress and pressure felt by the majority of the respondents especially in the beginning of the pandemic. Furthermore, it reflects the lag between the onset of the pandemic and the response of scientific entities and professional organisations in the face of an unknown and unexpected crisis. Besides the risk of contracting the virus and infecting their families, the feeling of being "left alone" during this crisis has been expressed by some doctors. A Portuguese study about the psychological impact of the covid-19 outbreak on professionals showed that 71.2% of professionals had scores of state anxiety above the clinical cut-off, 26.8% had clinical levels of depression. Regarding burnout, 35.7% had moderate and 31.9% had severe levels of emotional exhaustion.²¹ For both of GPs and non-GP specialists, 61% reported feelings of stress more often than usual during the 30-day period mid-April to mid-May 2020 in Australia.¹³ These mental health issues are in part, caused by the financial pressure and the responsibilities required by the medical profession in such a risky situation.

5 | CONCLUSION

The COVID-19 pandemic had caused a global health and economic crisis. Because of its vital character, medical activity has to continue and doctors keep working in the critical conditions imposed by this new situation. Ranging from the reduced demand of medical services to changes in work patterns, through challenges to ensure a safe environment inside their practices by adopting standard precautions and effectively protecting themselves and the public, doctors ended up experiencing high stress levels in the absence of appropriate support, either moral, financial or logistical.

There is an obvious need for health authorities and professional societies to provide relevant support during this outbreak so that doctors can continue to play their various roles in the community, especially that the pandemic is still emerging and the consequences have been worsening with much uncertainty about when and to what cost this situation will resolve.

DISCLOSURE

The manuscript has not been submitted before. All authors have made substantial contribution to the work and agreed on the submitted version. We have access to the data used in the present study. Consent was obtained from participants. The authors declare no conflict of interests.

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