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Climate change and its effects on health

Health

Looking after your skin, our body's largest and most fragile organ

Covid-19 variants: how many are there and the dangers they entail

Lifestyle

The year of the campervan: Privacy and freedom in times of pandemic

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Healing the planet

The effects of climate change on health have already become a reality. It has been proven that climate variations caused by human actions affect people's health. And the figures, in addition to being concerning, are not very hopeful. While deaths caused by climate change 20 years ago reached 150,000, the WHO is alerting that within 20 years these figures will rise to 250,000 victims.

The high temperatures and natural disasters related to extreme weather conditions cause deaths and lead to devastating effects for health in both the short and long terms. By now, the climate emergency is as real as its threat. For this reason, in this new issue of *Compartir* we are pausing to be able to increase our awareness of the real current situation, analyzing all its repercussions.

Just as summer is about to start, we are reminded that it is vitally important to use sunscreen to prevent serious problems affecting our skin: our largest and also most fragile organ. We talk about this to Dr. Cristina Pérez, a dermatologist from the HLA Toledo Medical Centre, to discover new digital instruments that help to detect anomalies and that will be essential in the future of our skin.

A future that we are also looking towards with greater optimism, thanks to the vaccines against Covid-19. A virus that continues to mutate, and against which we continue to fight. Every day, thousands of mutations occur, but very few of them end up being variants. Here we look at these new replicas of the virus, why they occur and their dangers.

Climate change entails serious effects for health and the forecasts for the future are not very hopeful

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Established in 1989, the Fundación Espriu integrates the entities using the cooperative healthcare model created by Dr. Josep Espriu: Autogestió Sanitària, Scias, Lavinia and Asisa, which make up the Assistència and ASISA Groups.



The importance of caring for (and most fragile) organ: your

The skin is the body's largest organ. It can regenerate itself; it is water-proof, resistant and flexible; it breathes and remains active 24 hours a day. But it is also vulnerable to many aggressions, both external and internal; therefore it is vital to make its care a top priority. Moisturising it and protecting it from ultraviolet rays are essential to help safeguard it.

by **Ángela Zorrilla**

The skin is the largest organ in the human body. It can weigh up to 10 kilos and it covers, approximately, a surface area equivalent to two metres. Additionally, it is a live, active organ that is constantly changing. As summarised by the Fundacion Piel Sana at the Spanish Dermatology and Venereology Academy (AEDV using its Spanish initials), the skin acts as a protector, a melanin producer, temperature regulator, vitamin D activator, detector of feelings and it is an aesthetic organ. However, it is also one of the organism's most fragile and vulnerable parts, as it can be affected by external elements (the sun, aggressions, the environment...), internal elements (internal diseases) or by altercations created within its own cells.

For all these reasons, it must be kept clean and moisturised as it is the only organ that is directly, and constantly, open to the

exterior. A routine is essential in order to have a good (and healthy) appearance and if attention is not paid to it, dehydration or dryness can appear. In short, a gentle, daily cleansing and good moisturising care help to keep your skin healthy. The products used in these routines must be top quality and above all, they must adapt to each person's specific skin type. These creams are recommended for application after washing, with the skin damp, for improved and greater absorption. For good moisturising, toning and exfoliation, products recommended by a dermatologist should be used to obtain effective care. All of these will contribute to protecting the skin against external aggressions such as the sun or pollution and likewise, they will soothe irritated skin, re-establishing its condition and preventing the appearance of skin diseases. ■

■ **The skin protects; it produces melanin; it regulates the body temperature and activates vitamin D. Therefore, it is essential to safeguard it from external aggressions such as the sun or pollution.**

the largest skin



The most popular myths about skin care

1 Food does not affect skin condition. Acne is one of the most common reasons for visits to the dermatologist. Apart from chocolate and dairy products, there are other foods that help it to appear such as fruit juices and sweets. Particularly ingredients with a high glycaemic index or fats.

2 Oily skins do not need moisturising creams. False. If creams are avoided, the skin will try to compensate for this lack of moisturising by making more oil and increasing the skin problems. It is important to consult a dermatologist regarding the most suitable type of cream for each skin type.

3 Skin problems disappear on their own. According to popular belief, there are some diseases, such as acne, which disappear on their own. And this is not true. Going to the doctor when necessary is important to prevent complications with these infections or skin inflammations and to receive the best treatment.

4 Protecting the skin against the sun can cause a vitamin D deficit. The calcium in our bones needs vitamin D to ensure its correct mineralisation. Vitamin D is produced in the skin thanks to sunlight. There has been speculation as to whether protecting the skin against the sun to prevent disease can cause vitamin D levels to become excessively low. The truth is that exposure to light in the street on hands and face - even when applying sunscreen, for just 15 minutes is sufficient to produce all the vitamin D that the body needs.

Protection against ultraviolet rays

Thanks to solar radiation, the human body synthesises vitamin D, which is essential in some of the organism's processes that help to prevent osteoporosis and rickets, for example. Therefore, the sun does not only cause damage. The key is to find a balance and act with caution: avoid the hours of maximum radiation, protect against the ultraviolet rays and moisturise the skin.

The sun provides heat, energy and brings many benefits for health, amongst which the healing of wounds, its role in the prevention of osteoporosis or acne stands out; it even helps reduce cholesterol and blood pressure. The problem arises when there is a constant, indiscriminate exposure. Ultraviolet radiation, UVB, plays an important role in the development of skin cancer and in premature ageing. Excessive exposure also causes dryness or burns. Studies corroborate that between 70% and 90% of basal cell carcinomas are developed in areas of the head and neck exposed to sunlight. Therefore, dermatologists recommend a progressive exposure to sun rays, slowly increasing.

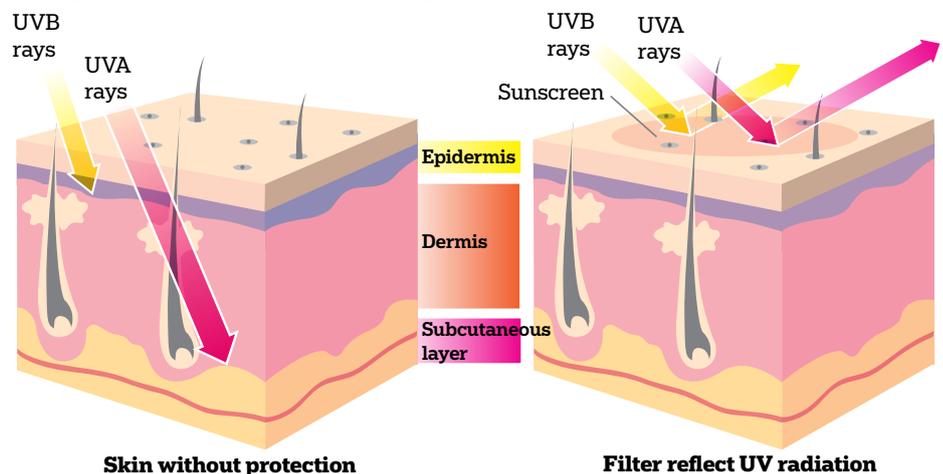
Now that summer is on the way, it should be taken into account that a large part of the population has not received any solar radiation directly for some time; therefore to prevent burns, care must be taken with exposure to the sun. The experts recommend the use of sunscreens and other protection elements, such as specific clothing or hats and/or caps. Sunscreen must be applied before going out into the sun and it must be reapplied ge-

nerously every two hours. To choose the right sunscreen, there are several factors to be considered. On the one hand, skin colour. For example, light skins are more sensitive to exposure to the sun than darker ones. The season must also be taken into account, as well as how long is the skin going to be exposed and whether there are any previous skin problems. There is a great deal of educational work



and campaigns to be done regarding the pairing formed by sun and skin problems. In spite of the fact that 92% of people acknowledge that exposure to the sun can generate health problems, only 18% of them always protect their skin. Dermatologists recall that it is essential to establish suitable habits against sun radiation to be able to take advantage of its benefits and to minimise its risks. ■

UV penetration into the layers of the skin





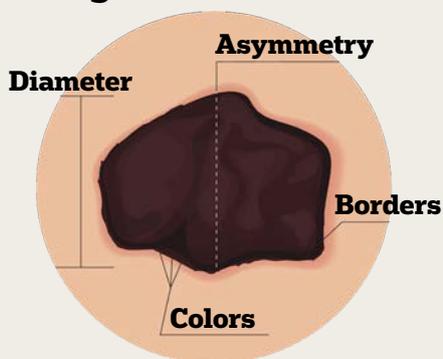
Early diagnosis, vital in skin cancer

The most frequent skin problems are viral infections, eczema, psoriasis, acne, fungal infections, hives, alopecia or moles. But, currently, a very important part of dermatology is comprised of skin cancer, with a large increase in cases in recent years, which are closely related to exposure to the sun. 90% of these appear on the areas of the skin exposed to the sun: the face, neck, ears, hands and forearms. Early diagnosis is one of the most effective weapons in the fight against this disease. This early detection increases the possibilities of successful treatment exponentially which, in initial phases means a better prognosis in the evolution of the cancer.

The two most common types of cancer, basal cell carcinoma and squamous cell carcinoma, have high probabilities for being cured.

Melanoma, the third type, is more dangerous and usually has a worse prognosis. According to the Observatory of the Spanish Association Against Cancer (AECC in its Spanish initials), in Spain around 5,500 cases of melanoma are diagnosed every year. The patient's prognosis will depend, to a large extent, on the stage of the tumour and whether the cancer cells have reached organs near the skin melanoma. However, an increasing amount of research is revealing other factors that affect patient survival. One of these studies, focused on melanoma, was presented at the 1st AEDV Virtual Congress Autumn 2020, last November. Amongst other conclusions, it was observed that being over the age of 70 years means an increase in mortality due to melanoma.

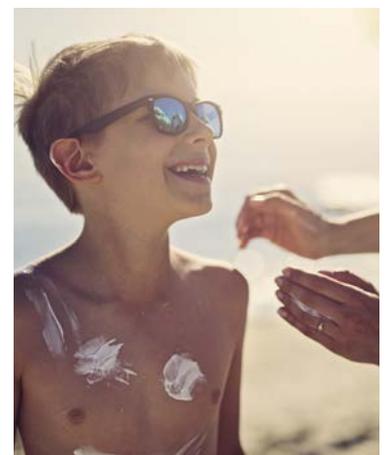
Signs of melanoma



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Which simple steps can be taken to protect against the sun?

- 1** Avoid exposure to the sun in the central hours of the day. The UV sun rays are stronger between 10 am and 4 pm.
- 2** Take the UV index into account. This data helps plan open air activities to prevent excessive exposure.
- 3** Take advantage of the shade, without forgetting that trees, sunshades or awnings do not give complete protection against solar radiation.
- 4** Use protective clothing and wide-brimmed hats or sun glasses with a 99-100% protection rate. Loose clothing with tightly-woven fabric also protects against the sun.
- 5** Apply sunscreens with solar filters. Spread the cream generously over the exposed skin and repeat the application every two hours.
- 6** Protect children, since they are usually more vulnerable to environmental risks. Babies must always be kept in the shade.





The future of our skin

Dermatologists currently have different digital tools that can be useful in their medical practices, helping to optimise time, to prevent mistakes or speed up communication.

Dermatology, as with many other medical specialisations, has evolved over the past 20 years. “We have new techniques, such as skin ultrasound scans, photodynamic therapy or important advances in digital dermatoscopy; and a broader therapeutic arsenal with new biological drugs in psoriasis, atopic dermatitis...,” explains Doctor Cristina Pérez, a dermatologist from the HLA Toledo Medical Centre. Additionally, the advances in surgery are significantly complete and now there is greater knowledge about the physiopathology of many skin diseases.

Teledermatology (TD), for example, represents one of the most common uses of tele-medicine, and in recent years, Spain has been one of the coun-

tries that have developed it most. But apps, wearables and other digital tools also stand out for offering the best aid for patients. For example: a patient who, thanks to the FotoSkin app (patient-orientated free app to allow a photographic self examination of moles to be carried out), visits their dermatologist about a mole that has recently appeared and this turns out to be an early phase melanoma. The patient was operated on thanks to the early diagnosis. The simple gesture of photographing and monitoring moles by patients themselves has been shown to be a very useful step for the early diagnosis of melanoma.

Likewise, laser techniques already play an important role in dermatological

consultations. The experts predict that the future of this medical speciality involves implanting augmented reality or Artificial Intelligence (AI) in its processes. It is estimated that the market for augmented reality in health will reach 76,000 million dollars in 2030 or that the global market for AI will go from the current 1,300 million dollars to 10,000 million in 2024. “Artificial Intelligence will drive forward the diagnosis and therapy capacity of dermatologists in all areas,” according to Doctor Pérez. These advances will be very helpful in the early diagnosis of one of the great challenges of dermatology: eradicating skin cancer.

“The future of dermatology is promising,” the dermatologist from the Toledo HLA concludes, and “it has an exciting horizon” where new drugs, greater control of chronic diseases, new tools for diagnosis and treatments or technological advances will turn dermatology into an essential discipline for people’s health and well-being. ■

Dr. Cristina Pérez, dermatologist at the HLA Toledo Medical Center

“Digital dermatoscopy aids the early diagnosis of melanoma”

Thanks to digital dermatoscopy the shape, size, colour or symmetry of marks on the skin can be analysed. But, beyond the fact that it is a non-invasive examination, what benefits does it bring for both patients and doctors?

Patients with digital dermatoscopy monitoring have melanomas detected in earlier stages and it helps to detect changes that are more subtle than when using a normal examination. As a result of this, we can remove suspicious lesions much earlier, minimising unnecessary surgery. Additionally, it allows a very detailed monitoring of the moles, particularly in patients with a personal or family background of atypical pigmented lesions and melanomas.

What does this technique really involve?

The idea is to design a body map of lesions by zones using normal photography of each patient and a dermatoscopic image of the lesions to be monitored with their evolution over time. Digital dermatoscopy allows the lesions to be photographed with great diagnostic accuracy, filing them and comparing the images of the same lesion over time, aiding its monitoring. The dermatologist takes general images of the patient and then dermatoscopic images of all the marks to be monitored, around 30-40 lesions. In the following check-ups, the evolution of these images is stored and compared.

And how are these photographs taken?

Digital dermatoscopy is a non-invasive technique that allows the analysis of structures that are not visible in a normal physical examination. To do this, a magnifying glass and a lighting system that makes the cornea layer of the epidermis

translucent are used. The dermatoscopy analyses and stores a detailed image of the moles, generating a map of our skin.

Could you explain a case where it is highly beneficial?

Melanoma is the most aggressive skin cancer that exists and its removal in initial phases is a determining factor in the good prognosis of patients diagnosed with this tumour. Regular monitoring using digital dermatoscopy of atypical lesions allows, in most cases, an early detection of the melanoma. Digital dermatoscopy increases the probabilities of early diagnosis of a melanoma by 60-90%.

This highly detailed observation is useful for existing marks, but can it help prevention?

Yes, naturally. It does not only allow us to see the evolution of the dermatoscopic lesion, but rather it gives us a map of the patient's body using normal photography, where it is possible to detect new lesions.



Who she is

At the age of 41 years, Doctor Cristina Pérez became the youngest head of a Dermatology service in Toledo in the Spanish public health system. Married, with three daughters, for this doctor the only secret of a job well done is: effort and sacrifice. She studied Medicine at the Universidad Autónoma de Madrid; she prepared the MIR (medical residency examination) in Oviedo and, with ranking number 558, she chose her Dermatology residency in Toledo. When she was 31 years old, she gained her position as medical specialist in Dermatology, and ten years later, she became head of her area.



The effects of Covid-19 on the skin

The coronavirus pandemic has made changes in people's dermis. Extended use of face masks has created a new pathology, "maskne" and the constant washing of hands has increased the cases of contact dermatitis. But other prior pathologies, such as acne, rosacea or seborrheic dermatitis have also been worsened. The experts consider that, amongst others, stress plays a key role – alongside fear, uncertainty or lockdowns, in the outbreak of all these dermatological diseases. Additionally, the healthcare crisis caused by Covid-19 is having an important impact on the detection of melanomas. A recent survey carried out on over 700 dermatologists all over the world warns that a fifth (21%) of melanomas were not diagnosed in 2020, with a third (33.6%) of people not attending doctor's surgeries due to the pandemic. If these conclusions are added to the most recent incidence rates of melanoma from the World Health Organisation, the survey seems to indicate that, all over the world, over 60,000 melanomas have not been diagnosed and that this figure, in Spain, has reached 1,113 undetected cases due to coronavirus.

A link between Covid-19 and the skin, which has been under study from the very beginning. Therefore, in April 2020, a group of Spanish dermatologists, backed by the Spanish Academy of Dermatology and Venereology, carried out a study establishing five types of skin manifestations linked to the new virus. Months later, in the middle of the second wave, the doctors stopped seeing these skin symptoms in Covid patients. Furthermore, a recent research study led by the Pathological Anatomy Service of the Hospital Universitario 12 de Octubre and published in *The American Journal of*



Surgical Pathology described the presence of viral particles of the infection by SARS-CoV-2 in the skin using electronic microscope, demonstrating that the skin lesions could be one of the first signs of Covid-19.

Currently, while we are immersed in the vaccination phase, dermatologists all over Spain are receiving consultations about rashes from people who have been vaccinated against SARS-CoV-2. For this reason, the AEDV has started up a study aimed at improving the descriptions of these reactions and evaluating whether they are related to the vaccination or not. The period of inclusion in the study will extend until June. ■

Maskne: how to prevent the most common lesions

The popular term "maskne" is used to describe acne lesions associated with the daily, prolonged use of face masks. Wearing one every day – as one of the main prevention steps against Covid-19, increases skin temperature and humidity, which, in turn, increases

the secretion of sebum. This triggers the appearance of acne or worsens a pre-existing condition. Preventing acne caused by the use of facemasks, as well as other skin disorders, requires constant hygiene routines and treatments for maskne in accor-

dance with each skin type. Cleansing the skin every day is essential to keep the acne under control and to prevent the appearance of spots and skin problems. Following hygiene, protection – using products that protect the hydrolipidic barrier of the skin, with oil-free products that moisturise it, are also vital.



En tus **momentos A**, estamos contigo.

 **Assistència Sanitària**

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Covid-19 variants: how many are there, why are they created and what their existence means

The fact that a virus that we are still fighting might mutate into a different one is highly concerning. Let's talk about the Covid-19 variants: How are they created? How many really exist? Could a variant appear evades all the vaccines?

by **Natalia Pastor**





For the past few months, governments and institutions have been informing of the proliferation of new variants of the SARS-CoV-2. This is happening because when a virus replicates itself in another organism or makes copies of itself, it changes. It does this thousands of times a day, the same amount of times as transmissions occurring in people or animals. Because all viruses, including the SARS-CoV-2, the virus that causes Covid-19, evolve over time.

Each change is called a mutation because it means an alteration in the virus' RNA sequence. According to the World Health Organisation (WHO), most of the changes that occur have little or no impact on the characteristics of the virus. However, depending on where these alterations are located in its genetic material and on the number of these alterations, it can affect its properties, deriving in variants of the virus. This means that they can become, for example, faster to propagate, or more virulent. To put it in easier terms: every day thousands of mutations occur, but very few of them end up being variants.

HOW MANY COVID-19 VARIANTS DO WE KNOW ABOUT?

It is one of the most difficult questions to answer as there are – and there will be in the future, numerous variants of the virus. Indeed, in its last report, the Spanish Health Ministry listed at least ten variants that should be monitored. To date, there are three variants that are causing the greatest concern: the British variant; the South African variant and the Brazilian variant, commonly using the names of the places where the first case appeared. Four, if we count the Wuhan variant, which we could consider to be the 'original' one (although in turn, it is derived from other variants). This method for referring to the variants will change in the near future. According to the doctor responsible for emerging diseases and zoonotic diseases at the WHO, Maria Van Kerkhove, this organism is working to change the names of the Covid-19 variants. The aim is to remove the

link to the place where the person with the pathogen is located and to not stigmatise the countries where the variants are detected for the first time and the people who live there.

JANUARY 2020: THE BEGINNING

As the WHO underscores, the virus' mutation potential increases with the frequency of the infections or contagions and this is what happened at the end of January, 2020. A variant of the SARS-CoV-2 appeared with an alteration in its code. The B.1 variant. Just a few months were necessary for it to replace

the initial virus detected in Wuhan: in June, 2020 it became the dominant variant throughout the world. In December, the authorities in the United Kingdom informed the WHO of the identification of a new variant of the SARS-CoV-2, called SARS-CoV-2 VUI 202012/01 (due to the initials for Variant under Investigation in English, year 2020, month 12, variant 01). A few days later, South Africa alerted of the detection of a new variant. Three weeks later, Japan and South Korea did the

same: they had identified a new variant in several people who had returned from the Brazilian Amazon region. With differences, the three variants share great resistance against the antibodies generated, either due to exposure to Covid-19, or due to vaccination. To different degrees, they share a greater capacity for transmission, which has led them to be categorised by the WHO as 'Variants of Concern' (VOC). A category that is above the Variants of Interest (VOI), which are also under surveillance. The difference between them is that there is already evidence of a greater transmissibility of the VOCs, more serious cases of disease (higher amounts of hospital admissions or deaths), lower effectiveness of the treatments or vaccines or problems in diagnosis detection. They need, in short, a more exhaustive monitoring.

SHOULD WE BE CONCERNED ABOUT THE CHANGE OF SARS-COV-2?

Just over a month ago, a new study published in the magazine Nature warned ►►►

Every day thousand of mutations occur, but very few of them end up being variants

■ **The scientific community is monitoring hundreds of thousands of sequences of the virus on a huge database called GISAID in order to follow closely their evolution and the incidence of their variants**

■ **Mutations do not occur just with replication, but a high number of replications do derive in a greater risk of mutation**

▶▶▶ about the possibility that coronavirus is evolving to ‘escape’ the current vaccines. Is this possible? The nature of the virus pushes it towards survival and this leads it to escape in the opposite direction, but this does not imply that the vaccines stop being effective. It is normal for virus to change. Additionally, the SARS-CoV-2 is evolving more slowly than other known RNA virus’ such as influenza (for which year after year, new vaccines are developed against the new strains) or HIV. For this reason, the scientific community is monitoring hundreds of thousands of sequences of the virus on a huge database called GISAID, in order to closely follow their evolution and mutations, the incidence of their variants and to anticipate any possible necessary modifications in the public health measures or to modify the composition of the vaccines.

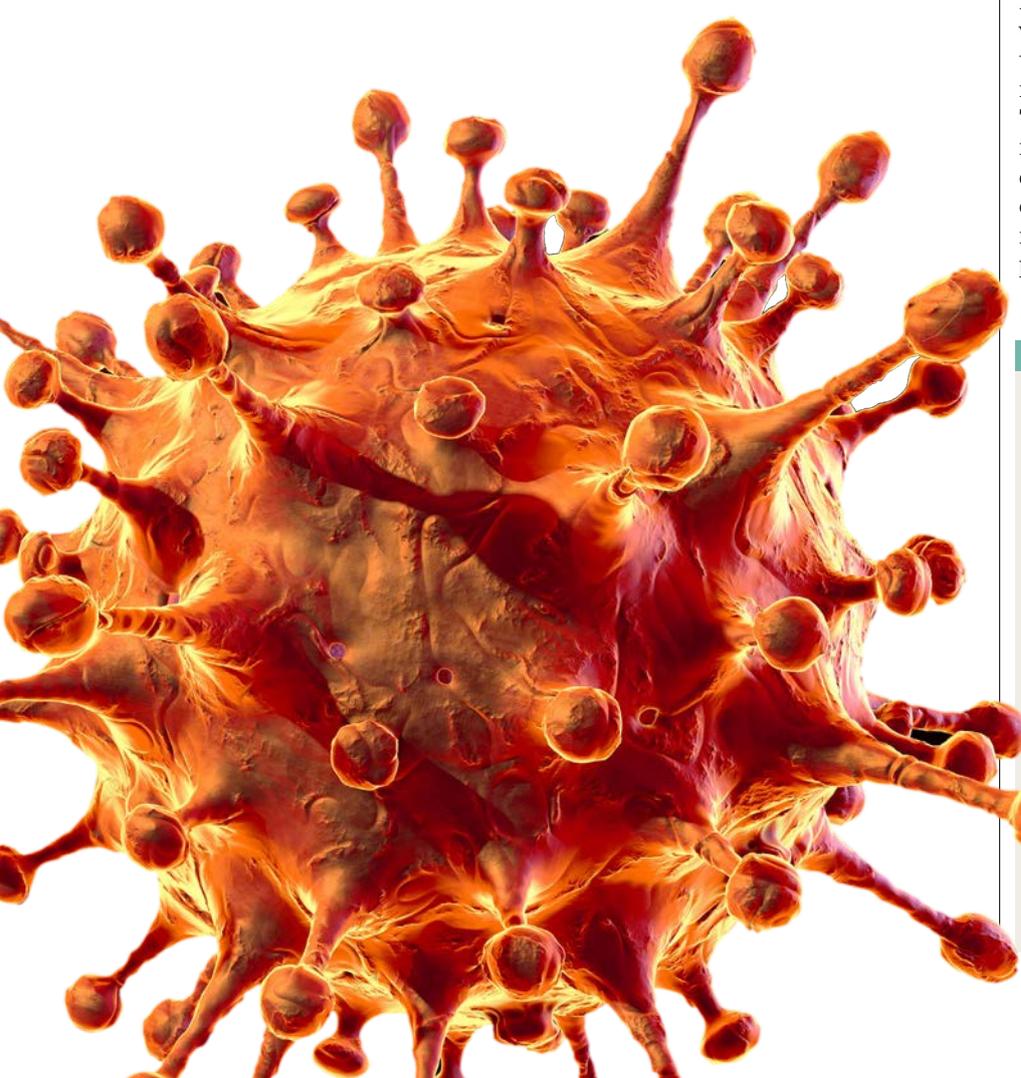
DOES A VIRUS SIMPLY MUTATE WHEN IT REPLICATES ITSELF?

A virus cannot reproduce itself and it needs another host, without which it cannot pros-

per. The SARS-CoV-2 makes copies of its genome, which contains 30,000 letters, in the cells of an organism. When it does this, sometimes it makes ‘errors’ or mutations. A mutation does not only occur with the replication, but a high number of replications do derive in a greater risk of mutation or error in the replica. This is a statistical fact. In all the mutations that occur, not all of them mean a competitive advantage for the reproduction of the virus. Some can be neutral or even harmful for its reproduction. But when a mutation allows it, for example, to attach itself better to the cell, the resulting version will spread with greater ease than the previous ‘versions’.

WHY ARE SOME VARIANTS MORE INFECTIOUS THAN OTHERS?

This is what has happened with the British variant (B.1.1.7), the most common lineage in Europe and also in the USA, according to recent information from the Center for Disease Control and Prevention (CDC) in the United States. It is also the most common variant in Spain. Experts have described it as a variant with faster propagation: according to the WHO, between 36% and 75% more transmissions with respect to previous variants. The key, once again, lies in its genome, the mutation of which has been researched by different study groups. The magazine Science talks about the conclusions reached by the researchers at the Boston Children’s Hospital in the United States, which have verified that the three VOCs have the D624G



Mutation, strain or variant?

● **Mutation**

An alteration of the genetic sequence of a virus when it reproduces.

● **Strain**

It differs from the variant as the strain presents a more drastic genetic mutation compared to the initial virus.

● **Variant or lineage**

A virus with one or several considerable mutations in its genetic code.

mutation in common. This alteration causes a change in the structure of the S protein, encouraging the adherence of the virus to the cells (greater entry capacity) and giving it greater contagion speed.

ARE THE VACCINES PREPARED TO INHIBIT THE VARIANTS?

According to the WHO, the changes or mutations that are being recorded should not invalidate the effect of the vaccine. As they indicate, in the case of any of these vaccines being less effective, it is possible to change the composition to increase the protection against these variants. However, some studies, such as the one carried out by researchers at the German Primate Center-Leibniz Institute for Primate Research and Jan Münch from the University of Ulm (Germany), point out that the variants are inhibited less effectively. If this happens and the variants were to become less sensitive to the antibodies, the scientific community can adjust or reformulate the composition of the vaccines. In this scenario, the vaccination strategy is essential to prevent more contagions that could derive in new variants that could be resistant to the vaccines.

DOES A VARIANT MOVE TO A STRAIN?

Not exactly. A strain differs from a variant due to the fact that the strain has a more drastic genetic mutation compared to the initial virus. We are talking about a number of mutations that derive in a substantial change in the virus that would imply, for example, that the vaccine would no longer be effective. This is what happens every year with the new 'strain' of 'flu, which needs a new vaccine.

HOW CAN WE PREVENT FUTURE NEW VARIANTS?

Stopping the propagation of the virus continues to be fundamental. As more people are vaccinated, the experts expect the circulation of the virus to decrease, which will mean fewer mutations and a reduction in the risk of new variants appearing. A strategy that not only must be supported by the effort made by the governments to speed up the vaccination process, but that also keeps the spotlight on prevention. Frequent hand washing, the use of face masks, physical distancing, good ventilation indoors and avoiding crowded or closed places are essential factors to clip the wings of the virus and sabotage its unavoidable mutations. ■

The most concerning variants

Name: VOC 202012/01

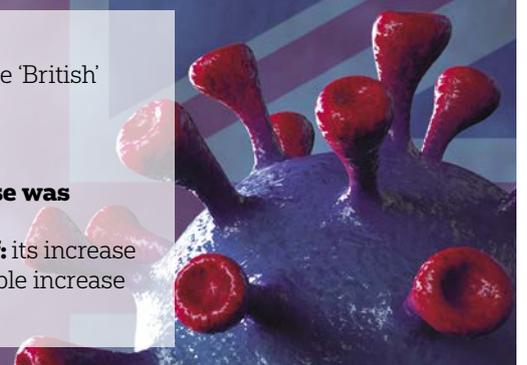
More commonly known as the 'British' variant

Variant: B.1.1.7

First case: September 2020

Country where the first case was detected: United Kingdom

It is concerning because of: its increase in transmissibility and possible increase in severity



Name: P.1

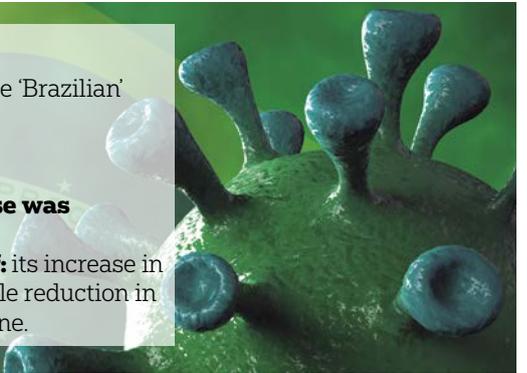
More commonly known as the 'Brazilian' variant

Variant: P.1

First case: December 2020

Country where the first case was detected: Brazil/Japan

It is concerning because of: its increase in transmissibility and a possible reduction in the effectiveness of the vaccine.



Name: 501 y.V2

More commonly known as the 'South African' variant

Variant: B.1.351

First case: October 2020

Country where the first case was detected: South Africa

It is concerning because of: its increase in transmissibility and a possible reduction in the effectiveness of the vaccine.



Name: B.1.617

More commonly known as the 'Indian Variant'

Variant: B.1.617

First case: October, 2020, although the infections shot up in March.

Country where the first case was detected: India

It is concerning because: it has 13 mutations and a higher growth rate, therefore it is more contagious. At present it is a variant of interest (VOI).



*Source: European Centre for Disease Prevention and Control

ASISA closes 2020 with its all-time record in premium invoicing

The growth has allowed the Group to face up to Covid-19 pandemic, with almost 60,000 patients being attended in its hospital centres.



Growth. In 2020, the ASISA Group maintained its commitment to the diversification of its insurance and healthcare activity.

The ASISA Group closed the year 2020 with its largest invoicing figure in premiums ever: 1,273 million euros, 4.28% more than the previous year. This growth has allowed the Group to face up to the pandemic caused by Covid-19 and continue developing its strategic plan to become consolidated as a company devoted to comprehensive people care.

The results from 2020 were presented at ASISA's Advisory Board meeting, which for the first time, was held virtually and it brought together the top people in charge

of the company under the slogan: 'Our value, your resilience.'

ASISA continues to grow and to diversify. The Group closes 2020 invoicing 1,253 million euros in health premiums; 12.8 million in life premiums; and over 6.8 million euros in other areas. Additionally, the healthcare companies in ASISA, led by the HLA Hospital Group, invoiced 461 million euros, 6.5% more compared to the previous year.

A BENCHMARK GROUP

During his speech at the Meeting, Dr. Francisco Ivorra, chairman of the ASISA Group, emphasised the reaching of two goals in a year clearly marked by the pandemic. "The year 2020 has been very complicated for our society and for the ASISA Group. In spite of everything, in a hostile setting, full of uncertainties, we have been able to reach two goals that are essential for our company: the first of them is to be useful and provide our experience and our skills to face up to the worst healthcare crisis in a century; along with continuing to move forward in our commitment to becoming the private benchmark group devoted to caring for people. Covid-19 has shown our strength and our determination to continue growing using cooperation and social commitment," he explained.

The ASISA Group has attended over 60,000 patients for Covid-19 at its hospital centres and over 65,000 policy holders in their homes. At the same time, it also deployed Asisa Live to guarantee access to the contracted cover. ■

- **TICH Consulting** (ASISA Group) continues to extend its client portfolio around the world of people choosing Green Cube, the comprehensive healthcare management software, to manage their healthcare centres. The technology company plans implantations in 7 cities in Spain, Honduras and the Dominican Republic this year. This adaptation will mean the management of another 800 beds before the end of 2021. The Green Cube software has already been chosen by 176 centres in 11 countries on 4 continents, with which it totals over 6,000 beds, 36,000 users and 76 million medical records.



- **The ASISA Group** has joined Forética, the reference business organisation in Spain with regard to sustainability and social responsibility, in order to strengthen its commitment to the planet's sustainability and to achieving the UN's 17 Sustainable Development Goals, as well as promoting a business model in which business efficiency is combined with the values of social responsibility and cohesion.

'HLA Futuro', a forum for reflection by healthcare professions after the pandemic

A meeting point for professionals to build more efficient, innovative healthcare, centred on the patient.

The HLA Group has joined the worldwide conversation analysing the healthcare systems in the wake of the Covid-19 pandemic and it has started up the 'HLA Futuro' initiative, a meeting point where the professionals from the Group themselves reflect on the challenges being faced and the answers that are being given to construct a new way of performing medicine aimed at building more efficient, innovative healthcare, always centred on the patients.

'HLA Futuro' has already brought together 12 experts from the Group who are working on the front line and in different areas, all with great prestige in their areas. The first conversations are devoted to six fundamental topics aimed at



Doctor José Javier García del Águila (left), Medical Director of HLA Mediterráneo (Almeria) and **Doctor Carlos Zarco**, Medical Director of HLA Universitario Moncloa (Madrid), during the conversation about 'The hospitals of the future.'

understanding what the medicine of the future will be like, starting with a reflection about the organisation of the healthcare system and patient care. To tackle both topics, Dr. Carlos Zarco, Medical Director of HLA Universitario Moncloa (Madrid) and José Javier García del Águila, Medical Director of HLA Mediterráneo (Almeria) talk about 'The hospitals of the future' and the future transformations that must be faced. ■


Access here all the 'HLA Futuro' conversations.



ASISA consolidates its offer in Portugal with the launch of a new health insurance policy



ASISA has started to market a new health insurance policy in Portugal, ASISA Saúde Premium, without a limit on capital or maximum cover age, an option that was not available on the Portuguese market up to now and that intends to accompany the Portuguese people during the main moments and phases of their lives.

Amongst its goals, ASISA wants to reach a 13% share of the health insurance market in Portugal over the next 10 years. To move forward with this challenge, in December, 2020 the ASISA Group opened up its first clinic in Portugal, located in the centre of Lisbon. Throughout 2021, in this centre ASISA will place at its policy-holders' disposal new medical specialities, such as general medicine, paediatrics, gynaecology and dermatology, as well as cosmetic and nutritional services. ■



HLA Vistahermosa and HLA Moncloa repeat in 'Newsweek'

The HLA Universitario Moncloa (Madrid) and HLA Vistahermosa (Alicante) hospitals have been selected for the second year running to be on the list of the best in Spain that is prepared by the New York magazine Newsweek. The 'World's Best Hospitals' ranking identifies and acknowledges the best hospitals in the world, both public and private. The two centres were selected on the list of the best in Spain ranked at No. 32 (HLA Moncloa) and No. 85 (HLA Vistahermosa). ■



The UR Group is growing with three new fertility units

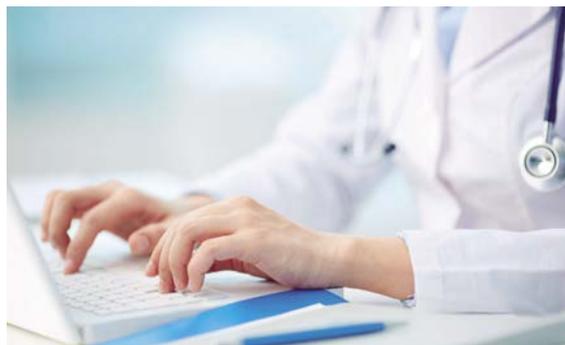
The UR Group, Grupo Internacional de Unidades de Reproducción (International Group for Reproduction Units), has opened three new clinics in Cadiz, Oviedo and Cartagena (Murcia). The opening of these new units, which are already fully operational, is framed in the company's growth plans in Spain, where it already has 12 centres, to which are added the UR Mexico City and UR Managua (Nicaragua) clinics. ■

Assistència Sanitària offers 30,000 euros in scholarships for healthcare professionals

Postgraduate students in the health field enrolled in the 2020-21 academic year have some grants available to them that cover 50% of the amount of the enrolment fee, up to a maximum of 1,000 euros.

Assistència Sanitària is renewing, for the thirteenth year running, its commitment to training in the health field and it is convening its scholarship programme for healthcare professionals. In the current emergency situation, profiles dedicated directly or indirectly at the management, care and treatment of Covid-19 are being given special value, and an emphasis is being made on the need for commitment to renewing of knowledge and continuous improvement, in a setting where the advances in research are playing an indisputable leading role in overcoming the pandemic. According to Dr. Ignacio Orce, chairman of Assistència Sanitària, “as an organisation of doctors, we are experiencing the effects of this virus on the front line and we are putting ourselves next to the professional teams so that they can maintain their commitment to excellence.”

Postgraduate students in the health field enrolled in 2020-21 academic year have some grants available to



13th edition of the Scholarship Programme for healthcare professionals



them which, with a total endowment of 30,000 euros, cover 50% of the enrolment fee, up to a maximum of 1,000 euros per person. The deadline for application admissions is the 7th of May, 2021 and the educational offer includes around 500 masters and post-graduate courses in all the Catalan universities and their affiliated centres. The terms and conditions about the procedure to opt for the scholarships are available on the Assistència Sanitària website (www.asc.cat).

With this initiative, acknowl-

ged by the medical and university communities, Assistència Sanitària wants to contribute to improving the Catalan healthcare system as a whole, and in particular, to guaranteeing the optimum preparation of doctors, nurses and other people who look after citizens' health and who, with their professional practice make quality healthcare possible. Since the year 2008, at total of 2,945 applications have been received; 369 scholarships have been granted and around 350,000 euros have been awarded.

This is one of the few study scholarship programmes in the health area that is consolidated and completely funded by a private institution around the entire country, although since its beginnings it has earned the gratitude of both universities and the medical community. Born from the desire by Assistència Sanitària to promote scientific progress, it is an instrument to maintain the excellence of the system in a complicated setting. ■

SCIAS promotes member participation

As a body arising from healthcare cooperativism, SCIAS is promoting the active participation of all its members in its decision-making processes. An example of this is its Participation Area, the meeting point designed for all its members, who in turn are people insured by Assistència Sanitària, in order for them to socialise, get to know their cooperative better and participate in the annual assemblies, and therefore actively collaborate in the development of SCIAS. It is a space where experiences may be shared and ideas put forward for healthcare that improves day by day. Now, with the current situation, the digital transformation of the cooperative has gone a step further and offers a complete programme of leisure and cultural activities online on a new

website (<https://scias-socis.com/>) that brings it closer to the entire territory.

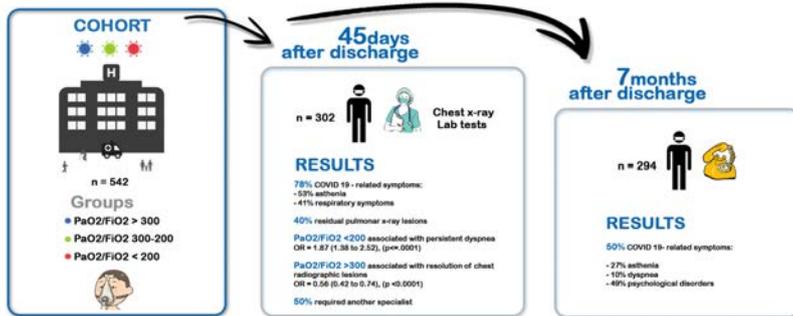
A result of months of work and analysis of users' needs, from April onwards, SCIAS' Participation Area has a new digital space that is dynamic, up-to-date and functional. A complete overhaul has been carried out, to ensure that, in addition to being a showcase of the daily activity, the website also incorporates new functionalities which, explicitly, allow the cooperative's reality to be brought closer to everyone. ■



The first study of Covid-19 patients seven months after their hospital discharge

'Clinical Microbiology and Infection', the magazine published by the European Society of Clinical Microbiology and Infectious Diseases (ESCMID), has published the first scientific article resulting from the monitoring of Covid-19 patients during the seven months following their hospital discharge. Due to the scarcity of publications and data available to date, the team from the internal medicine service at the Hospital de Barcelona, led by the Service Head, Dr. Yolanda Meije, carried

out the clinical study using a broad, uniform cohort of 300 patients. All of them were treated with the same admission protocol; after discharge they were monitored at a pioneer post-Covid health centre launched by Assistència Sanitària, with x-ray studies and analyses. The patients show symptoms related to Covid-19 in 78% of the cases 45 days after hospital discharge (asthenia and respiratory problems) and in 50% of cases after 7 months (asthenia, dyspnea and psychological disorders). ■



Assistència Sanitària welcomes Pau Gasol



The Catalan pivot has rejoined the Barcelona Basketball Club after his successful years in the NBA. After the corresponding medical check-up at the Hospital de Barcelona and the Joan Gamper sports complex medical centre, Pau Gasol received his Assistència Sanitària card, which identifies him as a policy holder and gives him access to the organisation's services. The winner of two NBA rings has already played his debut game wearing the Barça shirt and he is firm in his goal of improving his fitness to lead Spain in the Tokyo Olympic Games that will be held this summer. ■

Brief news

● **The Hospital de Barcelona** has been included in the Best Hospitals 2021 ranking, which in its Spanish edition includes the best public and private hospitals according to prestige and care quality criteria. The international study was published by Newsweek magazine. Part of this recognition is due to the commitment to the continuous training of healthcare teams. According to data from the Education Commission, in 2020 over 17,000 hours of training were carried out in the Hospital de Barcelona. In spite of the cancelling of some external conferences and courses, the adaptation to the online modality favoured an extra 3,000 hours being carried out compared to the previous year.

● **Barcelona's television station,**

Betevé, showed a special programme devoted to the analysis and management of the pandemic, with the participation of Assistència Sanitària. Dr. Ignacio Orce, chairmen of ASC, intervened

to defend public-private collaboration in healthcare and demanded the recognition of the indispensable contribution made by private healthcare during these months. In this context, at the beginning of 2021, the Hospital de Barcelona had already attended 1,930 Covid-19 patients. Last March, the same television station broadcasted a report on the creation of SCIAS and the Hospital de Barcelona in its informative programme "Va pasar aquí" (It's going to happen here), which attempts to bring the history of Barcelona closer to its inhabitants.



Cooperativism, alternatives for responsible consumption

The Fundacion Espriu was used as an example of how cooperativism and the determination of professionals and users are essential for the organisations.



The experiences of the Fundacion Espriu were used as an example at the seminar on consumer cooperativism.

On the March 10th the seminar: ‘Cooperativism, alternatives for responsible consumption’ took place. It was organised by the Agrupacion de Sociedades Asturianas de Trabajo Asociado y Economica Social, ASATA (Asturian Business Cluster of Associated Work and Social Economics), along with the Gijon Municipal Business Centre.

Dr. Carlos Zarco, General Manager of the Fundacion Espriu, took part in the meeting, presenting the experiences of the cooperatives that make up the Fundacion Espriu. During his speech, Zarco talked about the origin and the history of ASISA,

Asistencia Sanitaria and SCIAS and he explained how the determination of the doctors to have a suitable environment to exercise their profession and that of the users to take part in the management of their healthcare have been the drivers pushing the development of these organisations forward.

José María Pérez, Manager of La Cooperativa, an Asturian organisation that brings together the farmers from Gijon also took part in the online seminar. This cooperative is the head of a group of companies acting in the energy, food and gardening sectors. ■



University Social Economy Week

The 2nd University Social Economy Week was held during the first fortnight of March, with a total of 127 activities in 26 universities, in which over 5,000 people took part.

Organised by the Centro de Investigacion en Economia Publica, Social y Cooperativa, CI-RIEC (Centre for Research in Public, Social and Cooperative Economy) and the network of researchers in Social Economy, ENUIES, the initiative revealed the intense educational activity and university research regarding the sector of cooperatives, worker-owned companies, mutual societies, social companies and the social action third sector that is being developed at present.

The week concluded with an online event about the role of cooperatives and other social economy companies in the Plan for the Recovery, Transformation and Resilience of the Spanish economy and in which the General Manger of the Self-employed, Social Economy and CSR, Maravillas Espín participated. ■

Renewal of the Council for the Promotion of the Social Economy

The aim of this body is to improve the collaboration, coordination and dialogue with the public administrations.

At its meeting on the 24th of February, the Cabinet passed a series of steps to renew the Council for the Promotion of the Social Economy, an organisation that has been inactive for the past ten years.

The renewal of this body has been an ongoing demand by the Confederación Española de Empresas de Economía Social, CEPES (Spanish Confederation of Social Economy Companies), of which the Fundación Espriu forms part. The Board is integrated in the Ministry of Work and Social Economy and its aim is to improve the collaboration, coordination and dialogue of the social economy and the public administrations.

Its composition and operation allow the sector to collaborate in the preparation of projects about legal or regulation provisions; to carry out studies and reports and to



tackle questions that affect the economy social bodies. This decision “comes at a moment of intense activity for the sector as we are working to tackle the road map marked out by the Ministry of Work and Social

Economy with subjects as crucial as the preparation and approval of the new Spanish Social Economy Strategy 2021-2027,” indicated Juan Antonio Pedreño, chairman of CEPES. ■

The Board is one of the most important bodies that the Social Economy sector has for dialogue with the Government.



Eudes Aquino, a great leader of Brazilian health cooperativism

Dr. Eudes de Freitas Aquino, who died on the 9th of March, was a great international reference for Brazilian healthcare cooperativism. In addition to working as a nephrologist, Dr. Aquino presided over the Brazilian medical cooperative, Unimed from 2009 to 2017. In 2015, Forbes magazine chose him as one of the 100 most influential people in Brazil.

In the international field, Doctor Aquino was a member of the board of the International Cooperative Alliance, vice-chairman of the regional ACI-Americas and chairman of the International Health Cooperative Organisation. ■

Climate change and its effects on health

The climate emergency has some important direct consequences on people's health. There are many diseases that get worse every year and new ones appear that result in important economic and public health problems. The warning is real.

by **Pilar Maurell**

Climate change kills. All the experts agree that climate variations due to human actions have repercussions on people's health. Natural disasters such as heat waves, floods and droughts, cause deaths and diseases, both directly and indirectly. Additionally, many important diseases are very sensitive to changes in temperature and rainfall, such as malaria and dengue fever. Other causes of death such as malnutrition and diarrhoea will increase in the future due to the climate change, according to the most recent report by the United Nations





Intergovernmental Panel on Climate Change (IPCC). And the fact is that it has been calculated that climate change caused 150,000 deaths all over the world in the year 2000, and according to a new study by the WHO, this figure will rise to 250,000 deaths in 2040.

The climate emergency is not just an environmental phenomenon, but rather it results in important economic and public health consequences. Therefore, the international community has been working on its effects on health since 2008, when, at the 61st World Assembly of the World Health Organisation (WHO), 193 countries assumed the urgency for developing health measures integrated in the climate change adaptation plans. In March 2021, the European Commission (EC), collaborating with the European Environmental Agency also started up the new European Observatory on Climate and Health, an extension of the European Climate Adaptation Platform (Climate-ADAPT), to “understand, anticipate and minimise the threats to health caused by climate change.” “There is no vaccine against the climate crisis,” the executive vice-chairman for the European Green Compact, Frans Timmermans stated at that time, “but we can still fight it and get ready for its unavoidable effects, which are already being perceived both inside and outside the European Union.” Because climate change is a global threat that compromises air quality, the amount of drinking water and food available and the possibility of having a safe home.

The variability of the climate is the direct or indirect cause of deaths and diseases. Amongst the former are those caused by floods, tornados or hurricanes (the increase in natural disasters ►►

» It has been calculated that climate change caused 150,000 deaths all over the world in the year 2000, and according to the WHO predictions this figure will rise to 250,000 deaths in 2040

»» on a global scale has tripled since the 1960s and every year they cause around 60,000 deaths), but also due to heat waves such as the one suffered in Europe in the summer of 2003, when an excess mortality rate of 70,000 deaths was recorded, according to the World Health Organisation. Another direct cause is the worsening of circulatory and respiratory diseases, since extreme heat also means a rise in the levels of pollen and other allergens, which cause asthma, a disease that affects around 300 million people around the world and that will increase over the next few years. These heat waves will escalate, particularly in Southern Europe, according to the experts from the IPCC.

The cold will also affect health. This is the case of the wave that devastated the medium latitudes of the European continent in 2018, known as the Beast from the East. This year we have once again seen snow and ice on blossoming fruit trees at the start of a spring that has changed in many European regions. One of the possible causes is the loss of the sea ice in the Barents Sea in the Arctic, according to a study by the University of Oulu (Finland) and the Arctic University of Norway, published in the magazine *Nature Geoscience*. According to the experts, over the past four decades, a growing loss of ice in the Barents Sea has been observed, with an associated effect of spring snowfall and cold in continental Europe, which affects the harvests. The same researchers discovered

that during the 2018 episode, the conditions on the open sea in the Barents Sea supplied up to 88% of the snow that fell on Europe.

Amongst the indirect consequences on health by climate change are a greater cardiopulmonary mortality due to the presence of particles in the air – cause by industrial and traffic pollution and the high atmospheric concentration of highly toxic ozone. Disorders caused by food and water, such as diarrhoea may also increase, along with an increase in the risk of malnutrition due to the drop in food production. “Climate change is not only a bill that will have to be paid by the future generations, but rather it is already being paid now through people’s health”, Tedros Adhanom Ghebreyesus, General Director of the World Health Or-

The danger of high temperatures

Extremely high temperatures directly cause an increase in mortality due to cardiovascular and respiratory diseases, particularly in the elderly. In Spain, since 2004 work has been carried out with the National Plan for Preventive Actions for the effects of excessive temperatures on health, by the Ministry of Health. This plan works particularly on the care of chronic patients, the elderly, obese people and other those with other pathologies, people who consume drugs or alcohol or who are in treatment with certain medications and groups of labourers who work under extreme heat conditions, according to sources from the Observatory of Health and Climate Change at the Ministry of Health. High temperatures also cause an increase in the ozone levels and those of other air pollutants that aggravate cardiovascular and respiratory diseases.

The number of vulnerable people

exposed to heat waves has increased. When the temperatures are very high, the body activates its defence mechanisms to maintain the body temperature within a safe range. For example, the blood vessels dilate to increase the blood flow and more perspiration occurs to cool the body down by evaporation. But these mechanisms have their limits, particularly in the most vulnerable population groups. In 2016, there were 125 million more people over the age of 65 years who suffered from the effects of heat waves than in the year 2000, according to the *Lancet Countdown 2017* report. Additionally, according to the same study, work capacity is decreasing in certain regions and stress levels are rising due to the heat. And the fact is that the global labour capacity of farmers has decreased by 5.3% between 2000 and 2016, due to the rise in temperatures and the incapacity to work when it is too hot. It





organisation affirms. “It is a moral imperative for the countries that have the necessary resources to fight against climate change and safeguard both current and future health,” he adds. For this reason, most countries are giving an increasing priority to climate change and health, although “only 38% of those surveyed have the financial resources to implement, although only partially, their national strategy and less than 10% apportion sufficient resources for their full implementation” sources from the WHO indicate. The same organism affirms that the fulfilment of the goals of the Paris Agreement regarding the reduction of atmospheric pollution alone could save almost one million lives a year all over the world from here to 2050.” ■



is estimated that in 2050, the heat waves will cause 120,000 more deaths every year than normal in the European Union (EU), with an economic cost of 150,000 million euros if additional steps are not adopted, according to the European Environmental Agency. Because, at present, around 20% of EU citizens are over the age of 65 and it is calculated that this part of the population will increase to reach 30% in 2050.

High temperatures also create a greater propensity for forest fires – around 70,000 every year in Europe, which cause casualties and material damages, but also atmospheric pollution, especially of particles, which cause diseases and premature deaths. In the case of Spain, during the summer of 2018, the thermometers rose above 40°C, causing forest fires and deaths due to heat stroke. A scenario that could be repeated over the next few years as the trend is for rising temperatures:

in 2017 the average temperature in our country increased by 1.6°C, according to the Lancet Countdown Report 2018. Worldwide, it is likely that global warming will increase by 1.5°C between 2030 and 2052. In order to reduce this figure “the net global emissions caused by carbon dioxide (CO₂) must be reduced by around 45% in 2030 with respect to the 2010 levels.”

The same report recalls that air pollution is responsible for approximately seven million premature deaths every year on a worldwide scale, mainly in patients with cardiovascular or respiratory diseases. This pollution can be caused by fires, but particularly by households, industry and transport. In Spain almost 21,000 deaths due to particles in air pollution occurred in 2015, of which 23% were generated by households, 19% by land transport, 10% by industry and 5% by electricity plants.

Extreme phenomena that will affect our health

Over the past 60 years, the frequency of natural disasters related to extreme weather conditions has more than tripled all over the world and the projections indicate that these will continue to rise. Every year these disasters cause over 60,000 deaths, particularly in developing countries, according to the WHO. In 2011, 332 natural disasters were recorded in 101 countries, causing over 30,770 deaths and affecting over 244 million people, according to the WHO.

These natural disasters caused direct effects in the short term such as physical injuries and deaths, but their consequences over time on the natural habitats, such as the water and the soil must also be taken into account. Because floods can wash pollutants and chemical substances along from industrial installations, sewage and waste water that could contaminate drinking water and the land for agricultural use.

The European Environmental Agency

recalls the effects of the floods that devastated Bosnia and Herzegovina, Croatia and Serbia in 2014, which left over sixty deaths and 2.5 million people affected. Many hospitals were flooded and the healthcare service's capacity to face up to the disaster and to look after the already existing patients was reduced. Other consequences of the catastrophe are the long term health problems, such as stress, affecting the people who lost their homes.

Furthermore, a high percentage of the areas in Southern Europe suffer from hydric stress, because the extreme variability of rainfall affects the availability and supply of drinking water, which worsens the quality conditions, increasing the health risks. Experts calculate that in 2100 climate change will double the frequency of extreme droughts, which will become six times longer. Additionally, the lack of rain will cause a decrease in agricultural production of up to 50% in some countries in Africa, meaning that the cases of undernourishment and malnutrition will increase, which currently cause 3.5 million deaths a year. The lack of drinking water also jeopardises hygiene and increases the risk of diarrheic diseases, provoking approximately 760,000 deaths of children under the age of five years every year, as indicated by the World Health Organisation.



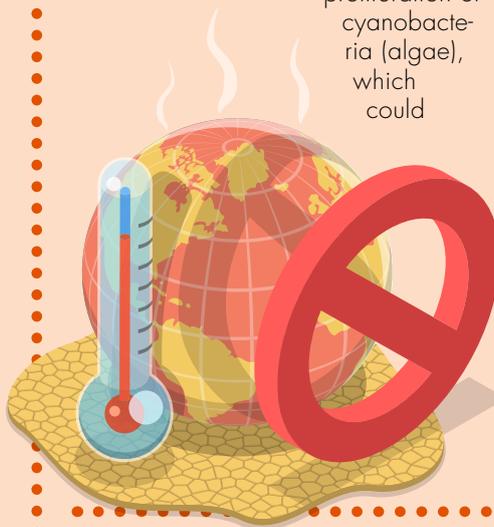
Air quality, a silent hazard

Global warming affects plants and animals. Changes in the flowering of some species have already been detected due to the rise in winter temperatures. This means that the pollen season has been extended. Therefore, people who suffer from pollinosis or hay fever are exposed to longer periods with pollen. Also, an increase in the atmospheric CO₂ encourages the biological activity of the plants and the photosynthesis, which also means an increase in the pollen content in the atmosphere. In Spain, hay fever affects approximately 15% of the population. This percentage rises to 30% amongst young people, according to data from the Ministry of Health. This situation can also make other allergic diseases worse, such as asthma, rhinitis, allergic conjunctivitis or several types of dermatitis, particularly in urban areas.

But urban atmospheric pollution continues to be the most important environmental problem in the world. The World Health Organisation has recently estimated that 3.7 million deaths a year in the world could be attributable to atmospheric pollution and in 2013 the International Agency for Cancer Research classified exterior air pollution as carcinogenic. Pollution increases the risk of suffering from acute respiratory diseases such as pneumonia, as well as chronic ones, such as lung cancer and cardiovascular diseases. The people who are most sensitive to pollution are the ones who suffer chronic respiratory disorders (COPD; chronic bronchitis, asthma...), cardiovascular diseases and diabetes, as the atmospheric pollution can aggravate the effects of these diseases. Children are also affected because their respiratory system is not completely developed and they breathe more air per weight unit than adults.

Effects on water and food

The high temperatures can heat the water in the reservoirs and lakes, encouraging the proliferation of cyanobacteria (algae), which could



be a health risk due to its toxicity for humans. In the case of seas and oceans, the warming causes the migration of species, the presence of jellyfish and cyanobacteria and an increase in food poisoning from shellfish and reef fish.

The amount and quality of the water can also affect agricultural production and increase the risk of diseases transmitted by food, as well as malnutrition. Agriculture uses 70% of the water that is extracted around the world and on a global scale, over 330 million hectares use irrigation systems. Irrigated agriculture represents 20% of the entire cultivated surface area and provides 40% of the total food production in the world.

Vector-borne diseases

Parasites, bacteria and virus transmit the so-called vector-borne diseases. Their survival varies in terms of the humidity and above all, the temperature, but also according to the altitude above sea level, the wind and the length of the day. Climate warming has meant an increase in diseases produced by these vectors, such as malaria, dengue fever or leishmaniasis. Malaria is transmitted to humans by infected mosquitoes of the Anopheles genus. It was endemic in Europe, but was eradicated in the 1970s. The experts consider it unlikely to be reintroduced on the continent in spite of the increase in temperatures. Leishmaniasis is another disease transmitted by phlebotomine sand flies. It is present in Europe and it is endemic in Spain. Over 50% of infected dogs are asymptomatic carriers and can transmit the parasite to mosquitoes,

particularly in rural and residential areas. Leishmaniasis is considered to be a disease associated to climate change and recently maps of risk have been prepared, according to the possible climate change scenarios.

Dengue fever is a fundamentally an urban disease, caused by the dengue virus and transmitted by the bite of a mosquito of the Aedes species. The World Health Organisation calculates that between 50 and 100 million dengue infections occur every year in the world. In Europe, the first two cases of native dengue fever were detected in France and one case of a German tourist from Croatia in 2010, along with the outbreak in Madeira between 2012 and 2013. The presence of the mosquito that transmits dengue fever has also been detected in the Catalan region of Spain.

Dr. Jordi Sunyer, coordinator of the Children's Health programme at ISGlobal

"Pollution has an impact on learning"

In schoolchildren, it affects the development of lung function and can cause an inflammation of the brain, which could derive in the slowing down in the maturing of a series of functions.

by **Pilar Maurell**

Jordi Sunyer is the coordinator of the Children's Health Programme at the Barcelona Instituto de Salud Global - ISGlobal (Global Health Institute) and he holds a professorship in Preventive Medicine and Public Health at the Universidad Pompeu Fabra. His main lines of research are based on the frequency, source and causes of asthma and chronic obstructive pulmonary disease (COPD); air pollution and cardio-respiratory diseases; and the effects of pollutants on the neurobehavioral development in the first years of a child's life. He is the founder and coordinator of the INMA birth cohort in Spain and main researcher for different international studies, such as ERC Advanced Grant BREATHE "BRain dEvelopment and Air polluTion ultrafine particles in scHool childrEn."

At ISGlobal he has carried out a study on the impact of air pollution around educational centres. How does it affect them?

In school children, the strongest evidence revolves around two main effects. One, which has been known about for many years, involves lung function de-

velopment, how the lungs grow and how their vital capacities decrease, along with the pulmonary flows. And the other factor is related to the brain and its inflammation potential, with a disorganisation of the different neuronal networks. They do not work perfectly and there is a slowing down in the maturing of a series of functions.

Does this mean learning problems?

Yes, we see this in some studies that have evaluated learning. But these studies must be carried out very well because there are many variables that intervene, such as the quality of the teachers or of the school. To do these studies, you need very large populations. There are some in the U.S.A., South America or Japan. Without any doubt, pollution implies a disadvantage. We cannot say whether this disadvantage affects individuals and is noticed in the learning processes, because we have not been able to evaluate it; but we have managed to do this for groups. This means that, if the pollution persists throughout the school years, it is certain to have an impact on learning in the end.

Does it affect attention deficit?

Pollution affects the degree of attention, in both boys and girls. Some studies find it affects boys more and others find it affects girls more. It is not clear, although it seems that boys are more vulnerable than girls regarding brain maturing. For this reason, childhood brain disease mainly affects boys.

In the case of pollution, which are the most hazardous agents?

Classically, there has been a great deal of literature about lead. The impact on the IQ caused by having higher lead levels in the blood meant that lead was eliminated from petrol, which resulted in a change in the world industry and in the automobile industry. Where did this lead come from? Mainly from petrol, but also from other places such as lead piping or industry. Since then, there have been suppositions that several metals, inhaled as particles could be responsible for these brain development pro-

» **The effects on the children's brains that we have studied could be reversible if pollution is eliminated"**



Read the complete interview with Dr. Jordi Sunyer





blems, which can lead to mental health disorders in children. But with the current pollution levels, this has been extended not only to the metals that could be in the particles, but also to the particles themselves. Lately, the most concerning elements are the ultrafine particles that are directly emitted by all diesel vehicles and in a lesser proportion, petrol cars. In a secondary way, these particles would also form when the gases in the atmosphere clot or precipitate as particles.

There are other studies that talk about the effects of pollution on pregnant women.

We started our research in this area in 1994. We were the first to see that when we made models using measurements in cities

and houses, the pollution that a woman breathed throughout the entire pregnancy caused some delay in the baby's birth weight, or it even could moderately increase premature births. This was not seen on the same scale as produced by tobacco, which can reduce the weight of a foetus by 250 grams. Here we are talking about 50 or 70 grams, but it was noticeable. These findings, which have been reproduced in many studies, opened up the door to research on the impact of pollution in cities. We were no longer only talking about industrial pollution, but rather the pollution that anyone breathes in when they walk, an emission source that is very close at hand. At first, it was thought that pollution affected the respiratory system; at the end



Jordi Sunyer researches the effects of pollution on child development. In 2014 he received the John Goldsmith Award, the most prestigious prize in the world for environmental and health research, for his contributions to the knowledge and practice of environmental epidemiology.

of the 20th century it began to be obvious that it also produces cardiovascular effects; and over the past few years, we have started to see that it goes way beyond the cardiovascular and respiratory tracts and that it produces a reproductive alteration. And this is what we are now studying in depth.

Are these effects reversible?

The effects on the children's brains that we have studied can be reversible if the pollution is eliminated. We believe this to be true due to indirect evidence. A low birth weight has an effect that continues through the rest of the child's life. For this reason, we are studying the impact on the brains of foetuses and newborns to see whether prenatal exposure is reversible or not; but what is known by all reproductive medicine at present is that the impact of birth weight increases the risk of respiratory problems that continue throughout life.

Removing cars from cities is a long term project. What can we do in the meantime?

I think that this idea of long term must change. We should not accept it. The evidence is very strong. We know that pollution is one of the top factors in loss of health. It is said that it results in several million deaths a year in the world: a great deal more than caused by Covid-19. We are talking about eight or ten million deaths due to combustion particles. The changes must be made now. Greater traffic restrictions must be brought in around schools. Currently, only 20% of centres have seen any kind of intervention. In London, a few weeks ago, 500 schools called a strike, to demand that families should not do their children's school run by car. There is a great deal to do. It is very complicated, but we must move faster than we are at present. ■



THE YEAR OF THE CAMPERVAN

It is now a common trend all over the planet: in recent times travelling in campervans has become very popular. Covid-19 has arrived and the longing for privacy and freedom has meant that the demand for travelling using this attractive means has multiplied.

by **Neus Duran**



Which one is the most suitable?

The first question that must be asked by those who decide to start the adventure of travelling in a campervan is which one to choose. There are light ones, which are the best if you plan to travel through areas that have campsites or supermarkets where we can stock up on provisions and everything that we might need during our trip. These are also more logical if you are travelling alone or as a couple, since they are easier to drive and they use less fuel. If, on the other hand your journey is longer, or you want to travel as a group or family, it is better to opt for larger, more comfortable models.



What you need to take into account before setting off...

Planning your route is one of the most important aspects to do before setting off. Although you want to travel free from any schedules, you have to take into account the places where you will be able to park your camper van, as well as where to get fuel, drinking water and to empty the grey and waste water tanks. In this type of vehicle, the water tank is essential and it has to be filled up approximately every two days in service areas or petrol stations, which is not usually a problem if you are travelling around France or Spain, but it can become difficult when, for example, touring Canada or New Zealand.



How much does a camper van cost?

Even for those who are really thinking about acquiring a campervan, if you have no experience driving these vehicles, the best idea is to rent one first to try the experience out. Although the prices depend on the models and the variations on the market, in general you should calculate around 100-200 euros per day. You must add the price of the deposit, which can be around 500-800 euros to this. Those who are completely convinced about opting for this means of transport and prefer buying will be able to find one from around 30,000 euros new and 15,000 second hand.



What do you need to take for the journey?

As for any trip, the most practical idea is to opt for taking the least luggage possible to be able to move around freely. In the case of campervans, there are a series of elements that must be taken: for example, a hose and several tap adapters are very useful for filling the water tank. It is very important to ensure that the vehicle has a spare wheel (vans are not always rented with one) and a hydraulic jack in case we have a breakdown or a puncture in a remote area, as well as cylinders for gas.



Cabo de Gata, the coast of Asturias or Galicia, l'Alt Empordà or Osona are some of the regions where travelling in a campervan travelling can be experienced to the full.



Where to park?

One of the most important points is where we can stop to spend a few hours or overnight. In the case of parking, the same traffic regulations as for a normal vehicle apply, but if you want to visit a city, it is advisable to leave your van on the outskirts, as many cities do not allow these vehicles to driven in their centres. When stopping for the night, you must take into account that you can only camp in the spaces and areas set up for this purpose. The most practical idea is to choose campsites where there are communal bathrooms, surveillance and basic products may be purchased.



What are the particularities about driving a campervan?

Both campervans and caravans only require a B driving license suitable for driving cars, whenever the campervans do not exceed 3500 kilos in weight and nine seats and in the case of caravans, if the trailer does not exceed 750 kilos in weight. When choosing a vehicle that exceeds these weight limits, a B96 or B+E driving license is needed to drive one. It is important to take into account the fact that, as they are heavier vehicles, they require longer braking distances than when driving a car.



How to choose the destination?

Splendid beaches, remote cliff tops, lush forests or impressive desert landscapes... travelling in a campervan allows you to immerse yourself in nature and to leave your schedules behind and just enjoy it. In Spain, some of the most attractive routes can be those that travel along the coast of Asturias or L'Alt Empordà, both full of charming villages and relaxing seascapes, or the arid, spectacular Cabo de Gata. The Norwegian Fjords, the German Black Forest or even Alaska are some of the most popular routes on a worldwide scale for more adventurous travellers.

7 BOOKS FOR THE SPRING

by **Eric Morgado**

The complicated decisions that a government must take when faced with a global pandemic; the anecdotes of a doctor hardened by a thousand battles; the harmonic conjunction between the physical, mental and emotional bodies; a guide that responds to all the questions of first time parents and reflective writings that inform about the latest research on sugar consumption, particularly in children. This is some of the reading matter that we recommend for relaxing, learning and enjoying this spring.



Un año a corazón abierto
(One year with a split open heart)

Oriol Mitjà
Ediciones Destino
19,90 €

Understanding the ins and outs of how the pandemic was managed. This is what the epidemiologist Oriol Mitjà proposes with this book. On the 13th of March, 2020 a household lockdown was announced due to the worldwide pandemic that would change our lives. Mitjà, who on many occasions faced up to the different political authorities about their management of the healthcare crisis, talks to us about his origins, about how his vocation arose, about his cutting edge research against coronavirus and about his difficulties to manage to ensure that the scientific criteria were adopted by governments which had been overwhelmed by the circumstances.



Las experiencias de un médico para todo
(The experiences of an all-round doctor)

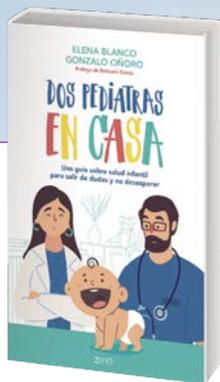
Francisco Coronel Díaz
Círculo Rojo
14,50 €

As a healthcare professional in the famous 'Casas de Socorro' in Madrid, which have now disappeared; as a private doctor for artistes and all types of famous celebrities; as a specialist in nephrology at the Hospital Clínico San Carlos de Madrid or even as a military doctor. Francisco Coronel Díaz tells the story of his long career, in an easily-readable way, full of anecdotes that are both interesting and curious. Experiences of a long professional career marked by the diverse jobs that he had to accept for economic reasons.



El pasajero interior
(The inner passenger)
Inma Nogués
Diana
16,95 €

We know that we are much more than a physical body, but our own constitution continues to be a true mystery. Using this concern as a starting point, the research by Doctor Nogués opens up a new route that integrates scientific and medical knowledge with the 'ageless wisdom' of certain millenary spiritual writings and traditions. This book leads us to a holistic view of the human being as a physical body, a mental body and an emotional body. Additionally, it gives us tools to harmonise these bodies with that which defines us and that some people also call soul: our inner passenger.



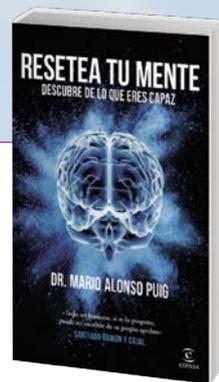
Dos pediatras en casa
(Two paediatricians in the house)
Elena Blanco and Gonzalo Oñoro
Zenith
17,95 €

The little one has arrived home and now a stage that is both equally marvellous and stressful is about to start. No mother or father is ready for all the questions that start to arise just by looking at the baby: Which is the best position for sleeping? Is a bath necessary every day? Can I take my baby out for a walk, even though it is cold? What is this cough and this runny nose? What do I do if they have a temperature? ... An endless list of questions that are answered in 'Dos pediatras en casa', a complete manual about children's health to settle any doubts and to prevent first-time parents from becoming desperate, by two Spanish references in paediatrics.



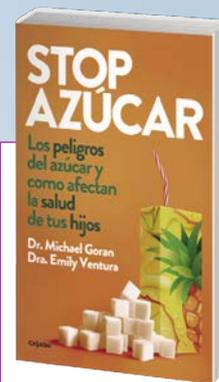
Piel sana in corpore sano
(Healthy skin, healthy body)
Andrea Combalia
Grijalbo
18,90 €

How does stress affect our skin? How can we know whether a mole is malignant? How often should we wash our hair? The book by Andrea Combalia, a dermatologist with over 50,000 followers on her digital magazine 'Piel sana in corpore sano,' responds to these and many other questions that we regularly ask ourselves. From wrinkles to blemishes. An invitation to live in a healthy way, preventing certain diseases and getting to know (and look after) our body's largest visible organ: the skin, which envelops and protects us. All of this with a great deal of practical advice within everyone's reach.



Resetea tu mente
(Reset your mind)
Mario Alonso Puig
Espasa
19,90 €

We are often faced with challenges where we have to act calmly, enthusiastically and confidently if we want to turn these into extraordinary opportunities for learning and personal growth. In 'Resetea tu mente', doctor Mario Alonso Puig shows us surprising (and at times unknown) aspects of the fascinating relationship that exists between brain, mind and what happens to us. The prestigious author also shows us how to awaken the great slumbering potential that we have inside ourselves, in order to increase self-esteem and potentiate skills such as intelligence or creativity.



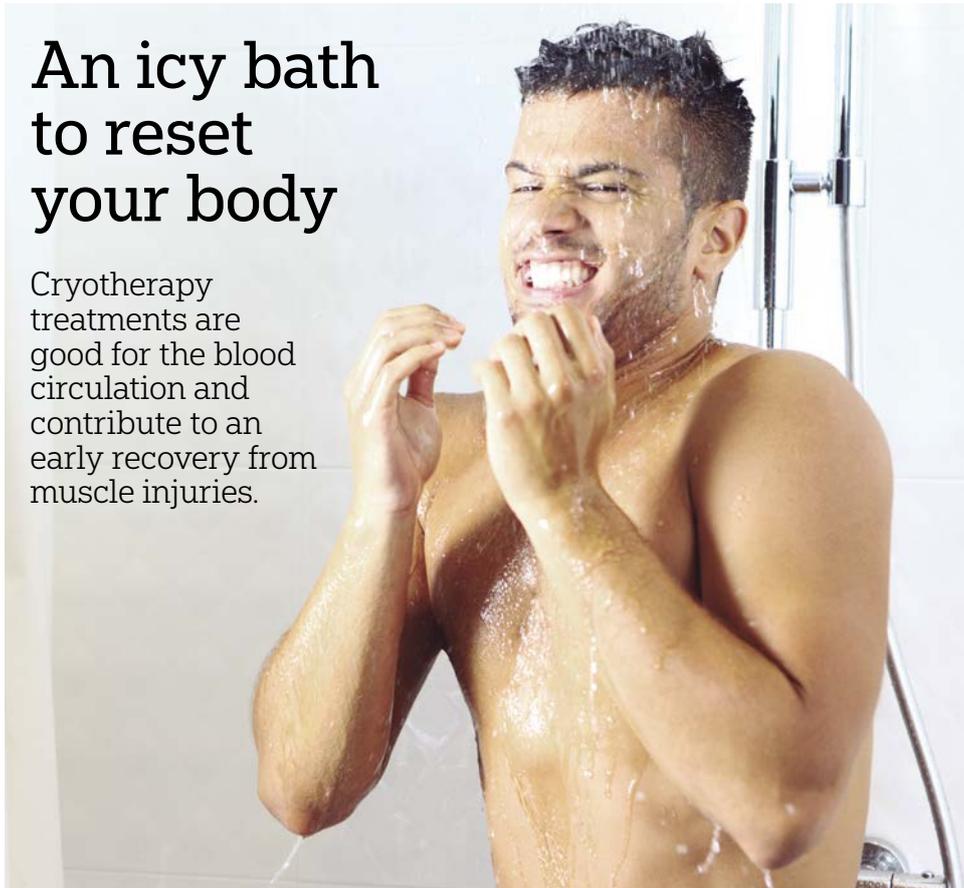
Stop azúcar
(Stop sugar)
Michael Goran and Emily Ventura
Grijalbo
19,90 €

A reflection on how and what we feed our children. This is what Michael Goran, a researcher in child nutrition and Emily Ventura, a public health educator propose. In their research they discover that an excess of sugar does not only cause child obesity, but it also causes health problems in children who are not overweight. Also, it is likely to be one of the culprits behind a large part of children's behavioural, emotional and learning problems. Essential reading for parents and educators that will help to identify misleading sources of sugar and proposing varied, healthy recipes.

WHO SAID IT WAS COLD?

An icy bath to reset your body

Cryotherapy treatments are good for the blood circulation and contribute to an early recovery from muscle injuries.



Cryotherapy (or cold therapy), led by extreme athletes, such as the Dutchman Wim Hof (also known as The Iceman), and backed by high performance trainers and specialists in recovery from all over the world, is becoming increasingly popular and has spread in recent years.

The therapy, which has been used traditionally in different cultures, consists in lowering the body temperature until physiological changes occur in the organism. Immersion in cold water activates the body's natural healing powers that can alleviate the symptoms of main medical ailments and promote a feeling of health and well-being. When it is carried out regularly, cold water baths can even provide long-lasting changes in the immune, lymphatic, circulatory and digestive systems.

Beyond the positive effects that it produces to the blood circulation, among other benefits for the health, cryotherapy decreases inflammation, pain, the speed of nerve conduction; it increases muscle tone and encourages the

production of collagen, which is essential for the skin. It also contributes to the elimination of toxins; to an early recovery from muscle injuries (the reason for which is its frequently used in physiotherapy); to relief from muscle contractions; to the reestablishment of the body's temperature regulation and to an increase in mental tenacity, since it makes you carry out an exercise that forces you to leave your comfort zone. Some studies also have shown that cryotherapy can be used to treat symptoms related to anxiety and depression. This is due to the fact that the cold water activates a large amount of neurotransmitters, such as the endorphins, which affect our moods.

Cryotherapy techniques have become fashionable. In the sports world, increasingly more clubs treat injuries and prepare their players physically using cold therapy. Accordingly, some studies indicate that cryotherapy speeds up the complete recovery of footballers after matches or training sessions. ■

DISCONNECTION

Audio book

Guía mágica del Camino de Santiago (Magical guide to the Camino de Santiago)

Ediciones Luciérnaga

A journey in search of magical and sacred experiences on the path of the stars, narrated by the author himself: Francisco Contreras Gil. This audio book helps to find the true essence of the Camino de Santiago, completing a unique, transforming human experience.



Series

New Amsterdam

Netflix

One of this year's trending series is set in the New Amsterdam hospital in New York. Max Goodwin, a non-conformist doctor with an incredible vocation arrives at the oldest public hospital in the United States, ready to revolutionise the healthcare system.



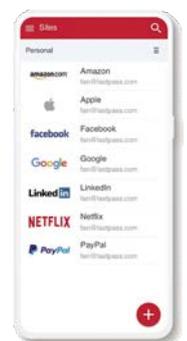
App

LastPass

iOS and Android

LastPass is a password administrator that saves all your passwords and personal information in a completely safe environment.

With this app, you only have to remember a single password: the one for LastPass and the app automatically completes all your credentials.





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