

Living with a dog and supermarket shopping with home delivery were risk factors national lockdown

05/11/2020

Research news

A study conducted by the University of Granada and the Andalusian School of Public Health has analysed the main risk factors in the transmission of SARS-CoV-2 during the national lockdown in Spain, including going out to work or living with patients diagnosed with COVID-19.

The authors warn of the need among dog-lovers to take extreme hygiene measures regarding their pets, as it is not yet clear whether the owners were infected because the animal acted as the host for the virus and transmitted it directly, or whether they picked it up indirectly due to the increased exposure of the dog to vehicles of the virus (that is, objects or surfaces where the virus lies)

“From a scientific point of view, there is no justification for children’s playgrounds being closed to prevent infections while parks where dogs are walked are allowed to remain open, when there are numerous objects there that can act as vehicles for SARS-CoV-2,” observe the authors

A study carried out by researchers from the University of Granada (UGR) and the Andalusian School of Public Health has analysed the main risk factors in the transmission of the SARS-CoV-2 virus during the national lockdown in Spain, between March and May 2020.

The study, published in the journal Environmental Research, has revealed that living with a dog and buying basic products in the supermarket with home delivery were two of the socio-demographic variables (of those analysed) that most increased the



risk of contracting COVID-19 during the period under study—by 78% in the case of living with a dog, and by 94% in that of supermarket home delivery.

The authors warn dog-owners of the need to take extreme hygiene measures in relation to their pets, as it is not yet clear whether the owners were infected because the animal acted as a host for the virus (and transmitted it) or due to having taken it out for a walk in public.

As explained by **Cristina Sánchez González**, a researcher at the UGR's Biomedical Research Centre and the main author of this work, "in view of the rapid spread of the virus even during lockdown, we consider it important to study the socio-demographic characteristics, habits, and comorbidities of the SARS-CoV-2 infection in order to implement effective prevention strategies."

To this end, the researchers designed a survey to capture variables of interest during the lockdown period that might help explain the exponential spread of the virus, despite the highly restrictive mobility conditions implemented nationally in Spain.

Study based on 2,086 individuals

This study, carried out throughout Spain, sought to shed light on other possible routes of transmission of the COVID-19 disease, risk factors, and the effectiveness of the hygiene measures recommended by the Authorities, in order to detect critical points of exposure to the virus and thus minimise its spread—not only in this pandemic but also for any future events that could compromise public health.

Based on a sample of 2,086 individuals, 41% of the population surveyed were aged between 40 and 54 years and had studied to degree (44%) or postgraduate (32%) level. This collective presented a prevalence of the disease of 4.7%.

The results showed that the risk of suffering from COVID-19 is 60 times higher among those who cohabit with a COVID-19 patient. In addition, of all the socio-demographic variables analysed, the one with the most powerful effect in terms of increasing the risk of contracting the disease (by up to 78%) was living with a dog and taking it for a walk. By contrast, having cats or other types of pets had no significant effect on the prevalence of the disease.

"The results of our research warn of increased contagion among dog-owners, and the reason for this higher prevalence has yet to be elucidated. Taking into account the current scarcity of resources to carry out the diagnosis of SARS-CoV-2 in humans, the possibility of diagnosis in dogs is extremely unlikely," notes Sánchez González.

These results point to cohabiting with dogs as being a strong risk factor for COVID-19 infection, although further studies are needed to determine whether the reason for

this sharp increase in the risk of SARS-CoV-2 infection is due to transmission between humans and dogs, to the dog acting as a vehicle for the virus, or to the increased contact with other vehicles for the virus (that is, objects or surfaces where the virus is present). The latter could be caused by greater exposure to the virus due to the unhygienic behaviours and habits of dogs when out in the street and their subsequent return to the home.

“At the international level, there are several studies that have obtained results similar to ours regarding Coronavirus infection in dogs, but it is necessary to dig deeper on this issue and establish whether this prevalence of the virus among dog-owners is due to one reason or another,” explains the UGR researcher.

Sánchez González warns that, “in the midst of a pandemic and in the absence of an effective treatment or vaccine, preventive hygiene measures are the only salvation, and these measures should also be applied to dogs, which, according to our study, appear to directly or indirectly increase the risk of contracting the virus.”

The researcher also points out that “from a scientific point of view, there is no justification for children’s playgrounds being closed to prevent infections while parks where dogs are walked are allowed to remain open, when there are numerous objects there that can act as vehicles for SARS-CoV-2. At the same time, we should not rule out the possibility that the virus may be transmitted via faecal matter.”

Disinfecting supermarket products

In this study, the effect of certain variables—gender, age, educational level, type of residence, size of household, cohabitation with children or adolescents, the presence of workers among the household members, the presence of domestic workers in the home during lockdown, or having any type of pet other than a dog—was found to have no statistical significance.

The most effective hygiene measure in helping to reduce the prevalence of the disease was to disinfect products purchased from the market once back home (which reduced the risk by 94%). This was found to be more effective than other hygiene measures, such as the use of facemasks, gloves, disinfecting with ethanol or bleach, disinfecting shoes, and washing clothes when returning home.

Among mobility variables that were studied, those with the greatest effect in terms of increasing the prevalence of the virus were working outside the home (which increased the risk by 76%) and the use of public transport (particularly the underground system or tram network). A higher prevalence of the disease was also detected among those surveyed who had purchased their basic products at a supermarket and then used the home delivery service, compared to those who

brought their shopping home themselves (the risk increased by 94% among the former group).

The authors emphasize that this was an epidemiological study, which neither addresses the mechanisms surrounding the virus nor establishes causal relationships. This was a descriptive study in which the selected variables were statistically associated with prevalence.

Bibliography:

Rodríguez Barranco, M., Rivas García, L., Quiles, J.L., Redondo Sánchez, D., Aranda, P., Llopis, J., Sánchez Pérez, M.J., & Sánchez González, C., 'The spread of SARS-CoV-2 in Spain: Hygiene habits, sociodemographic profile, mobility patterns and comorbidities'. Environmental Research. Online: <https://doi.org/10.1016/j.envres.2020.110223>.



The research team from the University of Granada and the Andalusian School of Public Health that conducted this study



People walking their dogs along the street

Media enquiries:

Cristina Sánchez González, “José Mataix Verdú” Institute of Nutrition and Food Technology. Sport and Health Joint University Institute. Department of Physiology, Faculty of Pharmacy, University of Granada

Email: @email