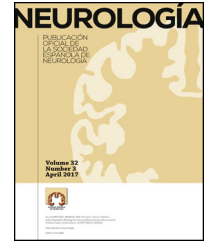




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ORIGINAL ARTICLE

Social and professional consequences of COVID-19 lockdown in patients with multiple sclerosis from 2 very different populations

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KEYWORDS

Covid-19;
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Abstract The global lockdown measures implemented due to the COVID-19 pandemic have nearly always had negative consequences for patients with multiple sclerosis (MS).

Objective: We compared the social and professional effects of confinement on patients with MS in 2 very different populations, from Spain and China.

Method: Questionnaires were administered to a group of patients with MS who consulted at the MS unit of Vithas hospital (DINAC Foundation) in Seville, and patients with MS attended in several provinces of China in April 2020, with the aim of analysing the differences and similarities between populations in the social and professional effects of confinement. To this end, a database was created and subsequently analysed.

Results: The Chinese population includes a higher proportion of younger patients and no differences were identified regarding sex. Most of the variables studied behaved in the same way in both patient populations. Spanish patients presented a lesser impact (30.7%) on their socio-economic situation than Chinese patients (44%) ($P < .05$). There were no significant differences between populations in the remaining variables. Social networks were widely used in the majority of patients from both populations

Conclusions: The social and professional consequences of the pandemic were very similar in both groups; the use of social networks and family support was also similar. Spanish patients seem to present greater economic stability, perhaps due to the social support they receive.

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PALABRAS CLAVECovid-19;
Esclerosis Múltiple;
Confinamiento**Consecuencias sociolaborales del confinamiento por la COVID-19 en pacientes con esclerosis múltiple en dos poblaciones muy diferentes**

Resumen El confinamiento debido a la pandemia del COVID-19, realizado a nivel mundial, ha tenido consecuencias casi siempre negativas en los pacientes con Esclerosis Múltiple (EM).

Objetivo: Hemos comparado el efecto socio-laboral que el confinamiento ha podido tener en dos poblaciones tan diferentes como son España y China, en pacientes con EM.

Método: Se elaboraron unos cuestionarios a lo que respondieron un grupo de pacientes de EM que son revisado en la unidad de EM del hospital Vithas (Fundación DINAC) en Sevilla, y pacientes con EM atendidos en varias provincias de China durante el mes de Abril del 2020, con el objetivo de analizar las diferencias y similitudes del efecto socio-laboral entre ambas poblaciones. Para llevar a cabo este análisis, se creó una base de datos que se analizaron posteriormente.

Resultados: La población China tiene una mayor proporción de pacientes más jóvenes y no hay diferencia respecto al género. La mayoría de las variables estudiadas se comportaron de igual forma en los pacientes con EM tanto españoles como chinos. Los pacientes españoles presentaron menos impacto (30,7%) en su situación socio-económica que los chinos (44%), $p < 0.05$. No hubo diferencias importantes en el resto de las variables entre las dos poblaciones. Las redes sociales fueron muy utilizadas en la mayoría de los enfermos de ambas poblaciones.

Conclusiones: Los pacientes con EM padecen de forma muy similar las consecuencias de la pandemia en su situación socio-laboral y utilizan de forma parecida las redes sociales y el apoyo familia. Los pacientes españoles disfrutaban de más estabilidad económica, probablemente gracias al apoyo social que reciben.

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Introduction

Since November 2019, COVID-19 has become a public health emergency with enormous consequences across the globe.¹ In December 2019, the World Health Organization was informed by the healthcare authorities of Wuhan, China, of a novel virus (SARS-CoV-2) that caused a severe respiratory syndrome (COVID-19). The disease was declared a pandemic on 11 March 2020. COVID-19 can present with a wide range of clinical manifestations, including fever, dry cough, and fatigue, which are frequently accompanied by pulmonary infection. SARS-CoV-2 is highly contagious, and most of the population is very susceptible to infection. It has been understood since the beginning of the pandemic that non-domestic animals,

such as bats, and infected individuals are the main source of transmission of the disease, which is spread through respiratory droplets and direct contact with patients with SARS-CoV-2 infection.² The Chinese government and the scientific community acted swiftly to identify the pathogen, to share viral genome sequencing data, and to implement measures to contain the epidemic. China established restrictions that were unprecedented in the history of public health.³ Wuhan and several other Chinese cities were placed under lockdown between 23 January and 8 April 2020. During this period, the Chinese population overcame all manner of difficulties and came together to fight the spread of the disease. The restrictive measures taken in China seemed effective in controlling the spread of SARS-CoV-2 and were praised by the World Health Organization.⁴

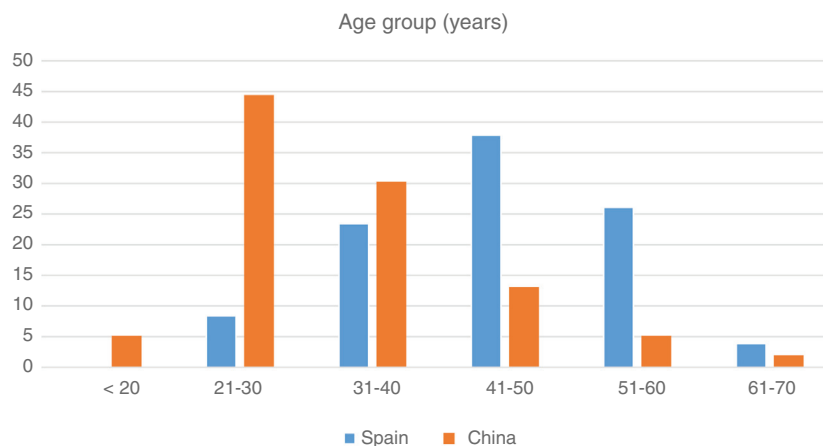


Figure 1 Age distribution in our sample, by country.

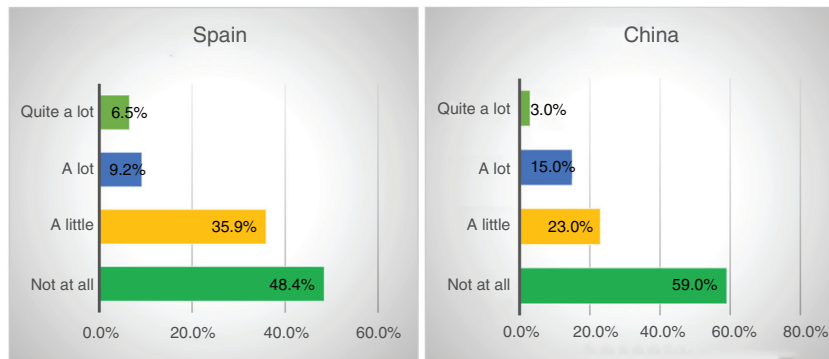


Figure 2 Responses to the question “Has lockdown affected your relationships with the people you live with?,” by country.

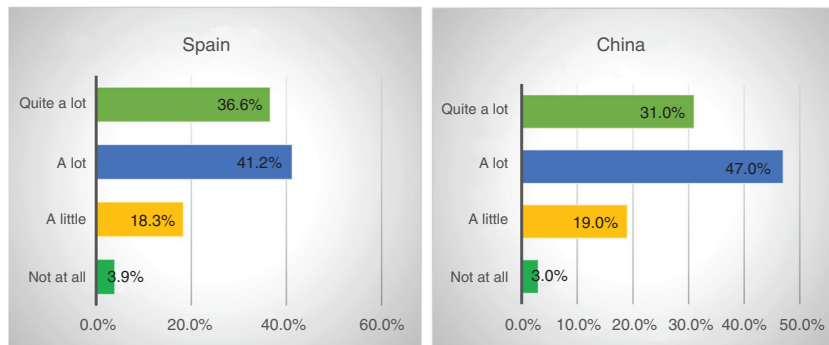


Figure 3 Responses to the question “Were you able to rely on your support network during lockdown? (Family, friends, neighbours, etc),” by country.

However, they have had an enormous impact on the economy and the social and family lives of the populations under lockdown, and may have a considerable impact on their health.

The scientific community soon began to consider the possibility that COVID-19 may present with neurological manifestations, although some symptoms were non-specific (tinnitus, headache, olfactory disorders).⁵ Supporting this hypothesis, the virus was detected in the CSF of a patient with encephalitis.⁶

In Spain, the epidemic started on 31 January 2020 on the island of La Gomera, and the first known death due to COVID-19 occurred on 13 February 2020 in Valencia. In March 2020, the epidemic began spreading throughout Spain.⁷ For several weeks, Torrejón de Ardoz (Madrid) became the first hotspot. Due to the rapid spread of the virus, numerous decisions had to be taken by the regional governments of the areas affected. On 14 March 2020, the Spanish national government declared a state of alarm for 15 days.⁸ This measure limited the movement of the population, with the public confined to their homes and only permitted to leave for essential activities (grocery shopping, going to the pharmacy, medical appointments, etc). The state of alarm was extended 3 times, finally concluding on 9 May 2020. It considerably lowered the incidence of SARS-CoV-2 infection, with the numbers of new infections and deaths decreasing significantly.

After that, Spain started a lockdown de-escalation plan, approved on 28 April 2020, with adaptations for each region. The process involved 4 phases:

- Phase 0. Elderly individuals and children could take walks, and all citizens could exercise individually in public spaces; timetables were established for these activities to prevent overcrowding.
- Phase 1. Social gatherings were allowed outside and at home, with precautions in place (physical distancing, proper handwash-

ing, and restricted occupant capacity of indoor and outdoor spaces).

- Phase 2 (intermediate). Businesses and sidewalk cafés and restaurant terraces could open; social gatherings with more individuals.
- Phase 3 (advanced). The government gradually eased restrictions on other economic and sociocultural activities, with efforts to prevent overcrowding.

These measures have had an enormous impact at all levels (education, healthcare, trade, tourism), freezing the economy and increasing unemployment rates; the economy is slowly recovering as we transition into the so-called “new normal.”

However, lockdown has had a patent, sustained negative impact on employment and lifestyles.⁹ Mass quarantine is an unprecedented event than will very likely have a considerable impact on the population’s physical and psychological well-being. Economic slowdown, school closure, and prolonged confinement of the entire population involves multiple stressful stimuli.¹⁰ The pandemic has increased psychological pressure on the population, and its general and individual economic consequences persist. Fear of infection and boredom due to prolonged confinement lead to anxiety and depression. Lack of information, economic losses, and stigma have been identified as stressors that may have exacerbated the situation. The perceived level of stress may vary between countries, and is partly dependent on the measures taken in each region.¹¹ Stress may therefore have considerable implications for the physical and mental health of the general population, and particularly for patients with multiple sclerosis (MS) worldwide.

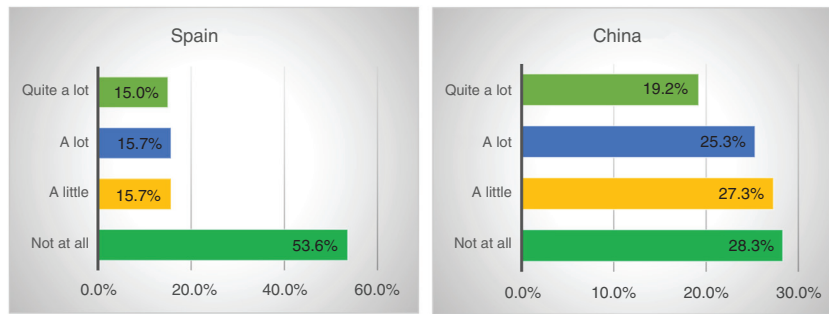


Figure 4 Responses to the question “Has your employment status changed?,” by country.

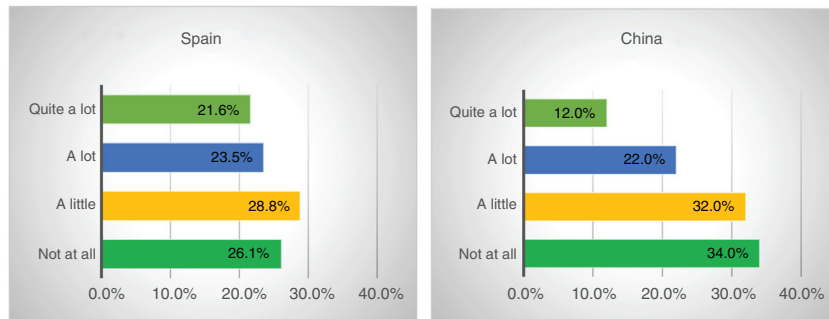


Figure 5 Responses to the question “Has the employment status of any of your relatives changed?,” by country.

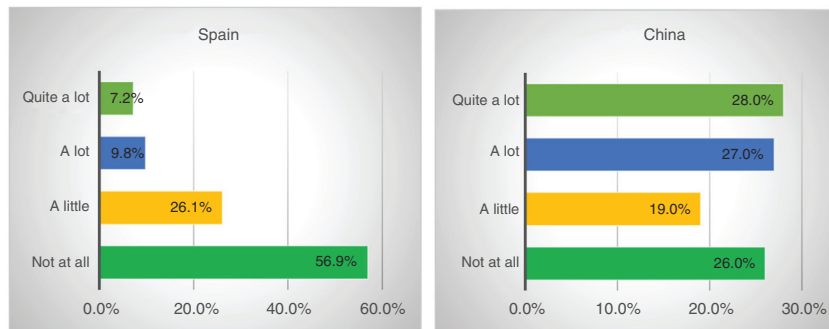


Figure 6 Responses to the question “Has your economic situation worsened?,” by country.

Objective

We compared the social and employment consequences of lockdown on patients with MS in Spain and in China.

Methods

We designed a questionnaire and sent it to patients with MS attended at the MS unit of Hospital Vithas (DINAC Foundation) in Seville and to patients with MS from different Chinese provinces in April 2020. We compared the impact of lockdown on social life and employment between the 2 populations. Data were entered into

a database and subsequently analysed using plots and statistical methods.

Results

A total of 99 patients from China and 153 from Spain (Andalusia) completed the questionnaire. The questionnaire evaluated the same variables in both populations.

Demographic variables of our sample

We collected basic demographic data (age and sex) from our sample (Fig. 1).

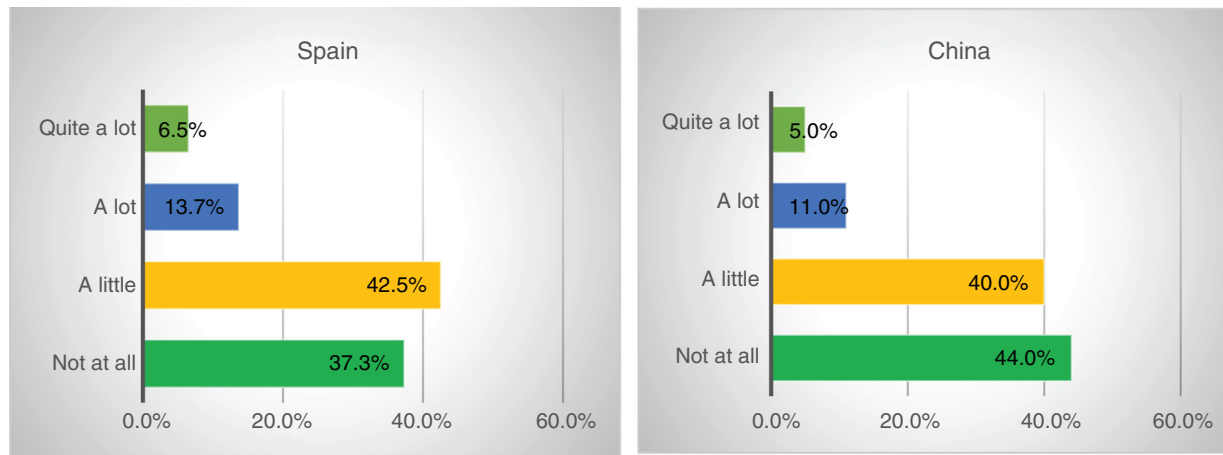


Figure 7 Responses to the question “Has your physical health worsened?,” by country.

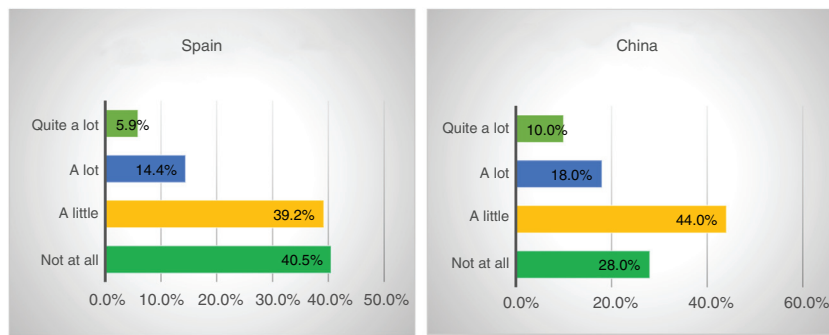


Figure 8 Responses to the question “Have you noticed more severe cognitive alterations? (Memory or concentration problems, difficulty concentrating),” by country.

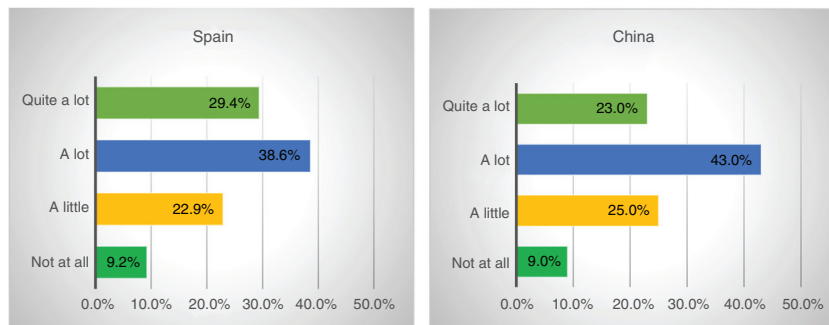


Figure 9 Responses to the question “Have you actively used social media or online platforms during lockdown?,” by country.

The subgroup of Chinese patients included 68 women and 31 men. The subgroup of Spanish patients included 112 women and 41 men.

- In Spain, 8.4% of patients were 21 to 30 years old, 23.4% were 31 to 40, 37.9% were 41 to 50, 26.1% were 51 to 60, and 3.9% were 61 to 70.
- In China, 5.1% of patients were 10 to 20 years old, 44.4% were 21 to 30, 30.3% were 31 to 40, 13.1% were 41 to 50, 5.1% were 51 to 60, and 2% were 61 to 70.

The questionnaire contained closed-ended questions divided into 5 sections.

The questions focused on the effects and consequences of lockdown due to the COVID-19 pandemic. The questionnaire gathered the following data:

A) Family relationships and support network

Two questions evaluated the closeness and importance of relationships. Both Spanish and Chinese participants considered their relationships with family and friends to be a very important factor in their well-being (Figs. 2 and 3).

B) Economy and employment

In Spain, 69.3% of patients reported little or no impact on their economic or employment status, while 30.7% reported a considerable impact. This may reflect the medium-high socioeconomic level of many patients with MS, many of whom receive economic support (benefits).

These findings may be explained by 2 factors:

- Patients with MS in active employment have stable, solid positions.
- The Spanish social security system provides economic support to a considerable proportion of patients with MS due to the disability caused by the disease.

In China, there was not a considerable difference in the number of patients reporting little or no impact on their economic and employment status (55.6%) and those reporting a substantial impact (44.4%) (Figs. 4 and 5).

The same trend is observed for economic status: Spain showed marked differences, whereas China presented a homogeneous distribution (Fig. 6).

C) Physical health

Both populations showed similar results, with 84% of Chinese patients and 79.8% of Spanish patients indicating that the pandemic has had little or no impact on their physical health, suggesting that the effects of lockdown on these patients were similar to the effect on individuals without MS (Fig. 7).

D) Cognitive alterations

We observed similar results in Chinese and Spanish patients: both patient groups reported that lockdown had had little or no impact on their cognitive status (72% and 79.7%, respectively). We may conclude that lockdown has not significantly altered cognitive function in these patients. However, this should be evaluated in the medium and long term, since it is reasonable to expect that cognitive problems may be detected no sooner than 6 months after the end of lockdown (Fig. 8).

E) Use of social media

Similar percentages of both Spanish and Chinese patients reported using social media a lot or quite a lot (68% and 66%, respectively). This shows that social media have become a hub for information and a means of communicating and sharing one's thoughts and mood, particularly during lockdown; this may have helped mitigate the feeling of loneliness during this period (Fig. 9).

Discussion

This study has several limitations. Firstly, the questionnaire was completed during lockdown in Spain, but after confinement was lifted in China. We needed to collect data from the 2 populations simultaneously, but circumstances were different in each country.

Secondly, most Spanish participants were from the south of Spain, whereas the other population included individuals from every Chinese region. Therefore, the local severity of COVID-19, the economic situation, and the healthcare resources available will differ between participants. This may have had an impact on our results.

Located in East Asia, China is a large (9 600 000 km²), highly populated country (1400 million inhabitants) with great social, cultural, and linguistic diversity between regions. The economy of eastern China is the strongest, whereas western regions are the poorest, with the centre of the country standing between the 2.

Chinese patients with MS are younger than Spanish patients and have lower incomes. The pandemic had a greater impact on younger individuals, which explains why Chinese patients reported more severe economic consequences than Spanish patients. The prevalence of MS in China is low and research into the disease is limited,¹² although interest has grown in recent years.¹³ Diagnostic rates have increased, and Chinese patients diagnosed with MS are younger. The social and economic consequences of the disease constitute the main source of concern for these patients. However, we cannot rule out the influence of such other factors as healthcare services and medical insurance. Some studies suggest that students and younger individuals are more likely to present psychological sequelae after the pandemic, with age acting as a protective factor: older individuals seem to be less vulnerable to the psychological consequences of this health crisis.¹⁴

Enforced confinement dramatically decreases opportunities to socialise with relatives and friends, which may have a considerable impact on physical and mental health; as a result, most people used social media and online platforms to obtain social support and reinforce their sense of belonging. This may explain why our participants reported no impact on their relationships with family and friends. Our results demonstrate the importance of family and friends in an individual's well-being, both in China and in Spain. The widespread use of social media during lockdown may also be related to remote work,¹⁵ which may explain why most participants reported no impact on their employment status. Therefore, both in China and in Spain, people used social media and online platforms more frequently than before the pandemic. However, usage may decrease as the de-escalation process progresses.¹⁶

During lockdown, some hospitals have postponed treatment for some chronic neurological diseases, such as MS. Although the consequences of COVID-19 were initially thought to be more severe, the results from our questionnaire, both in Spain and in China, suggest that the disease has had no significant impact on MS and that these patients present a similar risk to that of individuals without MS.¹⁷

Conclusions

Our results show that the impact of lockdown on the social and employment status of patients with MS is not significantly different from that of the general population. Furthermore, there is no evi-

dence that the incidence of COVID-19 is higher among patients with MS.

China and Spain present considerable differences in terms of culture, education, training, and traditions, but patients have similar values, placing much emphasis on family, friendship, and the need to socialise. In both countries, social media and online platforms have partially fulfilled the basic human need for physical contact during lockdown.

In conclusion, China and Spain present more similarities than differences in terms of the social and employment consequences of lockdown on patients with MS.

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Conflicts of interest

The authors have no conflicts of interest to declare.

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