Effects of the Pandemic on Orthopedics and Traumatology Staff From Its Beginning (March 2020) to the Post-Vaccination Stage (July 2021)

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ABSTRACT

Introduction: On March 11, 2020, the WHO declared a global pandemic due to COVID-19 that affected orthopedic practice worldwide. To analyze the influence of COVID-19 on the employment situation of the members of the Argentine Association of Orthopedics and Traumatology (AAOT), we have conducted 3 surveys from the beginning of March 2020 to the post-vaccination stage in July 2021. The objectives were to determine differences between the relative reduction of work (outpatient clinics, surgeries) during the three phases of the pandemic: pre-peak, peak, and vaccination stage and to differentiate between the studied population, protective care, activity, tests, infection, isolation, and vaccination. **Materials and Methods:** Prospective survey, in three stages, to members in general, authorized by the Board of Directors, from the beginning of compulsory social isolation (R0 2.8), through the peak and post-vaccination stages. **Results:** We observed a low degree of participation that progressively decreased between phases. In the first survey, 6.99% had been tested; in the second, 25.29%; and after 6 months, 88.2%. The reduction of habitual activities and the incorporation of telemedicine as a new way of doctor-patient exchange was the novelty in the second part of the survey. **Conclusions:** Protection systems have given an acceptable percentage of reliability with a high vaccination rate among specialists. Despite the risk and fears of contagion, telemedicine has not managed to be an alternative accepted by both professionals and patients.

Keywords: COVID-19; survey; personal protection; telemedicine.

Level of Evidence: IV

Efecto de la pandemia en las actividades laborales de nuestros asociados desde el inicio (marzo 2020) hasta la etapa posvacunación (julio 2021)

RESUMEN

Introducción: El 11 de marzo de 2020, la OMS declaró la pandemia global por COVID-19 que afectó la práctica ortopédica en el mundo. Para analizar la influencia de la COVID-19 sobre la situación laboral de los socios de la Asociación Argentina de Ortopedia y Traumatología, hemos realizado tres encuestas desde el inicio (marzo 2020) hasta la etapa posvacunación (julio 2021). Los objetivos fueron determinar diferencias entre en la reducción relativa del trabajo (consultorios, cirugías) durante las tres fases de la pandemia: prepico, pico y etapa de vacunación, y diferenciar entre la población estudiada, cuidados de protección, actividad, testeos, infección, aislamientos, vacunación. **Materiales y Métodos:** Encuesta prospectiva, en tres etapas, a los socios en general, autorizada por la Comisión Directiva, desde el inicio del aislamiento social obligatorio (Ro de 2,8), en el pico y posvacunación. **Resultados:** Se observó un bajo grado de adherencia que fue disminuyendo progresivamente entre las fases. El 6,99% había sido testeado en la primera encuesta; el 25,29%, en la segunda, y el 88,2%, luego de 6 meses. La reducción de las actividades habituales y la incorporación de la telemedicina, como una nueva forma de intercambio médico-paciente, fue la novedad en la segunda parte de la encuesta. **Conclusiones:** Los sistemas de protección han dado un porcentaje aceptable de confiabilidad con un alto índice de vacunación dentro de los especialistas. A pesar del riesgo y los miedos al contagio, la telemedicina no ha logrado ser una alternativa aceptaba tanto por los profesionales como por los pacientes.

Palabras clave: COVID-19; encuesta; protección personal; telemedicina.

Nivel de Evidencia: IV

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INTRODUCTION

In December 2019, a new strain of coronavirus known as the SARS-CoV-2 coronavirus broke out in Wuhan, China. On March 11, 2020, the World Health Organization declared a global pandemic. COVID-19 has disrupted everyday life for people, economies and health systems alike, and has also affected orthopedic practice globally. To analyze this issue, three surveys were carried out in order to capture the influence of COVID-19 on the employment situation of the members of the Argentine Association of Orthopedics and Traumatology (AAOT).[1,2]

The primary objective of our study was to describe the responses of AAOT members to surveys that analyzed the impact of the COVID-19 pandemic on their work activity, at the beginning of the pandemic (March 2020), during the first year, and a year and a half after the implementation of the vaccination program (June 2021). Another objective was to describe the impact in different regions of the country. The secondary objectives were:

- To determine the percentage of reduction of work activity (outpatient clinic, surgeries) during the three phases of the pandemic: pre-peak, peak, and vaccination stage.
- To evaluate the interrelation between infection prevention, activity, testing, infection, isolation, and vaccination of the population studied.

In recent decades, the use of surveys to collect information on defined populations has been of great importance as a descriptive tool for social and psychological aspects, opinions, pain, health or quality of life. Surveys have a variety of purposes and can be carried out in many ways depending on the methodology chosen and the objectives to be achieved. Data are usually obtained through the use of standardized procedures, with the aim that each person surveyed answers the questions under equal conditions to avoid biased opinions that could influence the result of the investigation or study.

Due to the pandemic, and with the increase in virtual activities, the use of this tool has been accentuated to investigate situations or problems of a population objectively and effectively.[3]

Carrying out a survey is much more complex than it seems. If it is new, it must be valid and reliable; otherwise, proven tools must be used.[4]

Surveys can be open or closed (whether they have a list or free-response options) and their value will depend on how representative the questions are for the intended objective and the compliance obtained, that is, the more people respond, the closer to reality it will be.

MATERIALS AND METHODS

We carried out a cross-sectional, observational, analytical study. A qualitative-quantitative methodological strategy was used, through a cross-sectional convergent design, to survey the perceptions of health personnel regarding five dimensions related to:

1. Safety and respect for protocols
2. Work support in the face of contact or contagion with COVID-19
3. The influence on work activity
4. Vaccination (third survey)

For the qualitative component, potential participants were recruited from the list of AAOT members (total members: 5,817) through the emails registered in the database, in different epidemiological situations of the COVID-19 pandemic.

For the quantitative component, an ad hoc questionnaire was designed and prepared by two members of the research team. After the first round of modifications, based on the contributions of the rest of the team, the survey was sent to five professionals from different disciplines within the specialty, who tested the instrument and sent suggestions, which were incorporated into the final version.

The questionnaire was anonymous, self-administered, and distributed by email and mobile phone through the SurveyMonkey® web platform.

(Annexes, Table 1).

Table 1. Stages of the survey carried out

	Period	Number of questions
1	May-June 2020	17
2	August-September 2020	16
3	May-July 2021	16

Personal demographic data were identified, such as geographic distribution, role at the time of the survey, type of institution in which they work (public, private or both), and status in the public and private fields.

Survey data were organized and presented in tables: by date, number of respondents, response percentage, personal characteristics (age, sex, place of residence, year of graduation, etc.), employment status (hierarchy, type of institution, type and number of work activity), adaptation measures in the pandemic (possibility of testing, personal protective equipment, isolation, vaccination, infection).

The risk of exposure to the virus was evaluated and, to assess it, the need for testing was used as a variable due to close contact or symptomatology within the workplace.

The variables analyzed were: age, place of residence, type of member (resident, adherent, certified or regular), type of occupation (public, private, or mixed), years working as a traumatologist, vaccination (YES/NO), percentage of scheduled surgeries in the last month compared to the pre-pandemic stage, percentage of emergency surgeries in the last month compared to the pre-pandemic stage and number of patients seen in the office during the last month, expressed as a percentage compared to activity in previous stages.

The data were recorded in an Excel table corresponding to each survey. Numerical variables were summarized with the mean and standard deviation if the distribution was normal, and with the median, range, and interquartile range in the case of a nonparametric distribution. The dichotomous or categorical variables were summarized with percentages. Some variables were transformed into categorical: age (40 or >40; origin: interior and Buenos Aires; private and public sector [includes mixed]). One of the questions added in the last two surveys was whether the participants had responded before. The associations between them are described by graphics.

The results of the descriptive analysis were reported in narrative and graphic form corresponding to the three surveys. The variables were saved in a database and analyzed with the Stata 16.1 program. A descriptive statistical analysis of the data obtained was performed.

These surveys were conducted within the framework of the AAOT as an institution, the questions were sent for review to the Board of Directors. Future surveys will be supervised by an Ethics Sub-committee that will monitor these contributions.

RESULTS

The degree of participation in the surveys, sent to all the members in the association's membership list, was low, and progressively decreased over the phases.

During phase 1, considered as the pre-peak phase of 2020 cases (May-June), 552 responses were received, which represent 9.59%; in phase 2, when the first peak of cases was recorded in 2020 (August-September), 341 responses were received (5.86%) and, finally, in phase 3, the post-vaccination phase (May-July 2021).), 268 respondents answered (4.60%) (Table 2).

Table 2. Respondents

Survey phases	Pandemic (epidemiology)	Respondents
1	Pre-peak of cases 2020	552 (9.59%)
2	Peak phase of cases 2020	341 (5.86%)
3	Sanitary vaccination phase	268 (4.60%)

Regarding the geographical distribution, the majority of those who responded in the three phases belong to the Autonomous City of Buenos Aires (43%, 46%, 44%, respectively), followed by the Pampas region (Entre Ríos, Córdoba, Santa Fe , Buenos Aires and La Pampa), with 39%, 38%, 34%, respectively; the Patagonia region, with 8%, 6%, 9%, respectively; the Cuyo region, with 4%, 3%, 8%, respectively; the Northwest region, with 4%, 4%, and 3%, respectively, and lastly, the Northeast region of the country, with 3%, 3%, and 2%, respectively (Figure 1).

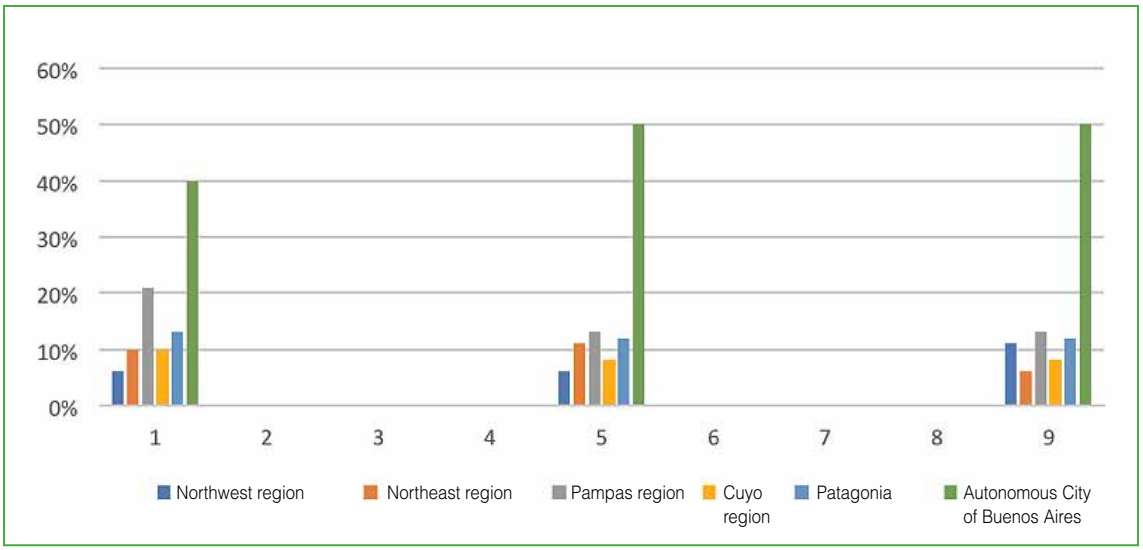


Figure 1. Geographic distribution of respondents by phase or interquartile range.

According to the role they played at the time of the survey, the majority belonged to the group of specialists with more than 5 years of experience, an approximate percentage of 67% was maintained in the three phases. In the rest of the subgroups, composed of specialists with <5 years of experience, residents, and fellows in training, the response rate was 16%, 14%, and 3%, respectively, on a constant average, during the three phases (Figure 2).

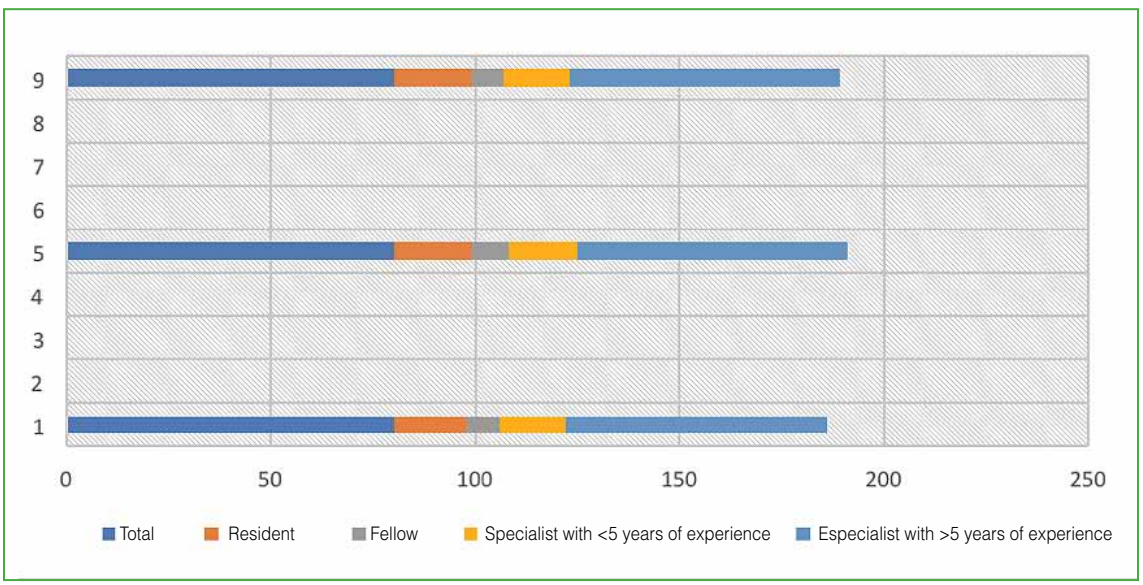
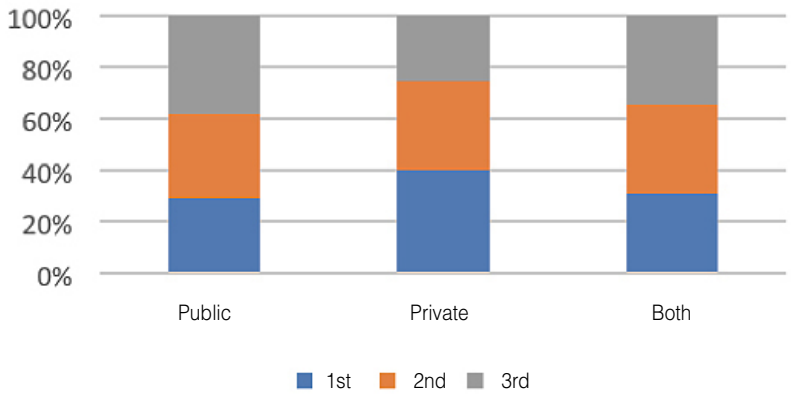


Figure 2. Distribution of the professional role by survey.

When asking about the type of institution where they worked and how this pandemic influenced their work in phase 1, we discovered that the majority worked in private institutions (48.6%), while, in phases 2 and 3, private activity decreased to 42.2% and 30.7%, respectively, compared to the pre-pandemic stage (Figure 3), without significant differences (p >0.8). The purely public activity between phases 1, 2, and 3 increased by 14.8%, 17%, and 19.4%, respectively. Professionals who worked in both fields (public and private) also saw a gradual increase in their activity during the phase change (36.4%, 40.7%, 40.8%, respectively).



Survey	1st	2nd	3rd
Public	14.88	17.02	19.48
Private	48.68	42.23	30.7
Both	36.48	40.76	40.82

Figure 3. Distribution of the type of activity during the three surveys.

Within the public field in phase 1, the majority were under a provincial regime (36%) and, in phases 2 and 3, the regimes were similar within the municipal and provincial contexts. In private practice, the majority worked in clinics and sanatoriums in the three phases (average 52.65%).

Risk of exposure to COVID-19

In the first survey, we obtained the information that 6.9% of the professionals had been tested; in the second, 29% and, after 6 months, 88.2%. It was interesting to learn that, despite the demand on health personnel, less than 10% of those surveyed had been transferred to tasks outside the specialty to decompress the professionals who were on the front lines of work during the COVID-19 crisis, with a significant difference (p <0.09).

Knowledge of protocols and personal protective equipment during the three stages was also analyzed, as well as the perception of institutional/union support in the face of close contact or being a positive case. We recorded that, during the three phases, the professionals had adequate training on prevention and protection (50%, 75%, 80%, respectively), and on the availability of protective materials (47%, 62%, 78%, respectively). Regarding institutional support, they reported a positive response rate to their needs of 41%, 72%, and 70%, respectively.

Influence on work activity

The Orthopedics and Traumatology specialty covers many spectrums in the field of health, including degenerative, tumor, traumatic, metabolic and infectious diseases, many of which require medical treatment, while others require urgent or scheduled surgical treatment. For this reason, the quality level achieved during these periods was very difficult to quantify in this series of surveys. Despite this, it was possible to observe a reduction in usual activities and the incorporation of telemedicine as a new form of doctor-patient exchange.

Work activity during the three phases described had a progressive drop in the demand for outpatient clinics compared to the pre-pandemic period: "50% of the outpatient clinic" (20%, 38%, 48%, respectively), "30-50% of the outpatient clinic" (60%, 49%, 23%, respectively). In addition, there were increases in telemedicine (23% in the first phase, 15% in phases 2 and 3), "Emergency Surgery" (50%, 60%, 70%, respectively) and "Elective Surgery" (7%, 30% and 60%, respectively).

On December 23, 2020, the Government of the Argentine Republic announced the phased vaccination plan that began in January 2021 with health personnel. The third survey was distributed three months after starting the scheme. 79% of those surveyed had both doses; 9% had only one dose; and, of the remaining 11%, 10% had not been vaccinated by their own decision. Regarding the administered vaccine, 80% received Sputnik V and 11% received Sinopharm.

DISCUSSION

The COVID-19 pandemic has had a great impact on the entire world population, with more than 2,000,000 deaths and more than 100 million affected so far. In our country, the figures are moving: 7,029,624 infected and 117,989 deceased.[5] In addition, the impact on health has been dramatic, with more than 1,965 hospital admissions in Intensive Care Units. This has had direct consequences on the health system, which almost collapsed in order to control the pandemic; and indirect consequences, as diagnoses and treatment of many serious illnesses were delayed due to the pandemic.

With this series of surveys, we attempted to assess the effect that the first wave had, until June 2020, on the work activity of AAOT traumatologists. The data collected in the first stage of the survey confirm the impact of the pandemic on healthcare activity. Elective surgeries stopped completely, the available operating rooms were reserved only for urgent/emergent surgeries (polytraumatized patients, fractures, infections); a similar situation was experienced with face-to-face consultations, which became mostly by telephone.

Another parameter to be analyzed is the modification of surgical criteria towards more conservative treatments than in pre-pandemic periods. The most plausible explanation is that the selection of surgical patients had to be more critical.

Surveys provide information on the opinions, attitudes, and behaviors of citizens. They are applied to test a hypothesis or discover a solution to a problem, and to identify and interpret, in the most methodical way possible, a set of testimonies that can fulfill the established purpose. They have proved to be a very useful and accurate tool if they are properly designed, but unfortunately, the percentage of participation is essential for the results obtained to be representative of the study population. Among the advantages of the survey research technique, we can highlight the possibility of its use in a wide variety of areas in an economical way, the wide range of issues that can be addressed, and the ease of comparing results and their generalization.[4] As disadvantages, it must be taken into account that the information is restricted to that provided by the individual, its inadequacy for populations with verbal or written communication difficulties, the reactions of the interviewees in the presence of the interviewer, and the difficulties that may be encountered when contacting the sample units.

Except for the differences between those who work exclusively in the private or social security subsector, the demands are common to other health systems in other geographical contexts. Similar concerns, fears, and demands were identified in the experience of Shanafelt et al., e.g. not having prompt access to testing if they develop COVID-19 symptoms and the concomitant fear of spreading the infection at work and in the home.[6]

In the first instance, the survey could not be validated due to the speed with which the epidemiological curve shifted. Moreover, participation decreased drastically over the three phases: about 10% of the total population in the first, 5.86% in the second, 4% and 6% in the third. Despite the fact that, according to some publications, for a survey to reflect the problems of the surveyed population, it must obtain responses of more than 70%, we have found other publications, such as that by Sahu et al.,[7] where 611 orthopedists from India answered the survey out of

a total of 12,000 respondents (members of the *Indian Orthopedic Association*). In another survey by Jain et al, they received 588 responses from the same population of orthopedists in India. We have observed greater participation in the survey of professionals who work in private or public/private institutions, results similar to those obtained in a survey of orthopedists in India.[8]

The population was homogeneous in the three surveys, which allowed us to compare the data obtained in each of them. Those who adhered the most were professionals with more than 5 years of experience in the field. This could be because young residents and doctors were referred to tasks outside the exclusive field of Orthopedics and Traumatology, such as swab testing, which increased their stress levels.

The effect of the pandemic on orthopedists has been clearly demonstrated. In the first year, less than 20% were tested and, almost a year later, this percentage increased to 80%, despite the fact that the work activity was less than 50% in 80% of the respondents and that, currently, less than 8% have recovered their pre-pandemic activity level.[9,10]

Three months after starting the vaccination plan, only 4% had not received any dose (87% had both doses) and, of these, 11% had not been vaccinated due to mistrust. Some of the data are consistent with those published by Lezak et al.[3] In their global survey involving 14 countries and 63 traumatologists, 91% of hospitals maintained reduced levels of activity, and 17% performed elective surgical procedures. In addition, they reported that 30% of orthopedic surgeons were referred to tasks typical of the pandemic, a situation that has not happened with our population. On the other hand, according to the reported data, they concluded that 73% of low-income countries have accepted telemedicine as a way of working.

In order to prepare for a worst-case scenario—such as a local pandemic that leaves healthcare workers quarantined, sick, or absent—public and private facilities have implemented telehealth so doctors can continue to care for established patients. [11,12]

The World Health Organization[13] defines telemedicine as the provision of health services by health professionals using information and communication technologies for diagnosis, treatment, prevention of diseases, injuries, research, evaluation and continuous training, with the interest of taking care of the health of individuals and of the seven communities where distance is a critical factor. Telehealth is not just technology, it is a "remote medical care process". Within it, telemedicine offers remote health care through the use of communication technologies. Thus, it contributes to improving access to health care for patients in remote locations.[14,15]

The limitations of this study are explained, to a great extent, by the moment in which it was carried out. Although the questions and instruments were based on a previous conceptual framework adapted to local health services, a rigorous pilot test was not carried out before its implementation due to the urgency and difficulties inherent to the pandemic period in which it was carried out. The dissemination of the survey in such complicated times meant that it could not be sent through traditional channels and more immediate systems were chosen that allowed a more objective analysis of the professionals' feelings. Also, the fact that the survey was carried out in the months of the pandemic outbreak means that the subjective nature of some responses can lead to bias. Another aspect that limits the study is that the vast majority of the specialists surveyed had not been treating patients with COVID-19, so it would be interesting to extend this type of survey to specialties more involved in the treatment of this condition.

In conclusion, we believe that surveys are a valid and effective tool in times of virtual activity as long as they are well designed and validated, avoiding bias and with a participation that is representative of the population studied.

In our case, participation was low, but the data collected allows us to conclude that orthopedists have drastically reduced their activity since the start of the pandemic and that there is a very slow rise that has not yet reached pre-pandemic values. Protection systems have given an acceptable percentage of reliability with a high rate of vaccination among specialists. Despite the risk and fear of contagion, telemedicine has not managed to be an alternative accepted by both professionals and patients.[16] The analysis of errors and deficits is essential to establish better guidelines for action such as those that are being developed at the fourth phase of the pandemic, a stage where most members have received the third dose of some type of anti-COVID-19 vaccine and good training for the management of infected patients.

Annexes

Survey on the Influence of COVID-19 on the Activity of Traumatologists in Argentina

1. What is your current role?

☐ Resident
☐ Fellow
☐ Specialist, less than 5 years of experience
☐ Specialist, more than 5 years of experience

2. In what type of institution do you carry out your activity?

☐ Public
☐ Private
☐ Both

3. Within what geographical region is your work circumscribed?

☐ Northwest region (Jujuy, Salta, Tucumán, Catamarca, Santiago del Estero)
☐ Northeast region (Formosa, Chaco, Misiones, Corrientes)
☐ Pampas region (Entre Ríos, Córdoba, Santa Fe, Buenos Aires, La Pampa)
☐ Cuyo region (La Rioja, San Juan, Mendoza, San Luis)
☐ Patagonia (Neuquén, Río Negro, Chubut, Santa Cruz, Tierra del Fuego)
☐ Autonomous City of Buenos Aires

4. If the scope is public, indicate (otherwise choose not applicable):

☐ Municipal
☐ Provincial
☐ National
☐ Not applicable

5. If your practice is private, please indicate (otherwise choose not applicable):

☐ Private practice
☐ Specialty Clinic/Sanatorium
☐ University Hospital
☐ Not applicable

6. What is you work activity? (You can choose more than one option):

☐ Hospitalization
☐ Emergency department
☐ Outpatient clinic

7. Have you had the flu shot this year?:

YES
NO

8. Select the answer that best describes your situation at this time of the pandemic:

☐ I remain in the same position as before the start of the COVID crisis
☐ I have been transferred from a unit/centre due to the COVID crisis
☐ I have been hired as a result of the COVID crisis
☐ None of them

9. To what extent do you agree or disagree with this statement: "I have received adequate training for the handling of PPE (Personal Protective Equipment)"?:

☐ Strongly agree
☐ Agree
☐ Disagree
☐ Strongly disagree

10. Was the training offered by the institution where you work the most hours mandatory or did you seek it on your own?:

☐ Mandatory
☐ Sought by me
☐ I had no training

11. To what extent do you agree or disagree with the following statement: "The unit where I work the most hours has adequate PPE"?

☐ Strongly agree
☐ Agree
☐ Disagree
☐ Strongly disagree

12. In your Department (where you work the most hours), has the staff been organized into alternating groups (to avoid excessive exposure)?:

☐ Yes
☐ No
☐ I do not belong to any Service

13. Have you been part of the COVID-19 Testing?

☐ YES
☐ NO

14. Have you been affected by COVID-19? How?

☐ Being a symptomatic positive case
☐ Being an asymptomatic positive case
☐ Being a suspected case
☐ Psychologically affected
☐ Being in preventive quarantine (positive case relationship)
☐ Having been in quarantine due to travel
☐ I was not affected

15. How has your practice changed to date? (you can choose more than one option):

☐ I has not changed
☐ I only assist in emergencies
☐ I make consultations by telemedicine
☐ I have no surgeries scheduled
☐ I have an office with distanced patients in the waiting room

16. By what percentage have your office hours decreased?:

☐ I has not changed
☐ Decreased <50%
☐ Decreased between 50 and 100%
☐ Decreased 100%

***17. Do you think that the AAOT* could contribute to your work reality during this pandemic? Please elaborate (maximum 10 words):**

☐ YES
☐ NO

Elaborate:

Survey on the Influence of COVID-19 on the Activity of Traumatologists in Argentina

A first survey was carried out in April; today we want to evaluate how our situation has evolved in the face of this pandemic at the national level.

1. Have you participated in this survey before, in another epidemiological situation, in the month of April?:
☐ YES
☐ NO

2. What is your current role?
☐ Resident
☐ Fellow
☐ Specialist, less than 5 years of experience
☐ Specialist, more than 5 yearsof experience

3. In what type of institution do you carry out your activity?
☐ Public
☐ Private
☐ Both

4. Within what geographical region is your work circumscribed?:
☐ Northwest region (Jujuy, Salta, Tucumán, Catamarca, Santiago del Estero)
☐ Northeast region (Formosa, Chaco, Misiones, Corrientes)
☐ Pampas region (Entre Ríos, Córdoba, Santa Fe, Buenos Aires, La Pampa)
☐ Cuyo region (La Rioja, San Juan, Mendoza, San Luis)
☐ Patagonia (Neuquén, Río Negro, Chubut, Santa Cruz, Tierra del Fuego)
☐ Autonomous City of Buenos Aires

5. If the scope is public, indicate (otherwise, choose not applicable):
☐ Municipal
☐ Provincial
☐ National
☐ Not applicable

6. If your practice is private, indicate (if not, choose not applicable):
☐ Private practice
☐ Clinic/Sanatorium
☐ University Hospital
☐ Not applicable

7. What is you work activity? (You can choose more than one option):
☐ Hospitalization
☐ Emergency department
☐ Outpatient clinic

8. Select the answer that best describes your situation at this time of the pandemic:
☐ I remain in the same position as before the start of the COVID crisis
☐ I have been transferred from a unit/centre due to the COVID crisis
☐ I have been hired as a result of the COVID crisis
☐ None of them

9. To what extent do you agree or disagree with this statement: "My institution has provided me with adequate PPE (Personal Protective Equipment) according to the regulations of the National Ministry of Health"?:

☐ Strongly agree
☐ Agree
☐ Disagree
☐ Strongly disagree

10. Is the staff in your Department (where you work the most hours) still organized into alternating groups (to avoid excessive exposure)?:

☐ Yes
☐ No
☐ Alternating groups had not been organized
☐ We have organized alternating groups recently

11. Have you been part of the COVID-19 Testing?

☐ YES
☐ NO
☐ If yes, how many times?:

12. Has a colleague of yours, within your usual work team, tested positive for COVID-19?

☐ YES
☐ NO

13. Have you been affected by COVID-19? How?

☐ Being a symptomatic positive case
☐ Being an asymptomatic positive case
☐ Being a suspected case
☐ Psychologically affected
☐ Being in preventive quarantine (positive case relationship)
☐ Having been in quarantine due to travel
☐ I was not affected

14. How has your practice changed to date? (you can choose more than one option):

☐ I has not changed
☐ I only assist in emergencies
☐ I make consultations by telemedicine
☐ I have an office with distanced patients in the waiting room
☐ I have no scheduled surgeries
☐ I have scheduled surgeries
☐ I only have emergency surgeries

15. In what percentage have your office hours changed in the last 3 months?:

☐ It has not changed
☐ Increased <50%
☐ Increased between 50 and 100%
☐ Increased by 100%

16. In your Department (where you work the most hours), is COVID-19 Testing performed on all patients before undergoing surgery?

☐ Yes
☐ No
☐ Only in scheduled surgeries

Survey on the Influence of COVID-19 on the Activity of Traumatologists in Argentina
Third Phase

1. Have you completed the first phase of the survey in the month of April/May?
- ☐ Yes
- ☐ No

2. Have you participated in the second phase of the survey in the month of July/August?
- ☐ Yes
- ☐ No

3. What is your current role?
- ☐ Resident
- ☐ Fellow
- ☐ Specialist, less than 5 years of experience
- ☐ Specialist, more than 5 years of experience

4. In what type of institution do you work?
- ☐ Public
- ☐ Private
- ☐ Both

5. Within what geographical region is your work circumscribed?
- ☐ Northwest region (Jujuy, Salta, Tucumán, Catamarca, Santiago del Estero)
- ☐ Northeast region (Formosa, Chaco, Misiones, Corrientes)
- ☐ Pampas region (Entre Ríos, Córdoba, Santa Fe, Buenos Aires, La Pampa)
- ☐ Cuyo region (La Rioja, San Juan, Mendoza, San Luis)
- ☐ Patagonia (Neuquén, Río Negro, Chubut, Santa Cruz, Tierra del Fuego)
- ☐ Autonomous City of Buenos Aires

6. If the scope is public, indicate (otherwise, choose not applicable):
- ☐ Municipal
- ☐ Provincial
- ☐ National
- ☐ Not applicable

7. If your practice is private, indicate (if not, choose not applicable):
- ☐ Private practice
- ☐ Specialty Clinic/Sanatorium
- ☐ University Hospital
- ☐ Not applicable

8. One year after the start of the COVID-19 pandemic, your work area is:
- ☐ Organized and with respected protocols
- ☐ Still poorly organized and with protocol failures
- ☐ The same as before the pandemic, without clear protocols

9. In relation to your pre-pandemic activity, your estimated percentage of work activity is:
- ☐ Less than 30%
- ☐ About 50%
- ☐ About 75%
- ☐ About the same as before the pandemic

10. What pathology do you consider to have increased notably during this year of the pandemic?:

☐ Trauma
☐ Orthopedic
☐ Degenerative
☐ Oncological
☐ Vascular
☐ Metabolic

11. In the event of encountering a situation of possible exposure to COVID-19, you:

☐ Receive specialized advice and clear guidelines according to official protocols.
☐ Receive informal and unclear advice.
☐ Receive no support or advice.
☐ You do not usually notify the situation.

12. Were you tested during the pandemic?

☐ Yes
☐ No

13. If your previous answer was yes, answer: Did you test positive for COVID-19 during the pandemic?

☐ Yes
☐ No

14. Regarding the vaccination plan, in which of the following groups are you?

☐ Not vaccinated
☐ Vaccinated with the first dose
☐ Vaccinated with the second dose

15. If applicable, please answer: What vaccine did you receive?

☐ Sputnik V (Russia)
☐ Oxford/AstraZeneca (UK)
☐ Sinopharm (China)
☐ Pfizer/Moderna (USA)

16. If you are NOT vaccinated, why?:

☐ My own decision due to distrust of the vaccine
☐ I am still waiting for an appointment
☐ Allergy / Pre-existing disease that contraindicates it
☐ Other

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