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ECONOMIC IMPACT OF COVID-19 ON BRAZILIAN ORTHOPEDISTS

IMPACTO ECONÔMICO DA COVID-19 NOS ORTOPEDISTAS BRASILEIROS

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ABSTRACT

Objective: The aim of this study is to assess the economic impact of the new coronavirus (COVID-19) on Brazilian Orthopaedic Surgeons. Methods: The questionnaire was applied to orthopedists and it questions how long they have worked in this area; their monthly financial impact during the pandemic; what sector was impacted the most; if they had or didn't have any financial reserves and how long they would last; if they had any other source of fixed income; and how much time off they had taken from work. It was entirely anonymous and it could only be answered once. Results: About 98% (955 out of 975) of the analyzed orthopedists suffered some monetary impact, 80% had a financial reserves, from which 45% could last for 3 months. Conclusion: There was a direct relationship between the professional experience in this subspecialty and a higher percentage of fixed income, as well as a greater impact on the reduction percentage in the monthly budget and a longer time off the job. ***Level of Evidence IV, Analyses with no sensitivity analyses.***

Keywords: Covid-19. Coronavirus. Monetary Impact. Financial Reserve.

RESUMO

Objetivo: Avaliar o impacto econômico do novo coronavírus (Covid-19) entre ortopedistas brasileiros. Métodos: Questionário aplicado a ortopedistas que aborda o tempo de prática clínica, impacto no orçamento mensal durante o mês inicial da pandemia, setor de maior impacto, presença de outra fonte de renda fixa na área médica ou fora, existência de reserva financeira, previsão de tempo de afastamento e expectativa de retorno às atividades normais. Todo formulário é anônimo e programado para ser respondido apenas uma vez. Resultados: Cerca de 98% (955, entre 975 que responderam ao questionário) dos médicos ortopedistas analisados sofreram algum impacto monetário, 80% tinham reserva financeira, 45% dentre eles com reserva financeira para até 3 meses. Conclusão: Existiu uma relação direta entre o maior tempo de subespecialidade, a maior porcentagem de renda fixa, o maior impacto na porcentagem de redução no salário mensal e o maior o tempo de afastamento. ***Nível de Evidência IV, Análises sem análises de sensibilidade.***

Descritores: *Covid-19. Pandemia de Coronavírus. Sociedade Brasileira de Ortopedia e Traumatologia. Impacto Monetário. Reserva Financeira.*

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INTRODUCTION

On January 30th, 2020, the World Health Organization (WHO) declared the COVID-19 a Public Health Emergency of International Concern. On March 11th, 2020, COVID-19 was characterized as a pandemic. As of August 15th, 2020, 5,488,825 cases of the new Coronavirus were confirmed worldwide, with 349,045 deaths. Brazil has recorded more than 3 million cases and 100,000 deaths to the same date. The Brazilian Ministry of Health reported that the transmission of the disease is already community throughout national territory and the number of cases tends to increase.[1]

The Coronavirus Pandemic disrupted global trade, supply chains and population flow. It depressed asset prices and forced multinational companies to make global impact decisions. The change in the economy has determined the disruption of tourism, flights cancellation and other commercial activities; it caused small businesses to go under, modified commercial relations, exhausted products of basic needs and altered national and international borders.[2]

The rapidly spreading outbreak imposed an unprecedented burden on the effectiveness and sustainability of the health system. The new coronavirus led to an overall increase in visits to clinical emergency and hospitalization numbers, added to the imminent risk of lack of qualified health personnel due to exposure and contagion.[3]

All global and national facts impacted the financial health of the Brazilian medical population. The impossibility of social gathering, the caution with at risk populations and the reduction of unnecessary exposure created the need to cancel elective surgeries and clinical

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The study was conducted at Universidade Federal de São Paulo, Department of Orthopedics and Traumatology, Centro de Traumatologia do Esporte.
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appointments. The aim of this study is to evaluate the economic impact of the new coronavirus (COVID-19) on Brazilian orthopedists.

MATERIALS AND METHODS

This is a cross-sectional study with an online questionnaire, composed of direct questions and answers, to evaluate the direct financial impact of the COVID-19 pandemic on the life of Brazilian orthopedists. All physicians completed the informed consent form, and the study was approved by the ethics committee of the institution under the number 30606820.3.0000.5505.

The questionnaire (Appendix 1, Table 1) addresses professional experience in the subspecialty, impact on the monthly budget during the initial month of the pandemic, sector of greatest impact (elective surgeries, emergency, outpatient and medical office), presence of another source of fixed income (in the medical area or not), existence of financial reserve, expectations about how long they would stop working and return to normal activities.

The entire form is anonymous and programmed to be answered only once through the Google Forms platform. It was approved by Plataforma Brasil under the number 30606820.3.0000.5505.

The inclusion criterion was being a physician specialized in orthopedics and traumatology. The exclusion criterion was incomplete questionnaires. We performed descriptive statistical analysis of each analyzed parameter with the SPSS program. To compare the quantitative variables, we used the ANOVA test. Differences with $p < 0.05$ were be considered statistically significant.

RESULTS

We obtained 975 complete questionnaires. There was an almost homogeneous division between the professional experience of each physician, 26.1% (254) finished their studies 5 years ago or less, 23.6% (230) from 5 to 10 years ago, 25.4% (248) from 10 to 20 years ago, 14.8% (144) from 20 to 30 years ago and 10.2% (99) have over 30 years of professional experience in the field (Figure 1).

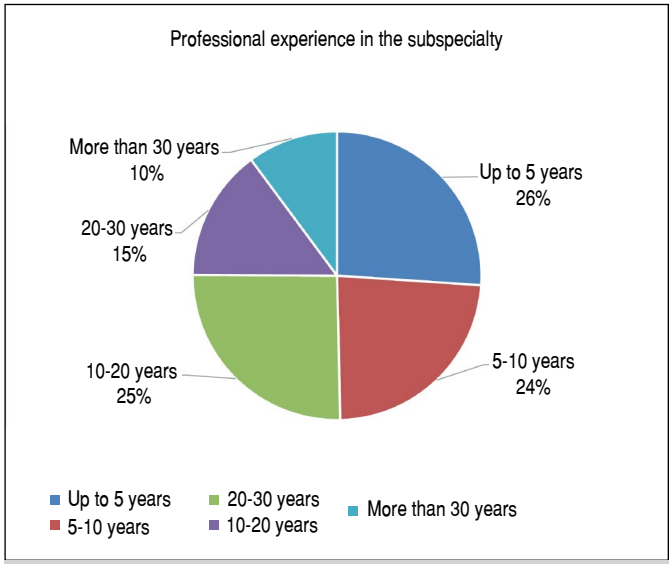

Figure 1. Professional experience in the subspecialty.

The financial impact of the COVID-19 pandemic caused monthly salaries to drop between 50% and 75% for 30 % of the analyzed professionals and between 25% to 50% for 26.1%; 23.6% of the physicians reported a 75% to 99% drop in salary, while only 13.5% reported 1% to 25%; 4.2% reported a 100% drop of their monthly salary and 2.1% reported that their salaries were not affected (Figure 2).

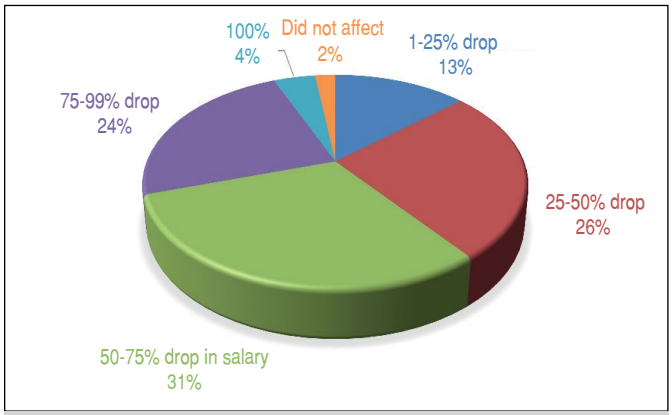

Figure 2. Impact of the pandemic on the monthly budget.

The reasons that reduced physicians' salaries, during the pandemic, were appointments cancellation (90.7%); elective surgeries postponement (85.1%); outpatient (52.9%); decrease in emergency surgeries (20.8%) and shift hours reduction (19.7%) (Figure 3).

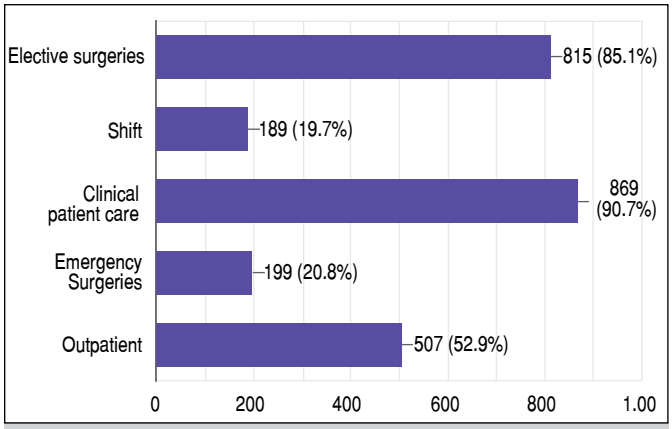

Figure 3. Impact of the cause/pandemic on the monthly budget.

Regarding reduction of shift hours, 66% of the orthopedists claim that shift hours did not change; 9% reported a 12 to 14 hours reduction per month; 7% reported a reduction of 48 hours per month; 7% said 24 to 36 hours per month; 6% reported up to 12 hours of alterations per month and 5% from 36 to 48 hours (Figure 4).

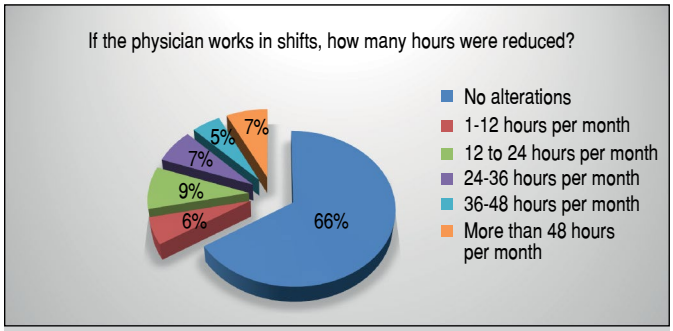

Figure 4. Reduced shift hours per month.

Regarding elective surgeries, 35% of orthopedists reported to have cancelled 5 to 10 surgeries; 31% up to 5; 19% from 10 to 15 surgeries; 7% reported to have cancelled 15 to 20 procedures and 8% more than 20 (Figure 5).

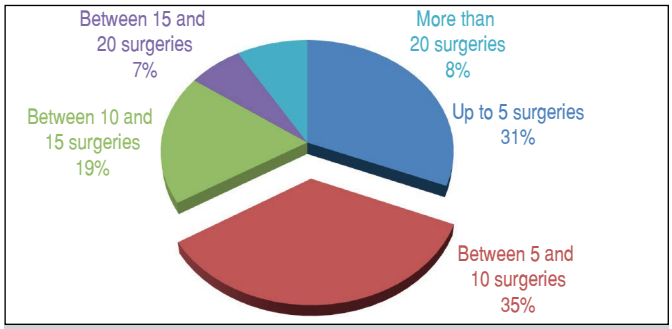

Figure 5. Cancellation of elective surgeries.

Most orthopedists do not have an alternative source of income (80.1%). More than half of the orthopedists (52.3%) have fixed income in the medical field through public tender or registered jobs. Out of the orthopedists with fixed income, 47.5% reported that the received monthly amount corresponds to 1%-25% of their total salary; 32.6% reported that it corresponds to 25% to 50%; 13.2% answered 50% to 75%; only 4.3% and 2.4% said 75% to 99% and 100%, respectively (Figure 6).

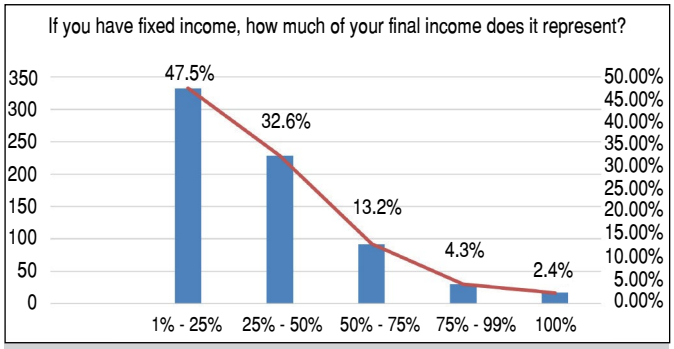

Figure 6. Percentage of fixed income in the monthly salary.

In relation to the time taken away from work, 27% stated that they took more than 30 days away from work since the beginning of social distancing; 26% answered up to 30 days; 24% up to 21 days; 16% up to 14 days; and 7% reported that they did not take time away from work (Figure 7).

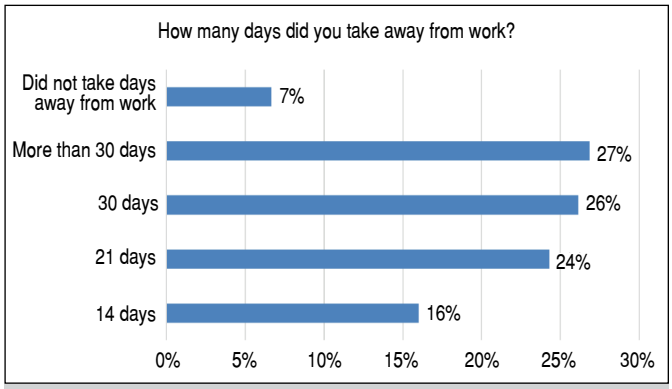

Figure 7. Number of days away from work due to the pandemic.

About 85% of orthopedists had a financial reserve, however, 33% could maintain themselves for only one to three months; 24.7% for three to six months; 18.6% for over one year; 11.8% for up to one month and 11.8% for six to twelve months (Figure 8).

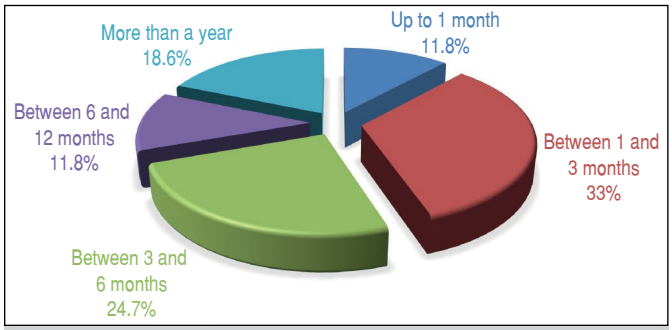

Figure 8. Financial reserve.

The answers about expectation of returning to work activities were 29.6% for return in two months, 25.2% in one month, 23.9% in three months, 16.2% in three to six months, 3.7% in six to twelve months and 1.3% in one year or more (Figure 9).

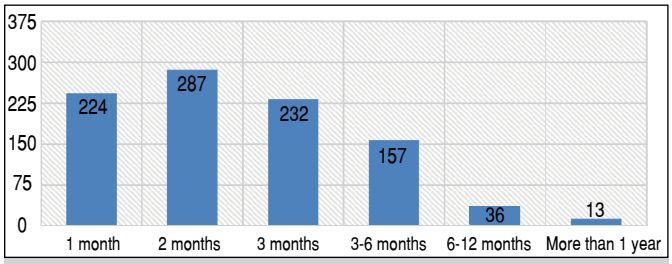

Figure 9. Expectation of return to regular work activities.

DISCUSSION

Public and sanitary measures to contain the new Coronavirus changed the routine and patient care of physicians in Brazil. The impossibility of social gathering, the caution with at risk populations and reduction of unnecessary exposure created the need to cancel elective surgeries, clinical appointments and outpatient consultations, because they may contribute to spreading the disease. In many cases, patients transmitting the virus are asymptomatic, thus, they unintentionally expose everyone in close contact with them. Besides, the precept to cancel elective procedures was to minimize the use of essential items and materials needed for the care of post-surgical patients. Among them are ICU beds and use of personal protective equipment and ventilators.[4] All factors influenced the medical and orthopedic financial health: in this study, 98% of the analyzed physicians suffered some monetary impact. Economists present worrying predictions for the effect of the new coronavirus (COVID-19) on the global financial system.[5] In figures, the most optimistic scenario predicts an impact of − 0.1 percentage points on the national GDP. On the other hand, the extreme scenario indicates − 0.66 percentage points.[6]

Financial education is one of the key factors for economic stability of a population or community. There has never been such an expressive growth in the medical population in Brazil, in such a short period of time. In less than five decades, the total number of physicians increased by 665.8% or 7.7.[7] Thus, the search for financial security and stable jobs are one of the great priorities to which the medical community aspires. The highest percentage of orthopedists with another source of income appears in professionals who have graduated more than 10 years ago ($p = 0.01$) (Figure 10); a proportion that is maintained for public tender or registered jobs. The longer professional experience in the subspecialty, the higher the proportional percentage ($p = 0.0$) (Figure 11).

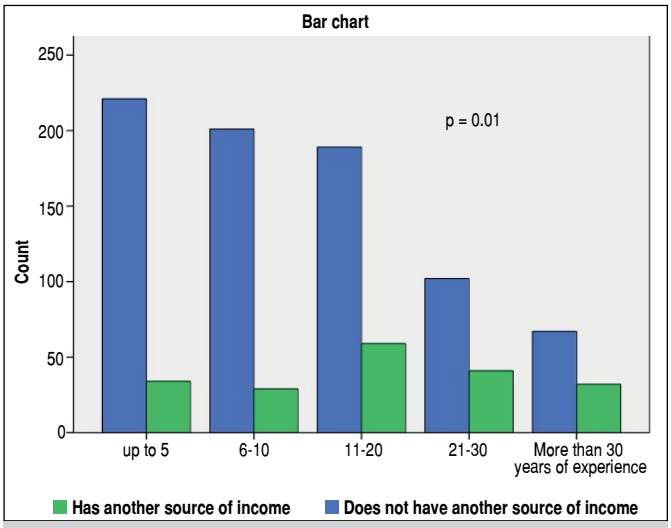

Figure 10. Relationship between another source of income × professional experience.

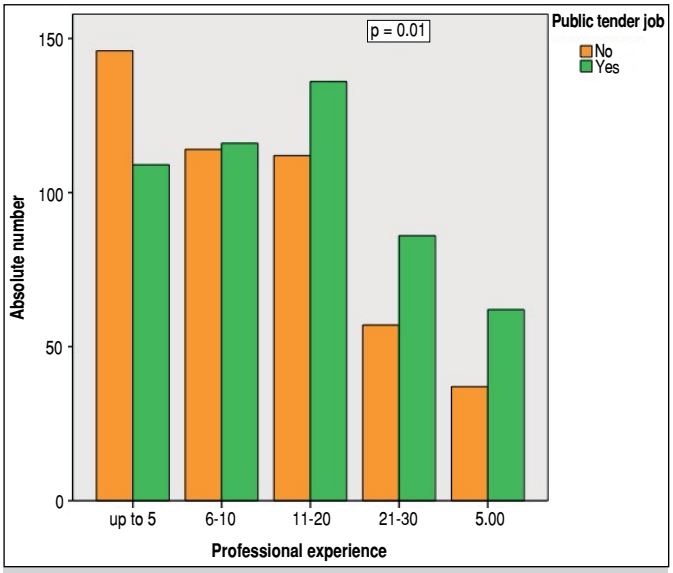

Figure 11. Relationship between public tender job/documented job × professional experience.

The financial literature suggests an emergency reserve of three months for public employees, six months for regular company employees and one year for self-employed workers, without fixed income.[8] Among orthopedists, 80% have a financial reserve – without statistical significance regarding professional experience – however, only around 45% of the entire group had a financial reserve that could last for up to 3 months. Information that clearly shows the need for reflection on medical monetary education for emergency situations and, perhaps, better financial education to achieve economic stability even during times of crisis.

Among orthopedists, the financial impact of the COVID-19 pandemic caused a 50% to 75% monthly salary drop for 30 % of the analyzed professionals, a 25% to 50% drop for 26.1% and 23.6% of the physicians reported a 75% to 99% drop in salary. However, the longer the time of professional experience, the greater the reduction percentage of the monthly salary ($p < 0.01$). That is because orthopedists with longer subspecialty experience have a higher percentage of their monthly income depending on elective surgeries and medical appointments, while those with less experience have the emergency shifts as the largest source of salary. Emergency room shifts have not changed, regarding the number of hours, for 66% of the physicians, up to the moment of this research.

There was a direct relationship between the time of experience and the time they took away from work. Longer time of experience in the subspecialty led to longer time off work ($p = 0.02$). These values were accentuated among physicians with 20 or more years of experience: orthopedists who are probably in the age group – or close to the age group defined by the World Health Organization – considered as risk group for the new Coronavirus.[1]

It is difficult to measure the final impact on the financial health of orthopedists, as the pandemic can extend over a long period and lead to mass layoffs, need for government assistance, work changes and changes in the consumer-company relationship. Therefore, it is necessary to create awareness about the difficulties that not only the medical class will go through, as well as the whole nation.

Our study may be limited because we did not evaluate the geographic distribution of the orthopedists.0 However, we evaluated more than 975 responses, a very significant number compared with the 17,000 orthopedists registered in the Brazilian Society of Orthopedics and Traumatology (SBOT). The questions are simple for such a complex problem, but it would be very difficult to obtain such a large number of responses with a complex questionnaire. Another limitation was that the research was performed at the beginning of the quarantine, so some answers may not be as accurate after some time due to the new conditions brought by the pandemic.

This study showed the financial impact of the new Coronavirus on Brazilian orthopedists. The situation we are experiencing today is unique in recent history. The results presented are relevant to elucidate the current context and they allow the creation of a current panorama of financial difficulties and economic education of our field. Thus, it can serve as guide for decisions of the Brazilian Society of Orthopedics and Traumatology (SBOT).

CONCLUSION

About 98% of the orthopedists analyzed in this study suffered some monetary impact; 80% had a financial reserve, however, only 45% of them could last for 3 months. There was a direct relationship between the longer subspecialty professional experience with the highest percentage of fixed income from public tender or registered job; greater impact on the percentage of monthly salary reduction; and greater time off work during the pandemic of the new Coronavirus (COVID-19).

AUTHORS' CONTRIBUTIONS: GAS: writing of the article, review, intellectual concept of the article and preparation of the entire research project; PSB: review, intellectual concept of the article; ACP: review, intellectual concept of the article; CVA: review, intellectual concept of the article; BE: writing of the article, review and intellectual concept of the article.

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APPENDIX

Questionnaire – Orhtopedics (COVID-19) – Annonymous

Questionnaire about the financial impact on orthopedists

Professional experience in the subspecialty

- ◯ Up to 5 years
- ◯ 5-10 years
- ◯ 10-20 years
- ◯ 20-30 years
- ◯ more than 30 years

Drop (impact) of the budget in the month of the pandemic

- ◯ There was no impact
- ◯ 1-25% drop
- ◯ 25-50% drop
- ◯ 50-75% drop
- ◯ 75-99% drop
- ◯ 100%

If your monthly budget was affected, that happend due to the reduction of (multiple answers are possible)

- ◯ Elective surgeries
- ◯ Shift hours
- ◯ Medical appointments
- ◯ Emergency surgeries
- ◯ Outpatient

If the doctor works in shifts, how many hours were reduced?

- ◯ No reductions
- ◯ 1-12 hours per month
- ◯ 12 to 24 hours per month
- ◯ 24-36 hours per month
- ◯ 36-48 hours per month
- ◯ More than 48 hours per month

Do you have an alternative source of income (other than medicine)?

- ◯ Yes
- ◯ No

Do you have fixed income working in a public tender or registered job?

- ◯ Yes
- ◯ No

If you have fixed income, how much of your final income does it represent?

- ◯ 1% - 25%
- ◯ 25% - 50%
- ◯ 50% - 75%
- ◯ 75% - 99%
- ◯ 100%

How many elective surgeries were cancelled?

- ◯ Up to 5 surgeries
- ◯ Between 5 and 10 surgeries
- ◯ Between 10 and 15 surgeries
- ◯ Between 15 and 20 surgeries
- ◯ More than 20 surgeries

How many days will you take away from work activities?

- ◯ 13/03 to 23/03 – 14 days
- ◯ 13/03 to 03/04 – 21 days
- ◯ 13/03 até 10/04 – 30 days
- ◯ More than 30 days

Do you have a financial reserve?

- ◯ Yes
- ◯ No

If you have a financial reserve, how long can it last?

- ◯ Up to one month
- ◯ 1 to 3 months
- ◯ 3 to 6 months
- ◯ 6 to 12 months
- ◯ More than 1 year

When do you expect to get back to regular work activities?

- ◯ 1 month
- ◯ 2 months
- ◯ 3 months
- ◯ 3-6 months
- ◯ 6 to 12 months
- ◯ more than 1 year