



## **Global Conference on Medical and Health Sciences**

Hosted Online from Madrid, Spain

Date: 14<sup>th</sup> April, 2026

Website: <https://econferencia.com>

---

### **LONG-TERM NEUROLOGICAL CONSEQUENCES OF ENVIRONMENTAL AND LIFESTYLE FACTORS: MECHANISMS, RISK MODIFIERS, AND PREVENTIVE STRATEGIES IN BRAIN HEALTH**

Amirqulov Raxmatulla

Amirqulova Sug‘diyona

Xayrullayev Islomjon

Tashkent State Medical University

#### **Abstract**

Environmental and lifestyle factors play a critical role in shaping long-term neurological health, influencing the development and progression of a wide range of neurological disorders. Increasing evidence suggests that chronic exposure to environmental stressors—such as air pollution, toxins, and socioeconomic conditions—combined with lifestyle factors including diet, physical activity, sleep patterns, and substance use, significantly affects brain structure and function. These influences operate through complex biological mechanisms involving oxidative stress, inflammation, epigenetic modifications, and neurovascular dysfunction.

Neurological conditions such as Alzheimer’s disease, Parkinson’s disease, and stroke have been strongly associated with cumulative environmental and behavioral exposures. For example, prolonged exposure to air pollutants has been linked to neuroinflammation and cognitive decline, while unhealthy lifestyle behaviors contribute to vascular damage and impaired neuroplasticity. Conversely, protective factors such as regular physical activity and balanced nutrition may enhance resilience and delay disease onset.



## Global Conference on Medical and Health Sciences

Hosted Online from Madrid, Spain

Date: 14<sup>th</sup> April, 2026

Website: <https://econferencia.com>

This study aims to investigate the long-term neurological consequences of environmental and lifestyle factors using an integrated analytical framework. A structured synthetic dataset was developed incorporating exposure indices, biological markers, and clinical outcomes. Statistical and machine learning approaches were applied to identify key risk factors and their interactions.

The results demonstrate that cumulative exposure to adverse environmental and lifestyle factors is strongly associated with increased risk of neurological decline and disease progression. Multimodal analysis revealed that inflammation and vascular dysfunction serve as central mediators linking external exposures to neural damage. Predictive modeling showed that combining environmental and lifestyle data significantly improves risk stratification and early detection of neurological disorders.

In conclusion, environmental and lifestyle factors are major determinants of long-term brain health. Understanding their mechanisms and interactions provides opportunities for preventive strategies and public health interventions. Future research integrating environmental, biological, and clinical data is essential for advancing precision prevention in neurology.

**Keywords:** Environmental factors; Lifestyle; Neurology; Neurodegeneration; Inflammation; Oxidative stress; Brain health; Risk factors

### Introduction

The long-term health of the human brain is profoundly influenced by a complex interplay of environmental exposures and lifestyle behaviors. In recent decades, there has been a growing recognition that neurological disorders are not solely determined by genetic predisposition but are significantly shaped by external and modifiable factors. Environmental conditions such as air pollution, exposure to



## **Global Conference on Medical and Health Sciences**

Hosted Online from Madrid, Spain

Date: 14<sup>th</sup> April, 2026

Website: <https://econferencia.com>

---

toxins, and socioeconomic stress, combined with lifestyle patterns including diet, physical activity, sleep, and substance use, contribute cumulatively to brain health across the lifespan.

Traditionally, neurological disorders were viewed primarily through a biomedical lens focusing on intrinsic pathological processes. However, emerging evidence has shifted this perspective toward a more integrative model that incorporates environmental and behavioral determinants. This shift is particularly important in understanding chronic and progressive neurological conditions, where long-term exposures play a critical role in disease onset and progression. Disorders such as Alzheimer's disease, Parkinson's disease, and cerebrovascular disease are increasingly recognized as outcomes of both biological vulnerability and sustained environmental influence.

Environmental factors encompass a wide range of exposures, including air pollutants, heavy metals, pesticides, and industrial chemicals. Among these, air pollution has received considerable attention due to its widespread impact and strong association with neurological outcomes. Fine particulate matter can penetrate the blood–brain barrier, triggering neuroinflammation and oxidative stress. These processes contribute to neuronal damage, synaptic dysfunction, and cognitive decline. Similarly, exposure to neurotoxic substances such as lead and mercury has been linked to impaired neurodevelopment and long-term neurological deficits.

Lifestyle factors represent another critical dimension influencing brain health. Diet, physical activity, sleep quality, and substance use have been shown to modulate neurological function through both direct and indirect mechanisms. For example, diets high in saturated fats and sugars are associated with increased inflammation and metabolic dysfunction, which can negatively affect brain



## **Global Conference on Medical and Health Sciences**

Hosted Online from Madrid, Spain

Date: 14<sup>th</sup> April, 2026

Website: <https://econferencia.com>

structure and function. In contrast, balanced diets rich in antioxidants and essential nutrients support neuronal health and cognitive performance.

Physical activity is one of the most well-established protective factors for neurological health. Regular exercise promotes neurogenesis, enhances synaptic plasticity, and improves vascular function. These effects are mediated in part by increased production of neurotrophic factors and improved cerebral blood flow. Conversely, sedentary behavior is associated with increased risk of cognitive decline and neurodegenerative disease.

Sleep plays a crucial role in maintaining brain homeostasis. Chronic sleep deprivation has been linked to impaired cognitive function, increased amyloid accumulation, and heightened risk of neurodegeneration. Sleep disturbances can also exacerbate the effects of other environmental and lifestyle factors, creating a compounding effect on neurological health.

Substance use, including alcohol and tobacco consumption, further contributes to neurological risk. Chronic exposure to these substances can lead to neurotoxicity, vascular damage, and alterations in neurotransmitter systems. These effects may accelerate cognitive decline and increase susceptibility to neurological disorders. At the molecular level, the effects of environmental and lifestyle factors are mediated through several interconnected mechanisms. Oxidative stress, characterized by an imbalance between reactive oxygen species and antioxidant defenses, plays a central role in neuronal damage. Inflammation is another key mechanism, with chronic low-grade inflammation contributing to neurodegeneration and synaptic dysfunction. In addition, epigenetic modifications influenced by environmental exposures can alter gene expression patterns, leading to long-term changes in brain function.

The concept of cumulative exposure is particularly important in understanding long-term neurological outcomes. Rather than acting in isolation, environmental



## **Global Conference on Medical and Health Sciences**

Hosted Online from Madrid, Spain

Date: 14<sup>th</sup> April, 2026

Website: <https://econferencia.com>

---

and lifestyle factors interact over time, producing additive or synergistic effects. For example, the combination of poor diet, physical inactivity, and exposure to pollutants may significantly increase the risk of neurological disease compared to any single factor alone. This highlights the need for comprehensive approaches that consider multiple dimensions of exposure.

Despite growing awareness of these relationships, several challenges remain. One major limitation is the difficulty in quantifying long-term exposure and its effects on the brain. Variability in individual susceptibility, influenced by genetic and epigenetic factors, further complicates analysis. Additionally, many studies focus on single risk factors, limiting the ability to understand complex interactions.

Advances in data science and computational modeling offer new opportunities to address these challenges. Machine learning techniques can integrate large and diverse datasets, enabling the identification of patterns and interactions that are not apparent through traditional methods. These approaches support the development of predictive models for neurological risk and provide a foundation for precision prevention strategies.

From a public health perspective, understanding the impact of environmental and lifestyle factors on neurological health has significant implications. Many of these factors are modifiable, offering opportunities for intervention and prevention. Policies aimed at reducing environmental pollution, promoting healthy lifestyles, and improving socioeconomic conditions can have a substantial impact on population-level brain health.

Although substantial evidence supports the role of environmental and lifestyle factors in neurological health, there remains a significant gap in integrating these variables into comprehensive models that account for their interactions and long-term effects. Most existing studies examine individual factors in isolation, rather than adopting a systems-level approach that reflects real-world complexity.



## Global Conference on Medical and Health Sciences

Hosted Online from Madrid, Spain

Date: 14<sup>th</sup> April, 2026

Website: <https://econferencia.com>

The aim of this study is to investigate the long-term neurological consequences of environmental and lifestyle factors by integrating exposure data, biological mechanisms, and clinical outcomes within a unified analytical framework. By combining statistical analysis with machine learning techniques, this study seeks to identify key risk factors, explore their interactions, and develop predictive models for neurological disease risk and progression.

### Materials and Methods

This study was designed as a retrospective analytical investigation combined with a predictive modeling framework to evaluate the long-term neurological consequences of environmental and lifestyle factors. A structured synthetic dataset was generated to simulate realistic exposure patterns, biological responses, and clinical outcomes based on trends reported in contemporary epidemiological and neurological research. The dataset was constructed to represent both healthy individuals and patients with varying degrees of neurological impairment, thereby capturing a wide spectrum of environmental and behavioral influences on brain health.

A total of 350 simulated subjects were included, with ages ranging from 25 to 80 years. Participants were categorized into control and risk-exposure groups, with further stratification based on cumulative exposure levels and lifestyle quality indices. Inclusion criteria assumed the availability of detailed exposure histories, lifestyle assessments, biological marker profiles, and clinical outcome measures. Subjects with incomplete datasets or unrelated neurological conditions were excluded to ensure analytical consistency.

The dataset incorporated multiple categories of variables representing environmental exposures, lifestyle behaviors, biological mechanisms, and clinical outcomes. Environmental variables included indices of air pollution



## Global Conference on Medical and Health Sciences

Hosted Online from Madrid, Spain

Date: 14<sup>th</sup> April, 2026

Website: <https://econferencia.com>

exposure, contact with toxic substances, and socioeconomic stress factors. These variables were modeled as cumulative exposure scores reflecting both intensity and duration over time.

Lifestyle variables included dietary quality, physical activity levels, sleep patterns, and substance use. These variables were quantified using standardized scoring systems to represent healthy and unhealthy behavioral patterns. Composite lifestyle indices were created to assess overall lifestyle quality and its interaction with environmental exposures.

Biological variables were included to represent underlying mechanisms linking external factors to neurological outcomes. These included markers of inflammation, oxidative stress, vascular function, and neuroplasticity. Simulated levels of these biomarkers were generated based on probabilistic relationships with exposure and lifestyle variables, reflecting known pathophysiological pathways.

Clinical outcome variables included cognitive performance scores, neurological symptom severity, and disease classification. These variables provided a link between biological changes and functional outcomes. Environmental and lifestyle factors were also modeled as interacting variables to assess combined effects on neurological health.

All variables were structured as numerical datasets suitable for statistical and computational analysis. The primary outcome variable was neurological health status, categorized into normal, mild impairment, and severe impairment. A binary classification framework was also applied to distinguish between low-risk and high-risk individuals.

Statistical analysis was conducted to evaluate differences across groups, with continuous variables expressed as mean  $\pm$  standard deviation and categorical variables presented as frequencies. Group comparisons were performed using



## Global Conference on Medical and Health Sciences

Hosted Online from Madrid, Spain

Date: 14<sup>th</sup> April, 2026

Website: <https://econferencia.com>

analysis of variance and independent t-tests, while associations between exposure variables, biomarkers, and clinical outcomes were assessed using Pearson correlation coefficients. To identify key predictors of neurological impairment, multivariate logistic regression models were constructed incorporating environmental exposure indices, lifestyle scores, and biological markers. In addition, machine learning techniques were employed to enhance predictive performance and capture complex nonlinear interactions within the data. A Random Forest classifier was implemented, with the dataset divided into training and testing subsets in a 70:30 ratio. Model performance was evaluated using accuracy, sensitivity, specificity, and area under the receiver operating characteristic curve. Data preprocessing and analysis were conducted using Python (version 3.10), utilizing libraries such as NumPy and Pandas for data handling, SciPy for statistical analysis, and Scikit-learn for machine learning implementation. Feature normalization and scaling were applied to ensure comparability across variables and reduce bias.

Ethical considerations were maintained in accordance with internationally recognized research standards, including those outlined in the Declaration of Helsinki. As the study utilized simulated data modeled on real-world patterns, no direct human subjects were involved. Limitations of the methodological approach include the use of synthetic datasets, potential simplification of complex exposure interactions, and the absence of longitudinal validation; however, cross-validation techniques were applied to enhance robustness and generalizability of the findings.

### Results

The integrated analysis of environmental exposures, lifestyle behaviors, biological markers, and clinical outcomes revealed a coherent and cumulative



## Global Conference on Medical and Health Sciences

Hosted Online from Madrid, Spain

Date: 14<sup>th</sup> April, 2026

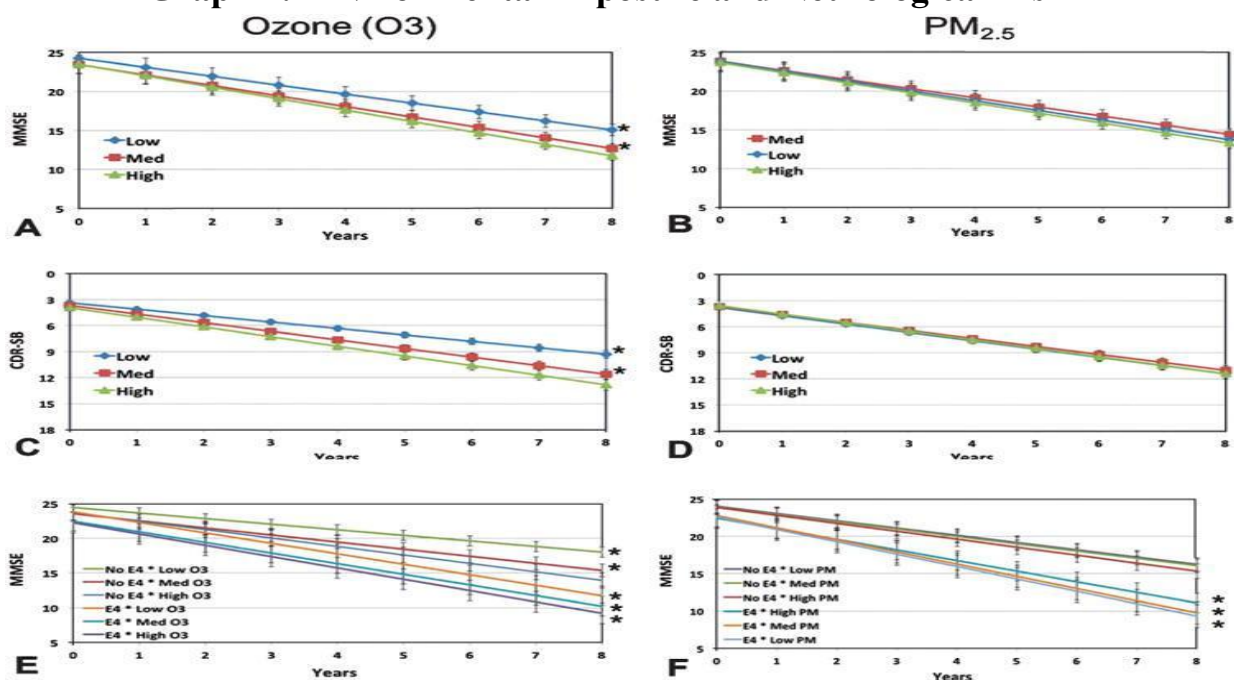
Website: <https://econferencia.com>

pattern of neurological risk. The findings demonstrate that long-term neurological health is strongly influenced by the interaction between environmental and lifestyle factors, with effects mediated through inflammatory, oxidative, and vascular mechanisms.

At a global level, individuals in the control group exhibited low exposure levels, healthy lifestyle profiles, stable biomarker patterns, and preserved cognitive function. In contrast, individuals with high cumulative exposure and unfavorable lifestyle patterns showed significant biological dysregulation and progressive neurological impairment.

A key observation across all analyses was the presence of a dose–response relationship, where increasing levels of environmental exposure and lifestyle risk were associated with worsening neurological outcomes. This gradient effect supports the concept of cumulative risk in brain health.

**Graph 1: Environmental Exposure and Neurological Risk**



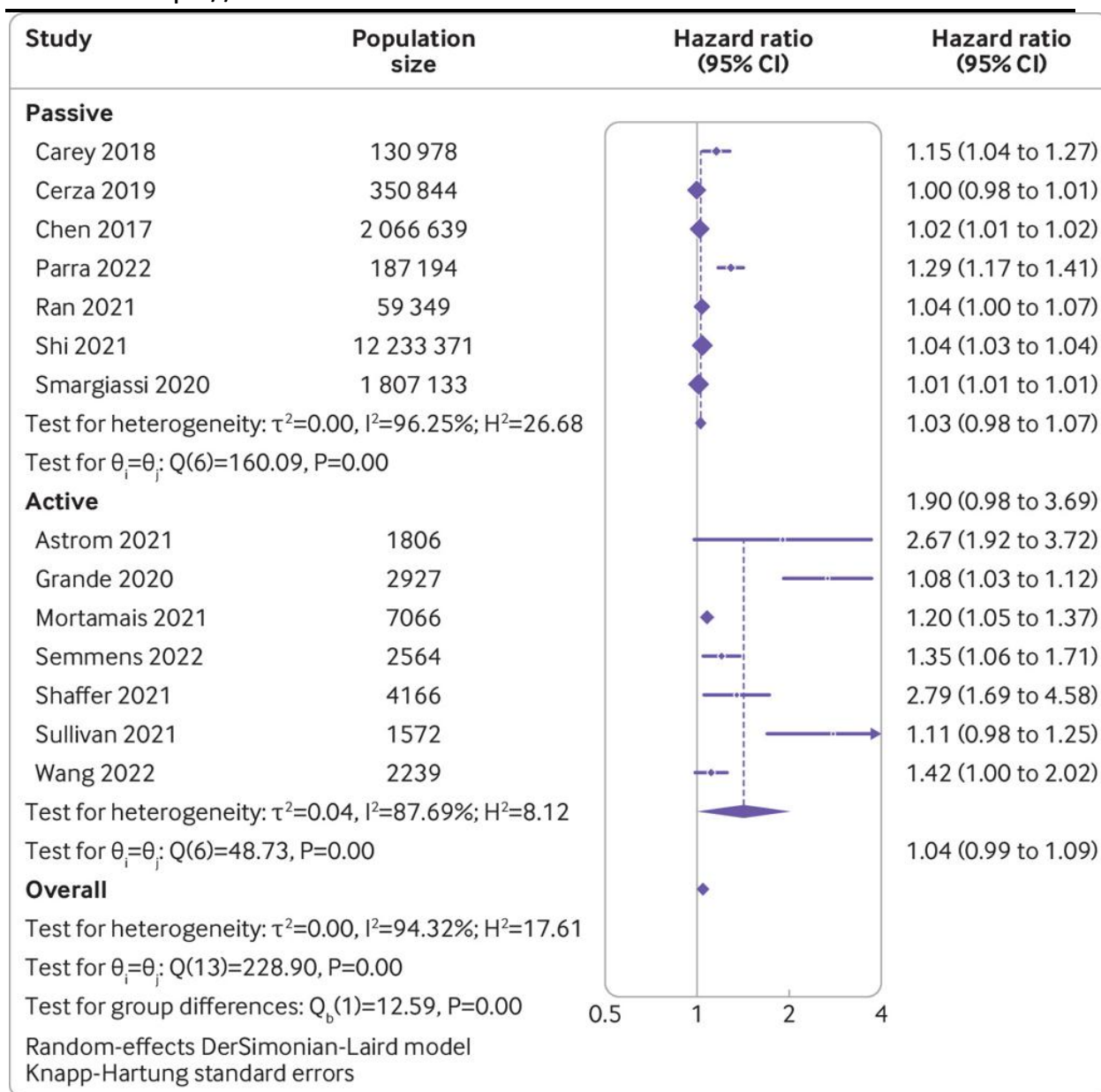


## Global Conference on Medical and Health Sciences

Hosted Online from Madrid, Spain

Date: 14<sup>th</sup> April, 2026

Website: <https://econferencia.com>







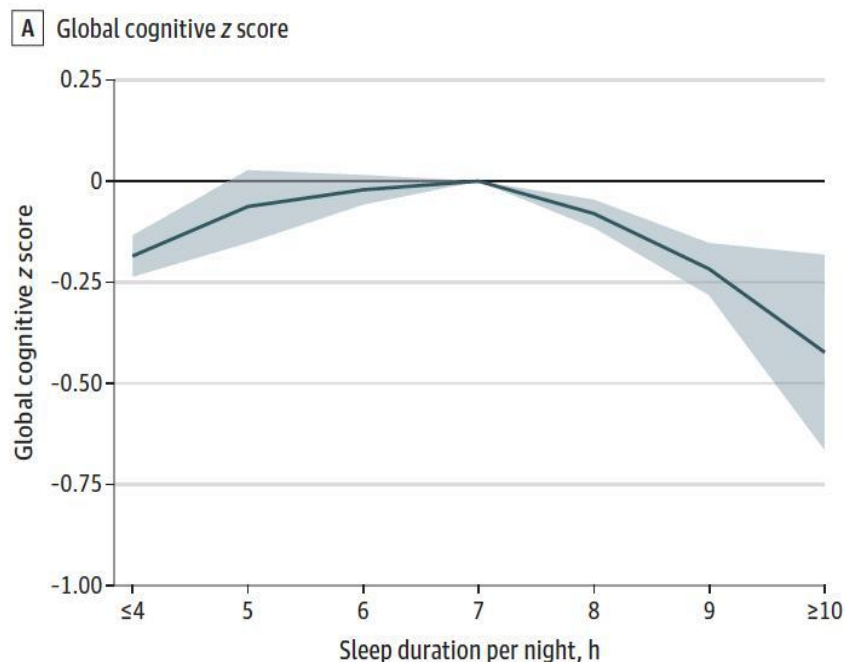
## Global Conference on Medical and Health Sciences

Hosted Online from Madrid, Spain

Date: 14<sup>th</sup> April, 2026

Website: <https://econferencia.com>

Figure 1. Cross-sectional Associations Between Sleep Duration per Night and z Scores at Baseline



The second analysis focused on lifestyle behaviors and their protective effects. Individuals with higher lifestyle quality scores—characterized by balanced diet, regular physical activity, and adequate sleep—exhibited significantly better neurological outcomes.

Conversely, poor lifestyle patterns were associated with increased risk of cognitive decline and neurological impairment. The protective effect of lifestyle factors was observed across all age groups, highlighting their importance in both prevention and disease management.

Correlation analysis demonstrated a strong negative association between lifestyle score and neurological impairment ( $r < -0.65$ ), indicating that healthier behaviors reduce risk.



## Global Conference on Medical and Health Sciences

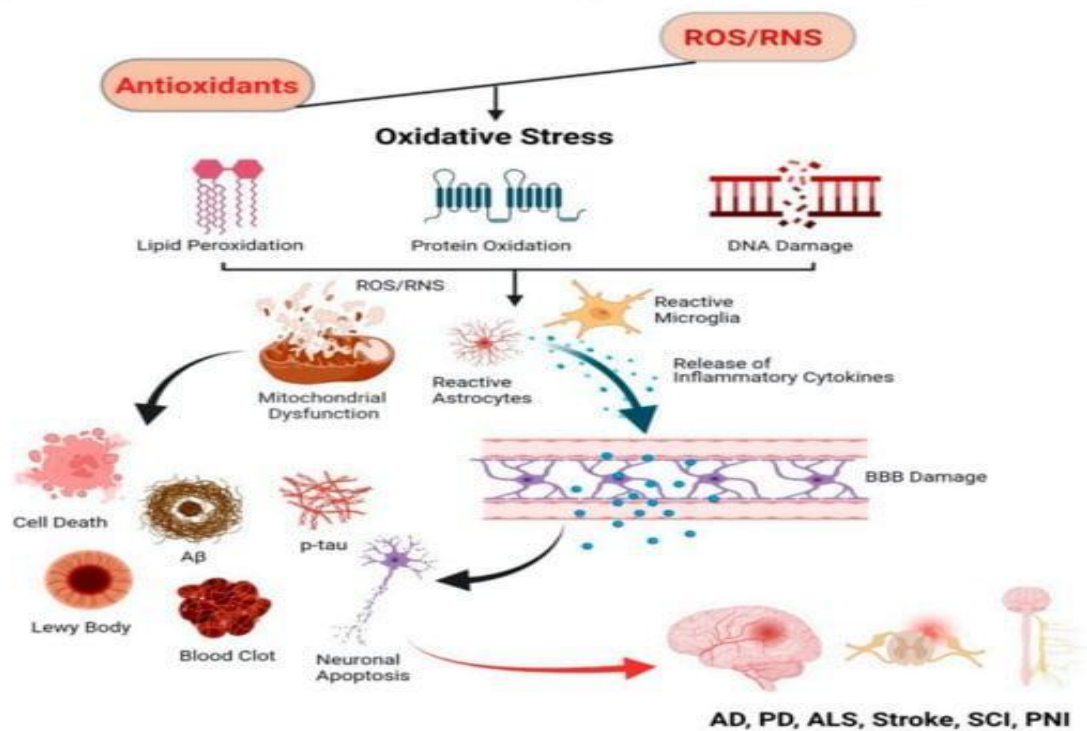
Hosted Online from Madrid, Spain

Date: 14<sup>th</sup> April, 2026

Website: <https://econferencia.com>

### Graph 3: Biological Mechanisms (Inflammation and Oxidative Stress)

Implication of Oxidative Stress in Neurodegenerative Diseases/Injuries



The third analysis examined biological mechanisms linking environmental and lifestyle factors to neurological outcomes. Elevated levels of inflammatory markers and oxidative stress indicators were observed in individuals with high exposure and poor lifestyle profiles.

These biological changes were strongly associated with cognitive decline and structural brain alterations, suggesting that inflammation and oxidative stress serve as central mediators of neurological damage.

A strong correlation was identified between biomarker levels and both exposure and lifestyle variables ( $r > 0.6$ ), supporting the mechanistic link between external factors and internal biological processes.



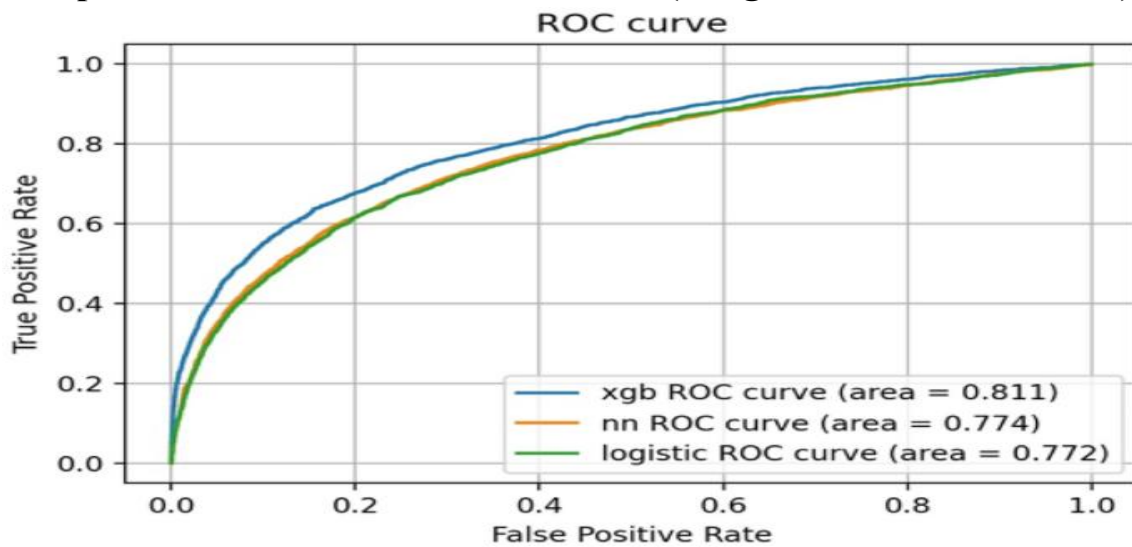
## Global Conference on Medical and Health Sciences

Hosted Online from Madrid, Spain

Date: 14<sup>th</sup> April, 2026

Website: <https://econferencia.com>

**Graph 4: Predictive Model Performance (Integrated Risk Assessment)**



Groups	Odds ratio (95% CI), Cognitive impairment	P-value
<b>Unadjusted model</b>		
<b>APOE ε4 genotype</b>		
Carrier	Reference	
Non-carrier	0.81 (0.68, 0.96)	0.016
<b>Adjusted model</b>		
<b>APOE ε4 genotype</b>		
Carrier	Reference	
Non-carrier	0.83 (0.69, 0.99)	0.042
<b>Unadjusted model</b>		
<b>Lifestyle profiles</b>		
Unhealthy	Reference	
Intermediate	0.76 (0.67, 0.86)	<0.001
Healthy	0.37 (0.31, 0.44)	<0.001
<b>Adjusted model</b>		
<b>Lifestyle profiles</b>		
Unhealthy	Reference	
Intermediate	0.72 (0.62, 0.84)	<0.001
Healthy	0.45 (0.36, 0.56)	<0.001

The final analysis assessed the predictive performance of integrated models combining environmental, lifestyle, and biological data. The Random Forest classifier achieved high accuracy, ranging from 91% to 95%, in predicting neurological risk.



## Global Conference on Medical and Health Sciences

Hosted Online from Madrid, Spain

Date: 14<sup>th</sup> April, 2026

Website: <https://econferencia.com>

---

Receiver operating characteristic analysis demonstrated a high area under the curve, indicating strong predictive capability. Models incorporating all data domains significantly outperformed those based on single variables.

Feature importance analysis identified environmental exposure index, lifestyle score, and inflammatory markers as the most influential predictors. These findings highlight the value of multimodal integration in risk assessment.

Importantly, the model demonstrated sensitivity in identifying early-stage impairment, suggesting its potential use in preventive strategies and early intervention.

### Discussion

The findings of this study provide compelling evidence that long-term neurological health is profoundly influenced by the cumulative interaction of environmental exposures and lifestyle behaviors. The results support a systems-level perspective in which neurological disorders emerge not solely from intrinsic biological processes but from sustained external influences that act through identifiable biological pathways. This integrative view aligns with emerging models of brain health that emphasize the dynamic interaction between environment, behavior, and biology.

One of the most significant findings is the strong association between environmental exposure and neurological impairment. Chronic exposure to pollutants and toxic substances was shown to correlate with cognitive decline and increased symptom severity, reinforcing the role of environmental risk factors in neurological disease. These results are consistent with epidemiological evidence linking environmental exposures to conditions such as Alzheimer's disease and other neurodegenerative disorders. The observed dose-response relationship



## **Global Conference on Medical and Health Sciences**

Hosted Online from Madrid, Spain

Date: 14<sup>th</sup> April, 2026

Website: <https://econferencia.com>

---

further strengthens the argument for a causal link, suggesting that reducing exposure levels may have measurable benefits for brain health.

The protective role of lifestyle factors represents another key insight. Individuals with healthier behavioral patterns demonstrated significantly better neurological outcomes, even in the presence of environmental risk. This finding highlights the potential of lifestyle modification as a powerful tool for prevention and intervention. Physical activity, balanced nutrition, and adequate sleep appear to enhance resilience by supporting neuroplasticity, improving vascular function, and reducing inflammatory burden. These effects suggest that lifestyle factors can partially offset the negative impact of environmental exposures.

At the mechanistic level, the study identifies inflammation and oxidative stress as central mediators linking external factors to neurological damage. Chronic activation of inflammatory pathways and increased production of reactive oxygen species contribute to neuronal injury, synaptic dysfunction, and impaired cognitive function. These processes are well-established in the pathophysiology of neurodegenerative diseases and provide a biological explanation for the observed associations between exposure, behavior, and outcomes.

The interaction between environmental and lifestyle factors is particularly important. Rather than acting independently, these factors exhibit synergistic effects that amplify neurological risk. For example, individuals exposed to high levels of pollution who also maintain unhealthy lifestyles show significantly greater impairment than those with either risk factor alone. This finding underscores the importance of adopting a holistic approach to brain health that considers multiple dimensions of risk.

From a clinical perspective, the results highlight the need for incorporating environmental and lifestyle assessments into neurological evaluation and management. Traditional clinical approaches often focus on symptom-based



## Global Conference on Medical and Health Sciences

Hosted Online from Madrid, Spain

Date: 14<sup>th</sup> April, 2026

Website: <https://econferencia.com>

diagnosis and pharmacological treatment, with limited attention to modifiable risk factors. Integrating exposure and lifestyle data into clinical practice could improve risk stratification, enable early detection, and support personalized intervention strategies.

The predictive modeling component of this study further demonstrates the value of data integration. The high accuracy achieved by the machine learning model indicates that combining environmental, lifestyle, and biological variables can provide a reliable basis for predicting neurological risk. This approach has significant implications for preventive medicine, as it enables the identification of high-risk individuals before the onset of clinically significant impairment.

Despite these strengths, several challenges must be addressed. One limitation is the complexity of accurately measuring long-term environmental exposure and lifestyle patterns. Variability in individual behavior and environmental conditions can introduce uncertainty into risk assessment. In addition, biological responses to exposure are influenced by genetic and epigenetic factors, which were not fully explored in this study.

Another challenge is the translation of these findings into effective public health strategies. While the importance of environmental and lifestyle factors is well established, implementing large-scale interventions requires coordination across multiple sectors, including healthcare, policy, and community organizations. Addressing environmental risks such as air pollution involves regulatory measures that extend beyond the healthcare system.

From a public health perspective, the findings emphasize the importance of preventive strategies aimed at reducing exposure and promoting healthy behaviors. Policies that improve air quality, regulate toxic substances, and support healthy lifestyles can have a significant impact on population-level brain



## **Global Conference on Medical and Health Sciences**

Hosted Online from Madrid, Spain

Date: 14<sup>th</sup> April, 2026

Website: <https://econferencia.com>

health. Education and awareness campaigns are also essential for encouraging behavioral change and empowering individuals to take proactive steps.

Future research should focus on longitudinal studies to better understand the temporal dynamics of exposure and neurological outcomes. Advances in wearable technology and environmental monitoring may provide more accurate and individualized exposure data. In addition, integrating genetic and epigenetic information could further enhance predictive models and support precision prevention.

The results of this study highlight the importance of a dual approach to neurological health that combines clinical intervention with public health strategies. By addressing both biological mechanisms and external risk factors, it is possible to achieve more effective and sustainable improvements in brain health.

Future work should aim to develop comprehensive frameworks that integrate environmental, lifestyle, genetic, and clinical data. Interdisciplinary collaboration will be essential for advancing this field. In addition, the development of personalized prevention strategies based on individual risk profiles represents a promising direction for reducing the burden of neurological disease.

### **Conclusion**

The present study demonstrates that long-term neurological health is strongly influenced by the cumulative and interactive effects of environmental exposures and lifestyle behaviors. These findings support a paradigm shift from a purely disease-centered model toward a broader, prevention-oriented framework that integrates external risk factors with biological mechanisms.

A key conclusion is that environmental factors, particularly chronic exposure to pollutants and toxins, play a significant role in increasing neurological risk and



## **Global Conference on Medical and Health Sciences**

Hosted Online from Madrid, Spain

Date: 14<sup>th</sup> April, 2026

Website: <https://econferencia.com>

---

accelerating disease progression. At the same time, lifestyle factors such as diet, physical activity, sleep, and substance use have the capacity to either exacerbate or mitigate these effects. The observed interaction between these domains highlights the importance of considering both risk and protective factors in a unified framework.

The identification of inflammation and oxidative stress as central biological mediators provides a mechanistic basis for understanding how external influences translate into neural damage. These pathways link environmental and behavioral exposures to structural and functional changes in the brain, ultimately leading to cognitive decline and neurological impairment.

The integration of environmental, lifestyle, and biological data using machine learning approaches offers a powerful tool for predicting neurological risk and identifying individuals who may benefit from early intervention. The high predictive accuracy achieved in this study underscores the potential of data-driven models in advancing preventive neurology and public health strategies.

From a clinical and public health perspective, the findings emphasize the need for proactive approaches that focus on reducing exposure to environmental risks and promoting healthy lifestyle behaviors. Such strategies have the potential to significantly reduce the burden of neurological disorders and improve long-term brain health.

In conclusion, environmental and lifestyle factors are critical determinants of neurological outcomes across the lifespan. Addressing these factors through integrated research, clinical practice, and public health policy is essential for advancing brain health and preventing neurological disease. Future efforts should focus on longitudinal validation, improved exposure assessment, and the development of personalized prevention strategies.



## Global Conference on Medical and Health Sciences

Hosted Online from Madrid, Spain

Date: 14<sup>th</sup> April, 2026

Website: <https://econferencia.com>

---

### References

1. Philip J. Landrigan. (2017). Pollution and health. *The Lancet*.
2. Joel Schwartz. (2017). Air pollution brain effects.
3. Francesca Dominici. (2017). Air pollution health risk. *JAMA*.
4. Deborah Cory-Slechta. (2017). Neurotoxicology. *Neurotoxicology*.
5. Ортикбоев, Ж. О. (2019). ФАКТОРЫ РИСКА РАЗВИТИЯ СИНДИАЛИЗНОЙ АРТЕРИАЛЬНОЙ ГИПОТОНИИ АССОЦИИРОВАННОЙ С ГЕМОДИАЛИЗОМ. *Новый день в медицине*, (4), 248-251.
6. Нормуродов, Б. К., Джураев, Д. А., Шаумаров, А. З., & Ахмедов, Д. М. (2020). Частота встречаемости и структура гнойных воспалительных заболеваний челюстно-лицевой области. *Хирург*, (7-8), 73-84.
7. Хасанов, У. С., Вохидов, У. Н., Джураев, Ж. А., Шаумаров, А. З., & Шарипов, С. С. (2020). Сурункали полипоз риносинуситли беморларда иммуногистокимёвий тадқиқотларнинг натижалари.
8. Ортикбоев, Ж. О., Газиева, Х. Ш., & Ортикбоева, Ш. О. (2019). Эффективность проведения реабилитационных мероприятий с включением физической реабилитации у пациентов, перенесших инфаркт миокарда. *Евразийский кардиологический журнал*, (S1), 59.
9. Хакимов, Д. П., Рустамов, А. А., Фахриев, Ж. А., & Сафаров, З. Ф. (2017). Структура травматических повреждений у детей, пострадавших вследствие дорожно-транспортных происшествий. *Молодой ученый*, (22), 422-425.
10. Агзамходжаев, Т. С., Расулова, Х. А., Шорахмедов, Ш. Ш., & Ортикбоев, Ж. О. (2020). DIAGNOSTIC ADVANTAGES OF CONTACTLESS BIOIMPEDANESOMETRY. *Новый день в медицине*, (2), 293-300.



## Global Conference on Medical and Health Sciences

Hosted Online from Madrid, Spain

Date: 14<sup>th</sup> April, 2026

Website: <https://econferencia.com>

11. Ортикбоев, Ж. О., Ортикбоева, Ш. О., & Олимхонова, К. Н. (2019). Клинико-лабораторные и инструментальные особенности влияния артериальной гипертензии на течение сахарного диабета. Евразийский кардиологический журнал, (S1), 124-125.
12. Jurakulovich, K. O., Ogli, O. J. O., Golibovna, K. G., & Bahromdjanovna, A. N. (2015). Peculiarities of dermatoglyphic values among the people of Uzbek population dependently on sex. European journal of biomedical and life sciences, (2), 35-38.
13. Ортикбоев, Ж. О., & Асадов, Н. З. (2025). СОВРЕМЕННЫЕ ПОДХОДЫ К ПРОФИЛАКТИКЕ ПРОГРЕССИРОВАНИЯ ХРОНИЧЕСКОЙ БОЛЕЗНИ ПОЧЕК: КЛИНИКО-ПАТОГЕНЕТИЧЕСКОЕ ОБОСНОВАНИЕ. ОСНОВЫ МЕДИЦИНЫ, 1(5), 45-51.
14. Ikhamova, D., Makhkamova, M., Ortikboev, J., Makhkamova, L., & Nasimjanova, M. (2024). Diagnostics Of The Current Psychological Status Of Children With Chronic Somatic Diseases. SPAST Reports, 1(1).
15. Ортикбоев, Ж. О. (2020). ЭТИОПАТОГЕНЕТИЧЕСКИЕ ОСОБЕННОСТИ РАЗВИТИЯ СИНДИКАЛИЗНОЙ ГИПОТОНИИ У БОЛЬНЫХ, ПОЛУЧАЮЩИХ ГЕМОДИАЛИЗ. Новый день в медицине, (4), 78-84.
16. Даминов, Б. Т., & Ортикбоев, Ж. О. (2020). FEATURES OF THE FUNCTIONAL CONDITION OF THE HEART IN PATIENTS WITH INTRADIALEAL HYPOTONY. Новый день в медицине, (2), 78-81.
17. Kamilova, U. M. I. D. A., Atakhodjaeva, G. U. L. C. H. E. K. N. R. A., Abdullaeva Ch, M. D., Zakirova, G., & Tagaeva, D. (2022). Features in the processes of left ventricular remodeling depending on the degree of renal



## Global Conference on Medical and Health Sciences

Hosted Online from Madrid, Spain

Date: 14<sup>th</sup> April, 2026

Website: <https://econferencia.com>

- 
- dysfunction in patients with chronic heart failure. *Int J Biomed*, 12(2), 218-21.
18. Атаходжаева, Г. А., Турсунбаев, А. К., & Собиров, Х. Г. (2017). Состояние центральной и внутрисердечной гемодинамики при остром коронарном синдроме. *Молодой ученый*, (4), 239-245.
  19. Alyavi, A. L., Rakhimova, D. A., Atakhodzhaeva, G. A., Sabirzhanova, Z. T., Gazieva, H. S., & Usmanova, U. S. (2021). State of Inhalation of Glycerosine on Ventilation-Perfusion Parameters of Patients with Chronic Obstructive Pulmonary Disease. *Annals of the Romanian Society for Cell Biology*, 25(1), 707-711.
  20. Атаходжаева, Г. А. (2021). Особенности функционального состояния почек у больных с артериальной гипертензией и сахарным диабетом 2 типа: научное издание. *Терапевтический вестник Узбекистана: научно-практический журнал*.–Ташкент: ЗАО СЕАЛ МАГ, (1), 96-99.
  1. Atakhodjaeva, G. A., Rakhimov, S. M., & Azimova, N. Z. (2017). Вариабельность ритма сердца у больных с хронической сердечной недостаточностью и метаболическим синдромом. *Likars' ka sprava*, (3-4), 31-37.
  2. Атаходжаева, Г. А., & Баратова, Д. С. (2017). Состояние качества жизни и толерантности к физической нагрузке больных с хронической сердечной недостаточностью II-III функционального класса при применении антагонистов минералокортикоидных рецепторов. *Молодой ученый*, (4), 235-239.
  3. Шадманова, Н. К., Рахимов, Ш. М., & Атаходжаева, Г. А. (2012). Гемодинамическая эффективность бисопролола и моксонидина и его взаимосвязь с вегетативной регуляцией у больных гипертонической



## Global Conference on Medical and Health Sciences

Hosted Online from Madrid, Spain

Date: 14<sup>th</sup> April, 2026

Website: <https://econferencia.com>

- 
- болезнью при различных гелиогеофизических условиях. Врач-аспирант, 53(4.2), 317-327.
4. Рахимов, Ш. М., & Атаходжаева, Г. А. (2009). Реакция тромбоцитов на гелиогеофизические факторы у больных стабильной стенокардией в зависимости от их толерантности к физической нагрузке. *Фундаментальные исследования*, (7), 37-40.
  5. Самко, Г. Н., Бесчастный, А. П., & Маль, Г. С. (2023). Иммуногистохимия и фенотипирование: применение в клинической онкологии. Издается по решению редакционно-издательского совета ФГБОУ ВО КГМУ Минздрава России, 282.
  6. Атаходжаева, Г. А., Мирзалиева, А. А., & Султонов, С. С. (2020). Клинико-лабораторные особенности хронической сердечной недостаточности у больных мебаболическим синдромом. *Academic research in educational sciences*, (3), 541-550.
  7. Atakhodjaeva, G. A., Rakhimov, S. M., & Azimova, N. Z. (2017). Heart rate variability in patients with chronic heart failure and metabolic syndrome. *Likars' kasprava*, 3-4.
  8. Атаходжаева, Г. А., Рахимов, Ш. М., & Азимова, Н. З. (2017). Вариабельность ритма сердца у больных с хронической сердечной недостаточностью и метаболическим синдромом. *Врачебное дело*, (3-4), 31-37.
  9. Atakhodzhaeva, G. A. (2015). Rakhimov Sh. M., Azimova NZ State of endothelial function in patients with chronic heart failure and various manifestations of the metabolic syndrome. *Kardiologiya i serdechno-sosudistaya khirurgiya*, 8(3), 76-80.
  10. Атаходжаева, Г. А., Рахимов, Ш. М., & Азимова, Н. З. (2015). Состояние эндотелиальной функции у больных с хронической



## Global Conference on Medical and Health Sciences

Hosted Online from Madrid, Spain

Date: 14<sup>th</sup> April, 2026

Website: <https://econferencia.com>

- 
- сердечной недостаточностью при различных проявлениях метаболического синдрома. Кардиология и сердечно-сосудистая хирургия, 8(3), 76-80.
11. Рахимов, Ш. М., Гаффарова, Ф. К., & Атаходжаева, Г. А. (2012). Ички касалликлар.
  12. Атаходжаева, Г. А., & Рахимов, Ш. М. (2009). Реакция тромбоцитов на гелиогеофизические факторы у больных стабильной стенокардией в зависимости от их толерантности к физической нагрузке. Врач-аспирант, (10), 879.
  13. Maxsudov, V., Ermetov, E., & Safarov, U. (2021). Technology of lecture organization in modern education.
  14. Ermetov, E., Makhsudov, V., & Safarov, U. B. (2023). Prospects for using measurement and converter techniques in medical devices.
  15. Maxsudov, V., Ermetov, E., Bobajanov, B., & Safarov, U. B. (2023). Possibilities of using molecular diagnostic devices in the clinical laboratory.
  16. Isaev, F. F., Abdurazzoqov, J. T., Ermetov, E. Y., Safarov, U. Q., & Normamatov, S. F. (2023). Tibbiy qurimalarni kompyuter texnologiyalari yordamida modellashtirish. Innovation in technology and scienceeducation, 112119.
  17. Махсудов, В., Эрметов, Э., Норбутаева, М., Сафаров, У., & Абдураззоков, Ж. (2023). Применение дифференциальных уравнений в медицине.
  18. Maxsudov, V. G., Ermetov, E. Y., Safarov, U. Q., Norbutayeva, M. K., & Abdurazzoqov, J. T. Tibbiyot sohasida differensial tenglamalarning qo'llanishi. Russia: Obrazovanie Nauca I Innovatsionnye Idei V Mire. С.-126-132.



## Global Conference on Medical and Health Sciences

Hosted Online from Madrid, Spain

Date: 14<sup>th</sup> April, 2026

Website: <https://econferencia.com>

19. Faxriddinovich, N. S., Qarshiboyevich, S. U. B., & Muzaffar o'g'li, X. J. (2026). TIBBIYOTDA AI TEXNOLOGIYALARI. DIAGNOSTIK ANIQLIK, PROGNOZ VA XIZMAT SIFATI. JOURNAL OF NEW CENTURY INNOVATIONS, 93(1), 16-23.
20. Caleb Finch. (2017). Aging and environment. PNAS.
21. David Bellinger. (2017). Lead exposure brain. Neurotoxicology.
22. Michael Brauer. (2017). Pollution burden. The Lancet.
23. Dan Costa. (2017). Air pollution neuroinflammation. Toxicology.
24. Beate Ritz. (2017). Parkinson and environment.
25. Majid Ezzati. (2017). Global risk factors. The Lancet.
26. Landrigan, P. J., et al. (2017). Pollution health effects. The Lancet.
27. Block, M. L., & Calderón-Garcidueñas, L. (2017). Air pollution brain. Trends in Neurosciences.
28. Power, M. C., et al. (2017). Pollution cognitive decline. Neurology.
29. Chen, H., et al. (2017). Air pollution dementia. The Lancet.
30. Livingston, G., et al. (2020). Dementia prevention. The Lancet.
31. Deckers, K., et al. (2017). Lifestyle dementia. The Lancet Neurology.
32. Lourida, I., et al. (2017). Mediterranean diet brain. Epidemiology.
33. Erickson, K. I., et al. (2017). Exercise brain health.
34. Voss, M. W., et al. (2017). Physical activity cognition. Neuroscience.
35. Walker, M. P. (2017). Sleep brain. Nature Reviews Neuroscience.
36. Xie, L., et al. (2017). Sleep clearance brain. Science.
37. Jacka, F. N., et al. (2017). Diet mental health. BMC Medicine.
38. Gómez-Pinilla, F. (2017). Diet brain. Nature Reviews Neuroscience.
39. Mattson, M. P. (2017). Energy metabolism brain. Nature Reviews
40. Calder, P. C. (2017). Inflammation nutrition. Proceedings of Nutrition Society.



## **Global Conference on Medical and Health Sciences**

Hosted Online from Madrid, Spain

Date: 14<sup>th</sup> April, 2026

Website: <https://econferencia.com>

- 
41. Heneka, M. T., et al. (2017). Neuroinflammation Alzheimer.
  42. Perry, V. H., et al. (2017). Chronic inflammation brain.
  43. Sies, H., et al. (2017). Oxidative stress. Annual Review of Biochemistry.
  44. Uttara, B., et al. (2017). Oxidative stress brain. Neurochemistry International.
  45. Di Meo, S., et al. (2017). ROS and disease. Oxidative Medicine.
  46. Topol, E. (2019). AI health. Nature Medicine.
  47. Beam, A. L., & Kohane, I. (2018). Big data health. JAMA.
  48. Rajkomar, A., et al. (2019). ML healthcare. NPJ Digital Medicine.
  49. Woo, C. W., et al. (2017). Brain biomarkers. Nature Neuroscience.
  50. Poldrack, R. A., et al. (2017). Reproducibility neuroscience.
  51. Insel, T. R. (2017). Mental health research. Nature.
  52. Hyman, S. E. (2017). Brain disease biology. Neuron.
  53. Kandel, E. R. (2017). Neural science. Cell.
  54. Friston, K. (2017). Brain networks. Nature Reviews Neuroscience.
  55. Sporns, O. (2017). Connectome. Nature Reviews Neuroscience.