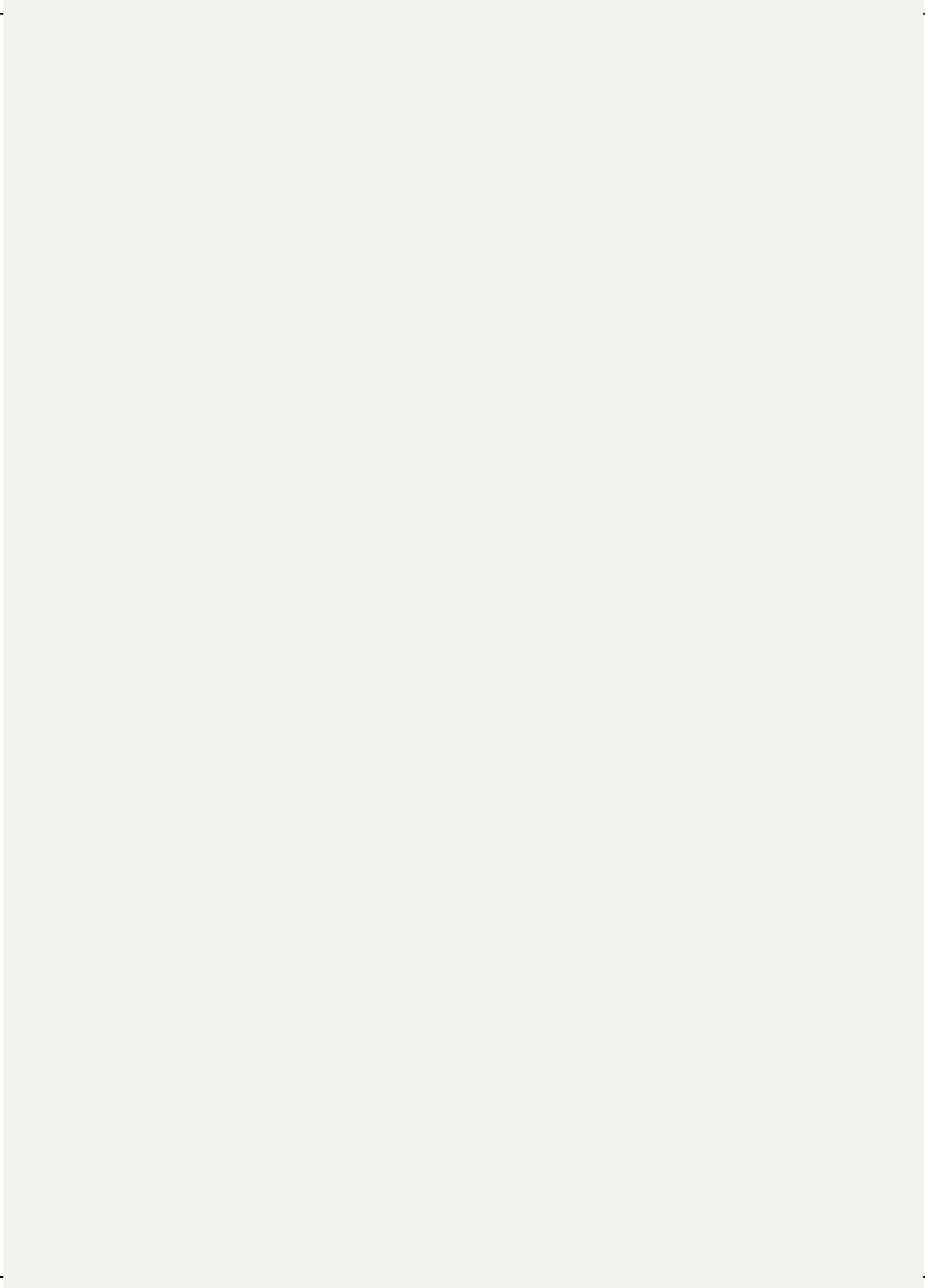




VIRTUS  HERALD





# Christmas Around the World

## A Global Celebration of Joy and Traditions

Christmas, celebrated on December 25, is one of the most popular holidays in the world. It comes from Christian traditions, but its message of happiness, love, and unity is now shared by many people, no matter their religion. Around the world, people celebrate Christmas in different and interesting ways, showing their unique cultures.

### Europe: Traditional Charm

In Europe, Christmas is celebrated with a rich variety of traditions that reflect the history and culture of each country. Germany is well-known for its charming Christmas markets, where visitors enjoy mulled wine, gingerbread, and handcrafted ornaments. Italy celebrates with the "Feast of the Seven Fishes" on Christmas Eve, followed by Midnight Mass at the Vatican, a highlight for many. In Sweden, the season begins with St. Lucia's Day on December 13, where young girls dressed in white carry candles to symbolize light and hope. Across Europe, the festive season is a time for family, delicious food, and cherished customs that bring communities together.

### Americas: A Fusion of Cultures

In the United States, Christmas is celebrated with many traditions from different parts of the world. Families decorate their homes with lights and hang stockings by the fireplace. Each family has its own way of celebrating. Parades, like the famous Macy's Thanksgiving Day Parade, start the holiday season. In Mexico, Christmas includes celebrations called Las Posadas, which show the journey of Mary and Joseph looking for a place to stay. Breaking the piñata is a fun tradition, and Nochebuena, or Christmas Eve, is the most important night, with big meals shared with family. In Brazil, Christmas happens during summer. The sky is filled with fireworks, and families often celebrate on the beach. Papai Noel, or Santa Claus, appears wearing tropical clothes.

### Asia: Blending Traditions

In mostly Christian countries like the Philippines, Christmas is a big celebration. It starts as early as September during the "ber months." A special tradition is Simbang Gabi, which is a series of early morning church services. On Christmas Eve, families have a big meal at midnight called Noche Buena. In Japan, Christmas is not a national holiday, but people celebrate it in a fun and romantic way. Couples give each other gifts and have special dinners, often including a bucket of KFC chicken, which is a popular tradition. In India, Christians celebrate with midnight church services and decorate mango or banana trees instead of pine trees. Homes are bright with colourful lanterns and beautiful rangoli patterns.

### Africa: Community and Celebration

In South Africa, Christmas happens in summer, so families have outdoor barbecues called "braais." Churches hold joyful services with lots of singing and dancing. In Ethiopia, where the Orthodox Church uses the Julian calendar, Christmas, called Ganna, is celebrated on January 7. People go to church wearing traditional white clothes, and they enjoy meals with spicy stews and flatbread.

### Oceania: A Summer Christmas

In Australia and New Zealand, Christmas is all about summer, with sun, sand, and surfing. Families have barbecues at the beach and play cricket in their gardens. Santa Claus sometimes uses a surfboard instead of a sleigh, making the celebrations feel more like summer fun.

Even with the differences, the true meaning of Christmas is love, kindness, and hope that brings people together all over the world. It is a special time to spend with family, think about the year, and look forward to the future.

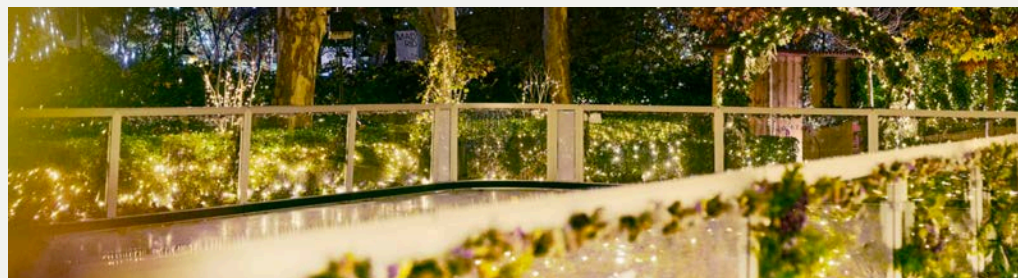
By Sophie Pérez



# Christmas in MADRID

A guide for activities and things to do in Madrid in the Christmas season

El Corte Inglés de Castellana is once again hosting its traditional Christmas market from November 14 to January 5, 2025. The market offers a wide range of Christmas decorations, gifts, crafts, and seasonal treats, including nativity figures and toys for children. This year, there will be diverse stalls such as Flowers + Candles, Nativity Scenes, Lights, and Tree Ornaments, as well as food trucks like La Cocreta, La Romana, and Rodilla. Visitors can also enjoy traditional sweets like Garrapiñada and San Ginés treats. To enhance the festive experience, a music and light show will be projected onto the building, creating a magical atmosphere.



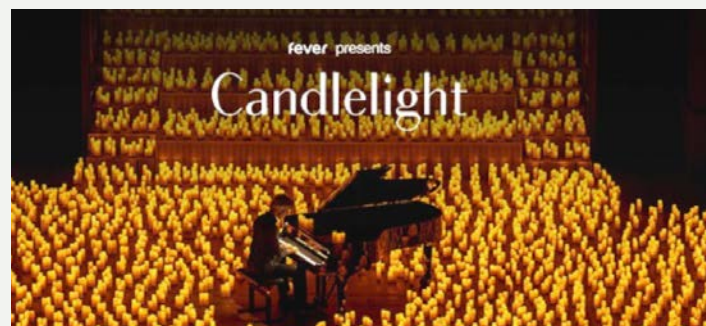
From 29 November to 6 January, the gardens of Rosewood Villa Magna are once again transformed into a winter wonderland with the opening of our Ice Rink.

Clients of Las Brasas de Castellana, Amós restaurant, the Après-Skate Lounge, and our Afternoon Teas at Flor y Nata will all have complimentary access to the Ice Rink. Visitors will be able to purchase their ticket to the skating rink along with hot chocolate and churros.

These intimate candlelit performances, held in stunning locations never before used as concert halls, allow you to experience live music in a completely new way.

To see all the the concerts check the website [Fever candellights](#)

*Candlelight: Coldplay vs. Imagine Dragons*  
21 dic - 18 ene  
Desde 42,00 €



*Candlelight: Tributo a ABBA*  
05 ene - 23 feb  
Desde 25,50 €



# **The Fight to Eliminate Gender Violence**



Each year, on the 25th of November, the world unites to observe the International Day for the Elimination of Violence Against Women, a global issue that goes beyond borders, cultures, and socioeconomic statuses. This day is not just a reminder of the common nature of gender-based violence by gathering together to cry for action, accountability, and change.

Gender-based violence is something that appears over countless lives. According to the United Nations, one in three women globally experiences physical or sexual violence in their lifetime, often at the hands of their intimate partner. Beyond these alarming statistics are individuals, women and girls whose lives are changed drastically forever by acts of violence, which take many forms, including domestic abuse, sexual harassment, human trafficking, and harmful practices like forced marriage.

## **Why November 25th?**

The significance of this date lies in its history. On November 25, 1960, the Mirabal sisters, Patria, Minerva, and María Teresa were brutally murdered in the Dominican Republic, for their resistance to the dictatorship of Rafael Trujillo. Their courage and sacrifice became a symbol of the fight against oppression and violence, inspiring the world to recognize this date as a day of activism.

While laws and policies are essential in combating gender violence, education is perhaps the most powerful tool. Awareness campaigns can challenge stereotypes, break apart harmful traditions, and empower individuals to speak out against abuse. Schools, in particular, play a crucial role in shaping attitudes. By teaching students about respect, consent, and equality from a young age, so that we can cultivate a generation that stands united against violence. Students also have the power to influence change within their communities. Campaigns, workshops, and discussions in schools can spark meaningful conversations and inspire peers to support gender equality.

Ending gender violence is not solely a women's issue, it requires the active participation of men and boys. By challenging toxic masculinity, promoting positive role models, and fostering respect for all women and girls, men can become allies in taking part in this violence.

On this day, and every day, we must move beyond awareness to action. Educating yourself and others, learning about the root causes of gender violence and sharing this knowledge with your community. We must support survivors, listen without judgment, believe their experiences, and guide them to resources like shelters.

Speak up when you witness sexism, harassment, or abuse and encourage others to do the same. Support organisations, policies, and legislation aimed at preventing gender violence and protecting survivors.

While the statistics can feel overwhelming, progress is possible. Movements such as international campaigns, and survivor-led initiatives are paving the way for a future where gender violence is no longer tolerated. All together we can create a world where everyone feels safe and valued.

This November 25th, we honour the courage of survivors, remember the lives lost, and commit ourselves to the fight against gender violence. Together, through education, advocacy, and solidarity, we can build a safe society.

By: Jimenas Gutiérrez Sanz

# ***Biomedical Club***



The Virtus Biomedical Club have been working for months on some scientific articles worthy of official publication. At the Virtus Herald, we want to provide this group of amazing students, led by Mr Picabea, with a platform to share and present their hard work.

Thank you Irache Dueñas, Daniela Gómez, Joana Bengoetxea and Laura Fernández for your incredible articles.

Please explore below their insightful findings. Enjoy!





# ***The role of psychological stress in cardiovascular diseases***

**Joana Bengoetxea**

## **Abstract:**

Cardiovascular diseases (CVDs) are among the leading causes of death worldwide, researchers are finding that psychological stress plays a key role in worsening CVDs or even causing them (1). This paper will look at how stress affects the heart and blood vessels, focusing on direct effects (like how the body reacts physically) and also indirect effects (like changes in behaviour). There will also be an examination of how stress links with other risk factors like high blood pressure, inflammation, and high cholesterol (2). Understanding how stress affects cardiovascular problems could lead to better ways to prevent and treat these diseases by reducing stress in people's lives. Psychological stress is a significant risk factor for heart disease, affecting heart health through hormonal, autonomic, and inflammatory pathways, as well as by influencing behavior. Incorporating stress management into prevention strategies may help reduce the worldwide impact of heart disease, though further research is needed to improve stress measurement and treatment approaches for individuals at risk.

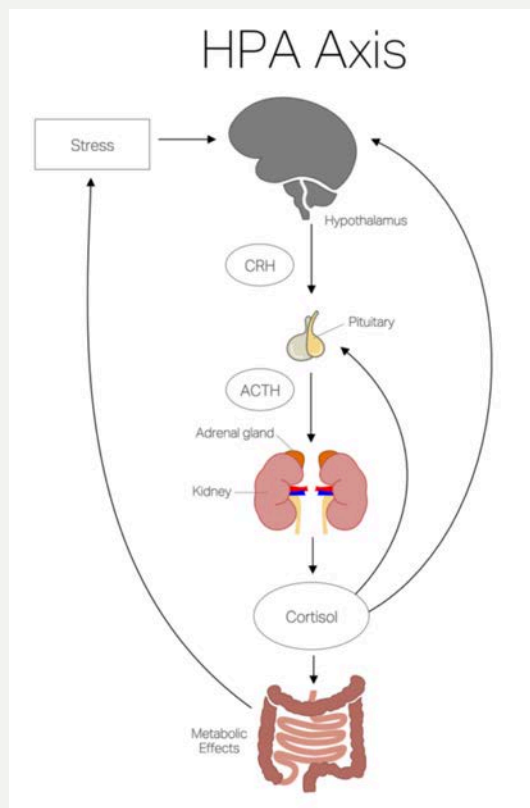
## **Introduction:**

'Cardiovascular disease' is a term used for problems in the human circulatory system. CVD is responsible for almost  $\frac{1}{3}$  of all deaths around the world (3). While we already know that factors like high blood pressure, high cholesterol, smoking, and diabetes increase the risk of having CVD (11), researchers are starting to notice that psychological stress might be just as important (4). Psychological stress is defined as the mental or emotional strain caused by things like work, family issues, and other problems that can lead to physical changes in the body that may damage the heart and blood vessels (5). Stress affects the progression of CVDs differently in males and females. Around 60-70% of men experience stress-related impacts like increased blood pressure and heart rate due to heightened nervous system activity. In contrast, 30-40% of women are more affected by chronic stress, linked to hormonal changes and inflammation, worsening disease progression. These differences emphasize the need for gender-specific stress management in heart health (12). This paper reviews updated research on how stress can lead to cardiovascular disease and focuses on the different ways in which it affects the body and what this means for health and treatment.

## **How stress affects the body and contributes to CVD:**

### **1. Stress and the Hypothalamic-Pituitary-Adrenal (HPA) Axis**

The HPA axis is one of the body's main stress response systems. When something stressful happens, the brain sends signals that start a chain reaction, leading to the release of cortisol, which is a hormone that affects physiological factors such as blood pressure, inflammation, and metabolism (6). Long-term high levels of cortisol can have harmful effects on the body, including:



- High blood pressure: Cortisol makes the body hold onto salt and water, this raises blood pressure over time. High blood pressure is a major risk for CVD, including heart attacks and strokes (7).
- Damaged blood vessels: Cortisol can damage the lining of blood vessels, making them stiff and inflamed. This increases the risk of developing blockages in the arteries, which can lead to a heart attack (8).
- Insulin resistance and high cholesterol: Cortisol affects how the body processes glucose and fats, this leads to insulin resistance (a pre-diabetic condition) and abnormal cholesterol levels, both of these can increase the risk of heart disease (9)

## 2. Autonomic Nervous System (ANS) Changes:

The autonomic nervous system controls factors like heart rate and blood pressure without a conscious response. It has two parts: the sympathetic nervous system (SNS), which speeds things up, and the parasympathetic nervous system (PNS), which slows things down. During stress, the SNS becomes more active, leading to the release of chemicals like adrenaline and noradrenaline (10). This ongoing activation causes:

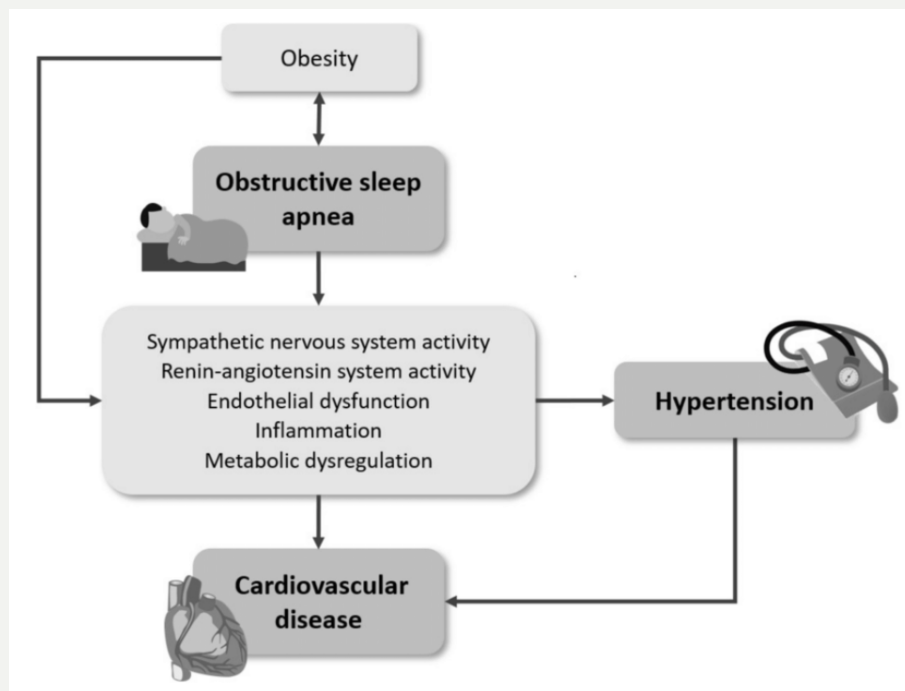
- High heart rate and blood pressure: Constant stress raises heart rate and blood pressure, making the heart work harder over time. This can cause the heart muscle to be damaged and increase the risk of heart failure (13).
- Arrhythmias: Long-term SNS activation can make the heart beat irregularly, which is especially dangerous for people who already have heart issues (14).
- Low parasympathetic activity: People who experience chronic stress may have low parasympathetic activity, which is shown by low heart rate variability (14). Low heart rate variability has been linked to a higher risk of heart disease and possibly death (14).





#### 4. Behavioural Pathways:

Stress doesn't just change the body directly; it also affects behaviour, which can also indirectly lead to heart problems. For example, people under a lot of stress are more likely to smoke, eat unhealthily, be inactive, and skip medications- and these all increase the risk of heart disease (19). Additionally, stress is linked to poor sleep, which has been proven to contribute to high blood pressure, obesity, and poor blood sugar control which all increase the risk of heart disease (20).



#### Evidence from studies on stress and heart disease:

There is hard evidence that psychological stress is linked to heart disease. For instance, the Interheart Study (21), which looked at people in 52 countries, found that people with high levels of stress had a much higher risk of developing heart disease. Another important study, the Whitehall II study(22), showed that people with a lot of work stress were more likely to develop heart disease than those with lower stress levels. These studies highlight the importance of managing stress to prevent heart disease.

#### Prevention and Treatment:

Since stress can play a key role in causing heart disease, treating stress could help reduce the risk of heart disease (23). Interventions like cognitive-behavioural therapy, mindfulness meditation, exercise, and even breathing exercises can help reduce stress(24). Studies show that these methods can improve blood pressure (25), heart rate variability (25), and inflammation (26) , and all these are beneficial for the heart. Also, screening for stress and mental health issues (27) in people who are at risk of heart disease or who already have it might help prevent future heart problems.

## Conclusion:

Psychological stress is an important risk factor for heart disease. It influences heart health through direct effects on hormones, the autonomic nervous system, and inflammation, and also through indirect effects on behaviour. By understanding the impact of stress on the heart, we can develop new ways to prevent and treat heart disease. Integrating stress management into heart disease prevention could help reduce the number of people affected by heart disease worldwide. Nevertheless, more research is needed to figure out the best ways to measure and treat stress in people who are at risk of heart disease (28).

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# Neuroanatomical, genetic and theoretical perspectives on Autism Spectrum Disorder

Laura Fernández

## Abstract:

Autism spectrum disorder (ASD) is a neurodevelopmental disorder, which can be defined by difficulties in social interaction, communication and repetitive behaviours. It is heterogeneous in ethiology, with various different symptoms and is associated with neurological conditions. ASD is a complex disorder with neurodevelopmental and genetic causes. This review shows the role of key brain regions, especially the cerebellum and the frontal and temporal lobes, and integrates these findings with genetic research, theoretical models and comorbidities of the disorder.

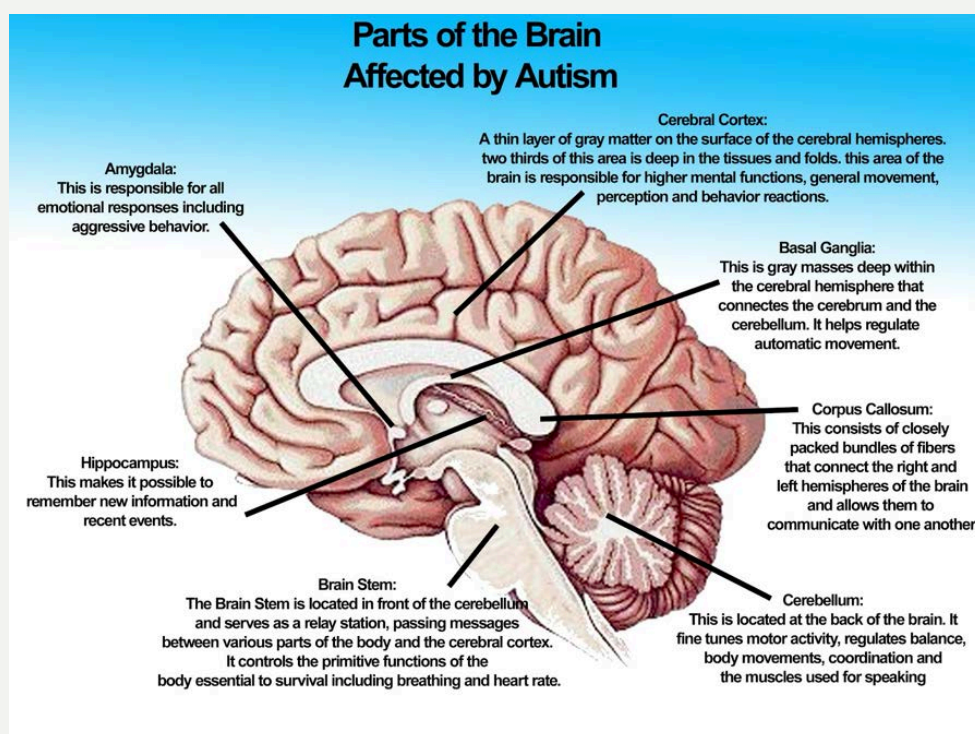
## Key terms:

- **Cerebellum:** a part of the brain at the back of the brain, responsible for coordinating voluntary movements, maintaining balance and posture, and facilitating motor learning. It consists of two hemispheres and three lobes.
- **Cognitive:** mental processes involved in gaining knowledge and comprehension, such as thinking, knowing, remembering, judging, and problem-solving.
- **Comorbidities:** co-occurring conditions or disorders.
- **Cortex:** the cortex is the outer layer of the brain's cerebrum. It plays a key role in many complex brain functions including perception, thought, language, and consciousness. The cortex is divided into different lobes (frontal, parietal, temporal, and occipital), each with specific functions.
- **Executive functioning:** cognitive processes that allow precise behaviour, self-control, and adaptive responses to difficult situations.
- **Heterogeneous:** diverse genetic factors contribute to the condition.
- **IFG:** IFG stands for Inferior Frontal Gyrus. This part of the frontal lobe is involved in various cognitive processes including language and comprehension. It is often associated with Broca's area, which is crucial for speech production and language processing.
- **Lateralisation:** the tendency for neural functions to be more dominant in one hemisphere of the brain than the other.
- **Motor functioning:** the ability to control and coordinate voluntary movements of the body.
- **STS:** Superior Temporal Sulcus, is a groove in the temporal lobe of the brain. It is involved in processing social information such as facial expressions and gaze direction. The STS plays a significant role in social cognition.

## Neuroanatomical findings:

### Cerebellar abnormalities:

Becker and Stoodley's research improved our understanding of the cerebellum's functions. The cerebellum used to be mainly associated with motor control and coordination (3). However, their investigation showed it affects social processing, executive function and sensory integration. The research indicates that people with ASD often have structural differences in their cerebellum. They have a reduced cerebellum volume and certain areas of the cerebellum, particularly those involved in cognitive processing, show structural abnormalities. However, these changes are not equal in all individuals with ASD, which highlights the heterogeneity of the condition (3). The deficits in cerebellar regions correlate with main ASD symptoms, which are: difficulties social interaction and understanding social norms, challenges in verbal and non-verbal communication and problems with information processing and integration (3). This suggests that cerebellar abnormalities may contribute to the symptoms of ASD. Also, repetitive behaviours and attention shifting, which is often impaired in people with autism, correlate with reduced cerebellar volume. Furthermore, the cerebellum has connections with other brain regions, particularly the prefrontal cortex (3). These connections are very important for information combination and processing integration. In ASD, the disruption of these connections could lead to difficulties in these aspects. (3)

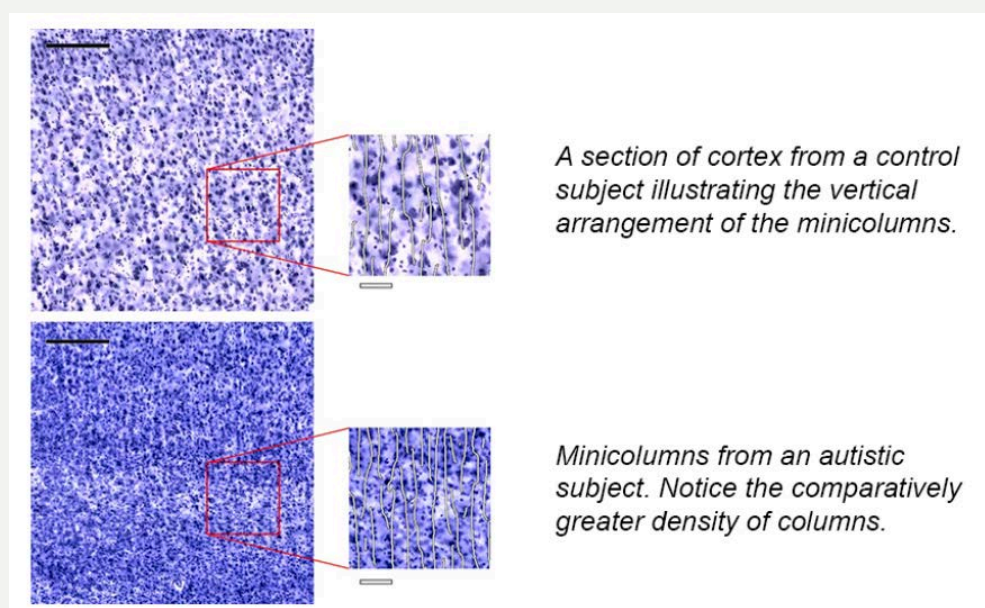


### Brain growth and cortex abnormality:

Amaral et al. research on early brain overgrowth in autism has been quite significant. The findings show that early brain overgrowth is a key feature in autism. Children with ASD showed an increased gray and white matter volume compared to typical children. Studies support that although the rate of growth slows down with age, the abnormality persists in adulthood. The growth may affect the social and communication difficulties in autism, since areas like the frontal cortex (which is involved in executive functioning) show irregularities in structure. (1)

Shcroeder et al. investigated that people with ASD often show abnormal cortical thickness and altered connectivity patterns between different brain regions. The temporal lobe is disrupted. The amygdala, which is important for social perception, usually shows abnormal development in ASD. Language areas may show atypical lateralisation. Impairments in frontal cortex functioning could account for the repetitive behaviours and behavioural inflexibility often seen in ASD, since the frontal cortex is key for cognitive control and adaptive behaviour. (5)

Casanova et al. identified that a structure in the cortex called minicolumns are narrower in people with autism. Minicolumns process information in small sections of the cortex. The structure of these minicolumns increase the sensitivity to sensory input, because since they are narrowed the density of neurons is increased in the cortex. This higher density increases the brain's responsiveness to stimuli, because more neurons fire in response to a sensory input, which explains why the brain of individuals with ASD hyperresponsive to stimuli. Also, since there is a reduced space between minicolumns means there is less "inhibitory neuropil", which is a network of connections that controls unnecessary neuronal firing. With this control reduced, the brain struggles to filter irrelevant stimuli, which means the brain struggles to prioritise the important stimuli and ignore distraction. (2)





Minshew and Williams (2007) highlighted that ASD is primarily a disorder of brain connectivity. It particularly affects the corpus callosum which integrates information across different brain areas. In ASD, connectivity within hemispheres (intrahemispheric) is often excessive, while connections between hemispheres (interhemispheric) are weaker. This imbalance explains why individuals with ASD do very well at focusing on details but struggle with integrating broader contexts, since intrahemispheric connections are stronger, which makes the brain prioritise information from one region instead of integrating multiple perspectives.(7)

### **Comorbidities:**

Pan et al. did a systematic review on neurological comorbidities in autism, finding that autistic people are much more likely to have epilepsy, macrocephaly, cerebral palsy and migraines. Epilepsy is the most common neurological comorbidity in autism. According to Schroeder et al. (2010), frontal and temporal lobe dysfunctions are also implicated in ASD. These areas are essential for executive functions and social cognition, and are disrupted in ways that mirror deficits in social interaction, language, and sensory processing. The differences in cortical thickness and connectivity patterns show atypical development and function in these lobes. These neuroanatomical differences may contribute to the high rates of ADHD, anxiety, and depression observed in individuals with ASD. (6)

### **Sensory motor integration:**

Autistic people are often hypersensitive to stimuli. Motor differences are also key features of ASD. Repetitive movements like hand-flapping, rocking, or spinning, are common in ASD and according to Donellan et al., they are adaptive responses to sensory and motor difficulties rather than deficits. The repetitive movements are calming because they give a predictable sensory input which tries to balance the anxious and unpredictable stimuli the person is going through. It helps to gain control. Motor planning is the brain's ability to organise and do movements. Many people with ASD experience motor planning challenges. This is because the cerebellum, which coordinates motor functions and communicates with the prefrontal cortex, has structural differences in ASD. These disruptions impair the ability to create and execute movement efficiently(3)(9). Also, motor actions need feedback from the body to adjust movements. In ASD, feedback may be slower or imprecise. These motor planning difficulties affect speech and gestures.(9).

### **Genetic findings:**

#### Genetic heterogeneity:

ASD is very heterogeneous. Genetic studies have shown a complicated interaction of common and rare genetic variation. Jeste and Geschwind carried out genetic research and found out that there are more than 20 chromosomes involved in autism, and key genes such as MET, which is involved in neural circuit development and immune function. MET supports both brain growth and the immune system. Mutations disrupt neural circuits while also making individuals more prone to inflammation, which might increase sensory sensitivity or anxiety (4) (7). CNTNAP2 is involved in connecting brain regions, and its disruption might affect language and social development. Identifying de novo mutations, which happen randomly instead of being inherited, have been very helpful since they are linked with severe forms of autism. Identifying CNVs has also been very useful, which is

when there are large deletions or duplications of the genome. While autism has a strong genetic cause, there is not a particular gene which causes the majority of cases, which suggests it happens because of various genetic variations. For example, in the 16p11.2 region CNVs have been heavily associated with autism. These mutations affect many genes in 16p11.2 which are important for brain development, such as MAPK3 which helps with learning and memory, KCTD13 which controls brain size and SEZ6L2 which helps neurons connect. Some 16p11.2 genes are also crucial for synapses. Changing these genes can affect how brain cells communicate with each other, which is an important problem in autism. 16p11.2 genes overall affect various brain functions, including social skills, language, and sensory processing. This aligns with the diverse symptoms seen in autism. Furthermore, some 16p11.2 genes are involved in how brain cells produce and use energy. Changes in these processes can affect how the brain develops and functions (4). SHANK3 mutations weaken synaptic connections, making it harder for neurons to communicate. This affects the brain's ability to process social information, like interpreting other people's feelings.

### **Theoretical models of ASD:**

#### Weak Central Coherence model (WCC)

Frith and Happé's WCC model suggests that individuals with autism show a cognitive style that favours detail-focused processing over integrative processing. This essentially means that individuals with autism tend to focus on the details of an event rather than the global, overall view. This model would explain why autistic people do really well in tasks that need attention to small details but struggle with tasks that need more contextual understanding. The model is supported by a study by Stoodley and Schmahmann which show atypical connectivity between the cerebellum which is involved in attentional control and the prefrontal cortex which controls executive function and cognitive flexibility. A disrupted ability to integrate sensory information from these zones could lead to a bigger focus on specific details instead of the whole context. Another study supporting the WCC is Minshew et al., which claims in ASD, connectivity within hemispheres is often excessive, while connections between hemispheres are weaker, which would explain why individuals with ASD do very well at noticing details but struggle with wider contexts. Imaging studies further indicate reduced connectivity in networks responsible for sensory integration, supporting the idea that ASD-related deficits may stem from impaired integration across neural systems. (3)(5)(7).

#### Theory of Mind model (ToM)

The ToM model proposed by Baron-Cohen et al. states that a main deficit in ASD is the difficulty in understanding the mental state of others. ToM involves the ability to infer other's state of mind is key for effective social interactions. Research links ToM deficits in autism to impairments in regions of the brain linked to social cognition, including the prefrontal cortex, STS and amygdala (5)(7). Amoral et al. suggested that ASD's abnormal growth patterns especially in regions implicated in the ToM might disrupt mentalising and perspective-taking (5)(7). Neuroimaging studies show reduced activation in these areas during tasks that require ToM.

## Mirror Neuron System (MNS) Model

The MNS model is based on mirror neurons which fire when someone does an action and when they see someone else doing the same action. The MNS is hypothesised to be involved in imitation, empathy and being understanding of others which people with ASD often find challenging (5)(7). The MNS in humans involves regions like the inferior frontal gyrus (IFG), STS and parietal lobes. Studies by Schroeder et al. and others such as Dapretto et al. (2006) or Williams et al. (2001) have shown these areas are less active or engage differently in people with autism which leads to limitations in imitation and empathy.

Together, these models explain key autism symptoms. Integrating ideas from each model may support the development of more effective treatment that consider different aspects of autism.

## **Conclusion:**

Autism is a complex neurodevelopmental condition influenced by differences in brain structure, genetics, and sensory-motor integration. Research reveals how narrower cortical minicolumns, imbalances in brain connectivity, lateralisation in language areas, increased gray and white matter and cerebella's abnormalities affect ASD understanding. Genetic factors, such as CNVs and mutations in key genes, disrupt neural pathways. Sensory and motor adaptations, like repetitive behaviors, serve as strategies for coping, not deficits. The cognitive models give us a better understanding: Weak Central Coherence explains a focus on details, Theory of Mind talks about challenges in understanding others' emotions and Mirror Neuron System involves difficulties in imitation and empathy autistic people experience.

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# ***Panic Attacks: Understanding, Triggers, and Treatment Options***

**Daniela Gómez**

## **Abstract:**

Panic attacks are sudden episodes of intense fear or discomfort that can occur unexpectedly, often leading individuals to experience symptoms such as rapid heartbeat, shortness of breath, chest pain, dizziness, and a feeling of impending doom. These episodes can be distressing and disabling, especially when they occur frequently or without clear triggers. This paper explores the psychological and physiological mechanisms behind panic attacks, identifying key triggers such as stress, trauma, certain medical conditions, and the role of genetics. The paper also examines the diagnostic criteria for panic disorder, distinguishing it from other anxiety-related conditions. Additionally, treatment options are discussed, including cognitive-behavioral therapy (CBT), exposure therapy, pharmacological interventions (such as selective serotonin reuptake inhibitors and benzodiazepines), and newer approaches like mindfulness and relaxation techniques. Emphasis is placed on the importance of early intervention and personalized treatment plans to reduce the frequency and intensity of panic attacks, enhancing overall quality of life for affected individuals.

## **Introduction:**

Panic attacks are sudden, intense episodes of fear or discomfort that can occur without warning. These attacks usually last between 5 and 20 minutes, but people often feel like they go on for much longer (Smith et al., 2017). During an attack, people might experience symptoms like a racing heart, sweating, shortness of breath, and a fear of losing control (Clark, 1986). In some cases, panic attacks can become a more serious condition called panic disorder, where attacks happen repeatedly and people start avoiding certain situations (Barlow, 2002). This paper looks at the symptoms, triggers, and treatment options for panic attacks, with a focus on breathing techniques that can help manage the condition.

## **Characteristics and Symptoms:**

Panic attacks are defined as sudden, intense periods of fear or discomfort (Craske, 2010). The symptoms are both physical and emotional, and can include a rapid heartbeat, shaking, shortness of breath, chest pain, dizziness, nausea, and a sense of being detached from reality (Bourin et al., 2001). Many people also feel afraid of losing control or even dying during an attack (American Psychiatric Association, 2013). After the attack, individuals often become anxious about having another one, which can lead to avoiding places or situations where they fear an attack might occur (Hofmann et al., 2012).

## **Triggers and Subtypes:**

Panic attacks can be triggered by various factors, such as stressful life events, traumatic experiences, medical conditions, or even drug use (Mitte, 2005). In some cases, people can identify what caused their panic attack, but in other cases, there is no clear trigger (Kessler et al., 2006). Research has also looked into different types of panic attacks, although the findings aren't always consistent. Some types include "respiratory panic attacks," where people experience severe breathing problems, and "nocturnal panic attacks," which happen during sleep (Schneier et al., 1992).

## **Treatment Options:**

There are several ways to treat panic attacks. One of the most effective methods is Cognitive Behavioral Therapy (CBT) (Clark & Beck, 2010), which helps people change their thought patterns and learn to manage their anxiety. Exposure therapy, which involves gradually confronting feared situations, is also commonly used (Craske et al., 2006). Some people may be prescribed medication, such as antidepressants or benzodiazepines, to help control their symptoms (Wittchen et al., 2009). However, therapy is often more effective in the long term (Barlow, 2002). In addition to therapy, relaxation techniques like deep breathing and mindfulness can help reduce anxiety and prevent panic attacks (Hayes et al., 2004).

One promising treatment focuses on respiratory control—teaching people how to manage their breathing during an attack. A study with 18 patients showed that breathing exercises, combined with education about panic symptoms, significantly reduced both the frequency and severity of panic attacks (Simmons & Mohlman, 2010). This approach suggests that learning how to control breathing can be an important part of treating panic attacks.

## **Prevention Strategies:**

To prevent panic attacks, lifestyle changes can make a big difference. Regular exercise, good sleep habits, stress management, and limiting caffeine and alcohol can help reduce the likelihood of panic attacks (Hofmann et al., 2012). These healthy habits contribute to overall mental well-being and can make managing anxiety easier (Mitte, 2005).

## **Research findings, supporting the evidence:**

A study on respiratory control techniques involved 18 patients who took part in a program that included breathing exercises, education on panic sensations, and training to control their breathing. After just two weeks of training, the patients showed a significant decrease in the frequency and intensity of their panic attacks. The benefits continued over the next six months and even up to two years later (Simmons & Mohlman, 2010). In addition, a combination of exposure therapy and cognitive interventions helped 85% or more of participants remain panic-free after treatment (Barlow, 2002).

## Conclusion:

Panic attacks are complex and can affect many aspects of a person's life. Understanding the symptoms, triggers, and treatment options is crucial for managing them effectively. While more research is needed to fully understand the different types of panic attacks, current treatments like cognitive therapy and breathing exercises are proven to help reduce the impact of these attacks (Craske et al., 2006). With the right support, people can learn to manage panic attacks and improve their quality of life.

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# "Comprehensive Approaches to HIV Prevention and Cure: Challenges and Innovations"

Irache Dueñas

## Abstract:

HIV (Human Immunodeficiency Virus) is a retrovirus that attacks the immune system, specifically targeting CD4 cells (also known as T cells), which are crucial for fighting infections. The virus is transmitted through bodily fluids such as blood, semen, vaginal fluids, and breast milk. Many individuals with HIV may not show symptoms for years and can feel completely healthy while the virus gradually weakens their immune system. However, with proper antiretroviral therapy (ART), people with HIV can lead long, healthy lives and significantly reduce the risk of transmitting the virus to others.

HIV is a global health issue that affects millions of people, requiring integrated strategies in prevention, treatment and cure. Some prevention methods are ART for pregnant women, pre-exposure prophylaxis (PrEP), and condom use, each of these contributes to reducing transmission but also faces issues like attachment and accessibility (cite). Antiretroviral therapy (ART) remains central for treatment, even though long-term usage can cause challenges, during pregnancy it significantly reduces transmission rates in sub-Saharan Africa although public health interventions are crucial for eliminating mother-to-child transmission of HIV as well as syphilis, and hepatitis B. ART prevents HIV from reproducing in the body. Antiretroviral drugs for HIV are categorized into several classes, each targeting different stages of the virus's life cycle to prevent it from replicating. Nucleoside Reverse Transcriptase Inhibitors (NRTIs) work by blocking the reverse transcriptase enzyme, which HIV uses to convert its RNA into DNA, therefore trapping the replication process. Non-Nucleoside Reverse Transcriptase Inhibitors (NNRTIs) also inhibit reverse transcriptase but do so by binding directly to the enzyme, preventing it from functioning properly. Protease Inhibitors (PIs) block the protease enzyme, which is necessary for HIV to produce mature viral particles. Integrase Strand Transfer Inhibitors (INSTIs) stop the integrase enzyme, preventing HIV from integrating its genetic material into the host cell's DNA. Other classes include Entry Inhibitors, which prevent the virus from entering cells, and CCR5 Antagonists, which block a receptor on the surface of immune cells that HIV uses to gain entry.

PrEP is highly effective in preventing HIV infection among high-risk populations, limitations include limited access in certain regions (1). Consistent condom use reduces the risk of heterosexual HIV transmission by approximately 80% (2). There are innovative cure methods like "shock and kill", "block and lock", and gene editing, which show indication but there are also limited risks (3). "Shock and kill" method reactivates latent HIV (when HIV is inactive inside the cells) to target and eliminate but has a risk of inflammation (4). Block and Lock method pushes HIV into deeper latency which means it keeps HIV inactive and aims for long-term remission without ART. Integrated approaches, which combine different methods or ideas to solve complex problems effectively, are important to overcome these barriers as there is a need for global collaboration and further research. Block-and-lock therapy for HIV faces several challenges.



One key barrier is that the virus can hide in dormant cells, forming "reservoirs" that current treatments can't eliminate. These hidden viruses can reactivate if treatment stops. It's also difficult to find and target all infected cells because HIV hides in different parts of the body. Additionally, the virus can mutate, making it harder to control. Finally, more research is needed to ensure the long-term safety of this approach, as it involves changing how cells function, which might cause side effects.

ART and the 'shock and kill' method are two different approaches to HIV treatment. ART is the standard, long-term treatment for people living with HIV, using a combination of drugs to suppress the virus and manage the infection. It requires lifelong adherence but effectively controls the virus. The 'shock and kill' method, on the other hand, is an experimental approach aimed at curing HIV. It attempts to activate dormant HIV in the body (the "shock") and then eliminate it (the "kill"), potentially removing the need for lifelong medication. While ART is proven and widely used, the 'shock and kill' method is still in the research phase and has shown limited success so far.

## **Introduction:**

The HIV epidemic continues to be a public health priority, and over 39.9 million people live with HIV globally as of 2024, especially concentrated in regions like sub-Saharan Africa (ssentongo2021). Despite advances in treatment and prevention, there are approximately 1.5 million new infections and 650,000 AIDS-related deaths each year as cure remains elusive due to the virus's ability to continue in latent reservoir. The use of PrEP and consistent condom use have shown to be highly effective by reducing rates of transmission by up to 80%, however the low accessibility continues to be a challenge by reducing their impact. Moreover, the COVID-19 has increased the danger of HIV as studies show that HIV-positives are at higher risk for worse COVID-19 outcomes, especially those who have low CD4 counts (important white blood cells for the immune system which HIV attacks to replicate itself). Effectively combating HIV requires a mixed approach integrating prevention, treatment and cure strategies, and all these also while addressing the diverse social, cultural, and economic challenges that influence transmission and access to healthcare. This paper will focus on innovative strategies to both prevent and cure HIV, fixating on the role of ART in treatment and emerging methods to address viral persistence and achieve a functional cure. Managing HIV includes reducing spread, controlling viral count in patients, and addressing how it affects comorbidities such as cardiovascular diseases, liver condition, and mental health issues. This paper would also focus it's attention to some cases such as the Berlin and London cases, which have shown a functional cure may be possible, though current methods like stem cell transplants are not widely capable due to the high risks and limited practicality. An integrated approach is essential for effective HIV management, and this paper will draw attention to areas of research that hold potential for the global effort to end the HIV epidemic.

## **1. Prevention Strategies:**

### **ART to prevent mother-to-child infection**

Prevention of HIV begins in the early stages of pregnancy. Administering ART to infected pregnant women is a dangerous intervention, due to the increased risk of adverse pregnancy outcomes, such as low birth weight, spontaneous abortion, preterm birth, and stillbirth, particularly when ART is initiated before conception or early in pregnancy, that has led to significant reduction in vertical (mother to child) HIV transmission, especially in sub-Saharan Africa, where HIV frequency is highest (5). With ART during pregnancy, childbirth, and breastfeeding, mother-to-child transmission rates have decreased to less than 5% in some regions (9). However, challenges remain achieving universal ART reporting for pregnant women, and logistical, financial, and healthcare infrastructure obstacles prevent widespread implementation. The eMTCT (Elimination of Mother-to-Child Transmission) intervention for HIV is initiating a lifelong antiretroviral therapy for HIV-infected mothers that helps repress the viral load which reduces the risk of transmission to the child (. For HIV-exposed infants, it is recommended to use ART during the first 6 to 12 weeks of life to reduce further transmission risks. Although, there are a few limitations such as coverage insufficiencies . For example, fewer than half of pregnant women are screened for syphilis, and only 4% of infants in some African regions receive a hepatitis B vaccine at birth. This is also because of another limitation, political and technical challenges, which means the progress of eMTCT is slower in sub-Saharan Africa, where policies, strategies and funding are not enough.

### **Oral PrEP**

Oral PrEP, a daily medication for people at high risk of HIV, has proven highly effective in reducing HIV transmission rates (6). For populations with high exposure risk, like homosexual and bisexual men, sex workers, people who inject drugs, and serodiscordant couples (where one partner is HIV-positive). PrEP provides up to 90% reduction in risk when taken consistently. However, adherence remains a primary challenge due to side effects, stigma, and the requirement for ongoing use, emphasising the need for improved accessibility and support for individuals at high risk. When participants maintained a high adherence, in trials, PrEP's effectiveness in reducing HIV transmission was at its highest . Lower adherence significantly reduced efficacy, which highlights the importance of support methods such as regular counselling and monitoring.

### **Condom usage**

Consistent and correct condom use reduces HIV transmission, which is a cost-effective and widely accessible preventive tool, although it is not everywhere available. The restriction of condom use can be because of several factors such as legal restrictions or access issues. Countries like Afghanistan and North Korea have government-imposed limitations on condom sales and use. Countries like India and Peru struggle with integrating family planning and HIV prevention, affecting condom availability.

Despite its effectiveness, cultural and societal barriers, also challenges in education on correct usage, affect the overall impact of condoms in HIV prevention efforts(7). Increasing the acceptance and consistent use of condoms is critical to comprehensive HIV prevention strategies, especially in resource-limited settings. For individuals on PrEP, health specialists recommended continuing using condoms, especially to prevent STDs not protected by PrEP such as syphilis or gonorrhoea.

## **2. Treatment Strategies and Co-Morbidities:**

ART has been involved in managing HIV infection by suppressing viral replication, allowing people with HIV to lead longer, healthier lives reducing the development of AIDS.(8) However, achieving sustained viral control requires lifelong adherence to ART, which has side effects, regimen fatigue, and the development of drug-restraint strains. The challenge of sustaining ART access in low-income settings also complicates this, requiring continuous innovation in drug formulations and delivery mechanisms to perform better outcomes that are accessible for all social groups.

### **Managing Comorbidities in Aging HIV Populations:**

The aging of the HIV-positive population brings an increased risk of chronic diseases, including cardiovascular disease, diabetes, and malignancies. Research indicated that older HIV patients are at higher risk for multiple comorbidities, requiring integrated care strategies that address both HIV management and aging-related health conditions. Further research on the complex interactions between ART and chronic disease management in older adults is needed. (9)

### **Impact of COVID-19:**

The COVID-19 pandemic has increased vulnerabilities among people living with HIV, with not much access to healthcare and ART, and also additional risks due to immune system compromise. The pandemic has highlighted the need for resilient healthcare systems capable of maintaining essential HIV services during global health crises, emphasising the importance of integrating HIV care with broader health infrastructure to support continuity.

## **3. Emerging Cure Strategies:**

The “shock and kill” strategy aims to reactivate latent HIV from reservoirs using latency-reversing agents, followed by immune-mediated or pharmacological elimination. However, this approach faces challenges, such as the difficulty of fully eliminating the virus and the potential for immune activation and inflammation. Research on the “Berlin Patient”, one of the first individuals functionally cured of HIV, presents both the potential and limitations of this method in achieving a long-term cure. The Limitations are the difficulty of detecting low level reactivation and completely ‘killing’ reactivated cells, especially in patients with poor immune responses.

The “block and lock” strategy aims to induce a deeper state of latency, effectively locking HIV into a non-reactivable state. By preventing viral reactivation, this method holds potential for achieving sustained viral remission without continuous ART. Studies on “block and lock” approaches, such as those examining compounds capable of deepening viral latency, show indications but require further research to address scalability and long-term efficacy. Gene editing technologies, such as CRISPR, alongside stem cell transplants using CCR5Δ32 genetic mutations, have demonstrated potential in eliminating HIV from the body. The successful cases of the Berlin and London patients present the success of stem cell transplants, yet these approaches remain limited in scalability because of high costs, complexity and risks.

This procedure is risky because it requires compatible donors with the CCR5 mutation and is often limited to patients with dangerous health conditions such as cancer who can tolerate intensive treatments (10). Further ongoing research explores ways to make this procedure safer and more accessible, also by using gene-modified cells to mimic the CCR5 $\Delta$ 32 effect. (11)

## **Conclusion:**

In summary, preventing and curing HIV requires a diverse approach. While ART remains the most effective treatment, challenges such as long-term adherence, access, and resistance highlight the need for innovative approaches to treatment and care. Emerging cure strategies, including latency-based approaches and gene editing, provide hope for eventual long-term viral elimination without continuous therapy. For the future, global collaboration, sustained investment in research, and efforts to improve healthcare accessibility are critical in advancing these strategies and achieving global HIV control.

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# Virtus in Sports

## Interview with Rebeca Vidal

**For how long have you been playing volley and why did you start playing ?**

Rebeca has been playing volleyball for four years. She started when she was twelve, when she lived in Florida, United state because she was encouraged by her friends. She wanted to meet new people and play a sport to carry a healthy lifestyle.

**Do you enjoy the environment you play in? Do you get along with all your teammates?**

Yes, Rebecca developed a healthy sportsmanship and leadership skills. She has played in the position of team captain throughout the last two years in Tres Cantos. She met some of her best friends through the sport. Mainly paula who she met in her first year and have played together ever since

**What values has volley thought you?**

Mainly she has developed teamwork skills. Volleyball is a sport were you can't succeed without your team.

**What are your future steps with volley?**

Rebecca would like to go to a university in the US. She would like to continue her volleyball career and play for her official university team. She hopes to play against other nationally recognised universities and develop long lasting relationships.

**What different prices have you won in volley?**

Rebeca has won two different leagues and one tournament. At her last school, King's college they won first place against Hastings, Rebeca felt very proud at that moment as she was team captain.

**How do you balance volleyball and school life?**

Rebeca uses her study periods adequately. She tries to complete all her task in her free time at home. As well, she asks her teacher for help when she feels she cannot manage to finish the tasks or is having problems understanding it.

**What are the difficulties you have faced when playing volleyball?**

Rebecca, thankfully has never suffered any physical injuries however, mentally she has overcome many mental battles during her matches and mental blockades, nevertheless with the help of her team she has been able to overcome them and hopes to continue doing so .



By Sofía García

# House points

It isn't what we  
say or think that  
defines us, but  
what we do.

**Austen**



719 points

**2nd** Hawking- 581 points

**3rd** Seacole- 420 points

**4th** Attenborough- 407 points

# The Secret Life of Teachers

## Mr Picabea!

Mr. Picabea was born in the city of Valladolid and raised in picturesque Toledo but coming from a family with deep roots in the Basque Country. From a young age, he dreamed of moving somewhere with a more vibrant range of activities, a goal he has clearly achieved in his career and personal life.

He attended a Spanish school before continuing his education at Universidad Politécnica. Remarkably, his teaching journey began at just 18 years old when he started working at a teaching academy. This early experience sparked a path that eventually led him to teach here at Virtus College. However, teaching wasn't always his plan as for much of his life Mr. Picabea aspired to pursue biomedical research, only deciding to explore teaching last year. Despite this, he has embraced the role with enthusiasm and a passion and we are so glad he did.

If he weren't a teacher, Mr. Picabea imagines himself thriving as a 3D designer, particularly in the realm of media and film. This dream isn't hypothetical as he already has worked as a freelance video editor, a role he continues to engage in when time allows. He collaborates with the Think Ahead Academy marketing team, though his current teaching commitments have limited his workload this year.



Always seeking personal growth, Mr. Picabea has ambitious goals for the future. He hopes to study another degree, likely in mathematics, and eventually pursue a third degree in a completely different field, such as marketing or advertisement. These aspirations reflect his immense curiosity and dedication to expanding his horizons.

Fun facts about Mr. Picabea include his surprising preference for Mathematics over the subjects he currently teaches, though he has a soft spot for Chemistry, which he enjoys far more than Biology. Outside the classroom, he is a man of many passions. Music is a cornerstone of his life, as he listens to six to seven hours of it a day. His favourite artists are Fiona Apple, Kendrick Lamar and D'Angelo which have become a recurring highlight in his life, having attended their concerts twice and eagerly planning a third.

His hobbies apart from his passion for music, video editing, and 3D printing include traveling, spending time with friends and humorously identifies as a "gymbro," a claim that students might enjoy investigating further. When it comes to entertainment, his favourite TV series is The Office, and he's a fan of horror movies. About his travels Egypt holds a special place in his heart as his favourite destination, a testament to his adventurous spirit and love for exploring new cultures.

Mr. Picabea's story is inspiring, his unique combination of creativity, intellectual curiosity, and dedication to his students make him an invaluable part of our school community. We're so grateful to have him with us!



# Ms Reeves-Perrin!

Ms. Reeves-Perrin, one of the school's most spirited teachers, grew up in a traditional town near Brighton Beach in the south of the UK. Though the skies were often grey and the weather cold, she recalls the beauty of the countryside, cozy pubs, and a charming, traditional British atmosphere. However, it was her love for sunshine, food, and travel that eventually led her to Spain, a country that has since become her home.

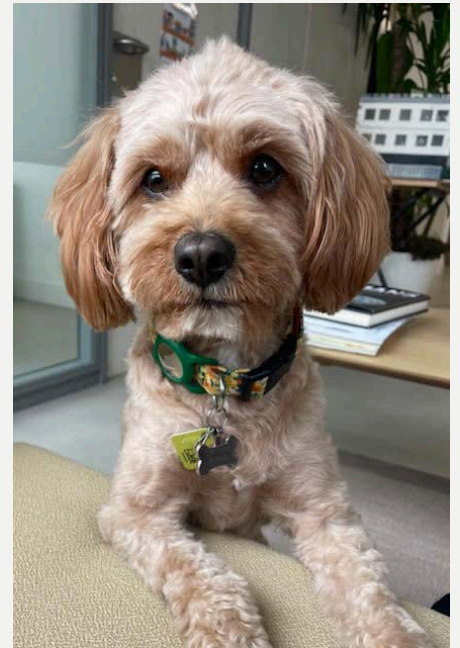
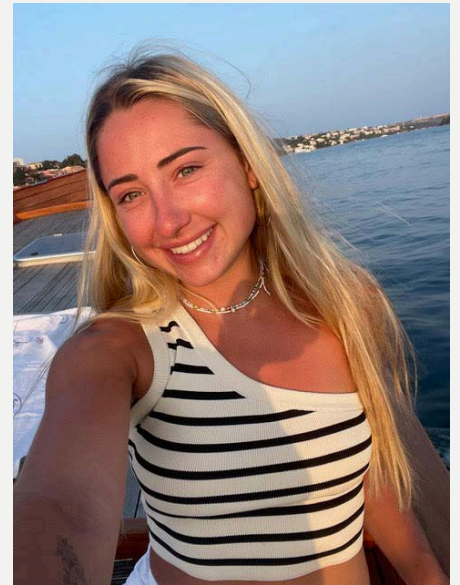
Her academic journey began with an impressive selection of A-levels: Chemistry, Economics, Geography, and Maths, which she pursued with dedication. Ms. Reeves-Perrin then attended the University of Birmingham, where she studied Geography, inspired by her admiration for David Attenborough. At the time, she didn't have a set career path and describes her university years as a period of exploration—complete with financial struggles and life in bustling Birmingham. After graduating, she reconnected with her old school in the UK, where a teaching position in the Economics department marked the beginning of her teaching career. Four years later, she made the bold decision to move to Madrid, a transition she admits was challenging but one that has brought her immense joy and fulfilment.

Although she always thought she'd end up teaching, she imagined herself starting much later in life, perhaps after raising children. Life, however, had other plans, and teaching became her calling earlier than expected. And what a wonderful fit it's been! In the classroom, Ms. Reeves-Perrin's enthusiasm and dedication shine brightly. She's currently a teacher of Economics and Business, and her students greatly appreciate her expertise and approachable teaching style.

Outside the classroom, Ms. Reeves-Perrin's life is filled with passion and adventure. A huge dog-lover, she adores spending time with her beloved dog, Theodore Hudson Sunshine Reeves-Perrin (or "Sir Loin" as he's affectionately nicknamed). She's an avid fan of netball, pilates, and her monthly wine club. Food plays a huge role in her life, and she loves exploring tapas bars, shopping at her favourite stores like Mango and The White Company, and indulging in the vibrant culinary culture of Spain. Relaxation for her often involves sunbathing, board games, and walking Sir Loin on sunny days.

Her adventurous spirit has taken her to incredible places. She lived in Australia for a year, hitchhiking along the coast, skydiving over Mission Beach, and diving into the Great Barrier Reef. She's traveled through Bali and Cambodia and dreams of one day visiting the Maldives, Bora Bora, and Fiji. One of her ultimate goals is to move to Menorca, where she spends her summers, and open a luxury beach resort a perfect reflection of her love for relaxation and travel.

Her life motto, "go with the flow," perfectly captures her spontaneous and adventurous nature. From impulsively buying a dog while at university to embracing chaos with humor and grace, Ms. Reeves-Perrin takes life as it comes. In her future, she dreams of owning a donkey named Dylan, chickens, and a tomato garden to fulfill her vision of a country lifestyle. Here at Virtus, we admire and respect her not only for her engaging lessons but for the warmth, humor, and positivity she brings to the school community. Whether she's teaching in the classroom or sharing her travel stories, Ms. Reeves-Perrin inspires us all to embrace life's twists and turns with a sense of adventure and an open heart. She's truly one of a kind!



By: Gabriela Andronis



# International AIDS day

## December 1st

AIDS is a condition caused by the HIV that weakens the immune system, making it difficult for the body to fight off infections and diseases. HIV attacks and destroys white blood cells that play a crucial role in the immune system. Over time, the body becomes more vulnerable to infections and cancer. Not everyone who has HIV will develop AIDS. With proper treatment people with HIV can live long and healthy lives and never develop AIDS. If untreated HIV can progress to AIDS in 10 to 15 years. AIDS is characterised by the appearance of certain infections or cancers that are rare in people with healthy immune systems. There is no cure for HIV/AIDS, early diagnosis and treatment can help manage the disease and improve the quality of life for those living with it.



**1980:** The first recognized cases of AIDS were reported in the US. They were described as a rare pneumonia in five young men.

**1990:** AIDS had become a global health crisis. The virus spread rapidly across the world. Public awareness campaigns were created to educate people about HIV transmission and prevention. Fear and stigma about the disease caused discrimination, especially toward people living with HIV. ART was developed to help manage HIV infections. They didn't cure HIV but slowed its progression. by blocking the virus's ability to replicate, turning HIV from a fatal disease into a manageable one.

**2000:** AIDS was recognised as a pandemic, with millions of people living with HIV worldwide, especially in sub-Saharan Africa. Global Fund to Fight AIDS was created to provide financial support to countries battling the AIDS crisis. ART became more accessible globally, revolutionised the fight against HIV/AIDS. ART allowed people with HIV to live longer, healthier lives, and helped to reduce transmission rates.

**2020:** AIDS remains a global challenge. However, significant progress has been made in reducing new infections and improving access to treatment. In 2021, the UN set goals for ending the AIDS epidemic by 2030 by providing universal access to HIV treatment and prevention and ending the stigma associated with the disease.

December 1st, every year, millions of people come together to observe World AIDS Day. Its purpose is to raise awareness about AIDS and showing support for those living with the virus. It serves as an important reminder of the fight against HIV/AIDS, honoring those who have lost their lives while emphasizing the significance of prevention, treatment and education.



There are many ways you can help against the fight with AIDS, through education, fundraising, or simply offering support. You can participate in local events, wearing a red ribbon, and donating to organisations that support people living with HIV. Supporting changes that ensure better access to healthcare, HIV prevention, and treatment services can have a big impact. Everyone can play a role in this global effort to change, and each action can make a difference.

By: Cecilia Heras

# Who said that?

Who says 'Espabílate' often?

**Ms Garrabella**

80% correct

Who says 'If I'm not worried, why are you worried' often?

**Ms Birkenhead**

73% correct

Who says 'My mother is gonna kill me' often?

**Matias**

73% correct

Who says 'It's unauthorised if the school doesn't authorise it' often?

**Ms Marques**

100% correct

Who says 'I'm overwhelmed' often?

**Mario**

60% correct

Who says 'I don't have my phone, Ms Marques has my phone' often?

**Ernesto**

73% correct

Who says 'right, shut it' often?

**Ms Moreno**

40% correct

Most said Ms McKee

Who says 'I almost died' often?

**Ms Zakaria**

80% correct

Sloths can hold their breath longer than dolphins

You can't snore and dream at the same time

Elephants are the only mammals that can't jump

The original color of Coca-Cola was green

**Four fun facts**



By: Cecilia Heras

# Credits

We hope you enjoyed this issue of the Virtus Newspaper! Every edition will be different and hopefully you can learn a thing or two from it.

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Joana Bengoetxea - Guest Writer

Laura Fernández - Guest Writer

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