



SUSTAINABLE DEVELOPMENT GOALS

3 GOOD HEALTH
AND WELL-BEING



Project for Diabetes Prevention



Students from the Community Intervention course in the Human Medicine program at Universidad Peruana de Ciencias Aplicadas (UPC) carried out educational projects focused on health promotion and prevention in 17 communities in San Genaro (Chorrillos).

After identifying the priority problems in the communities, the students, guided by their teachers, implemented projects for the promotion and prevention of type 2 diabetes, exercise, and healthy eating habits. Healthy food baskets were distributed.

This activity took place in a community with limited resources. The need was to design interventions that would improve healthy lifestyles to prevent this disease.



Prevention of Childhood Anaemia



Students from the Medicine program developed an intervention project for the Prevention of Childhood Anaemia in children under 5 years old.

Virtual campaigns, training sessions, promotion, and follow-ups were carried out through activities such as virtual workshops, WhatsApp groups, and phone lists.

The intervention project took place in the AA.HH. San José-San Genaro II community in the district of Chorrillos on Saturday, June 25th, 2022.

It's worth mentioning that this community is located in an area classified as extremely poor, where cases of anemia occur from an early age.



Prevention of Childhood Anaemia



Students from the UPC Medicine program executed a virtual project called “Luchando contra la anemia infantil” to reduce anemia in children under 3 years old, with the aim of ensuring that these children perform well academically in the future.

The work included videos, informative posters, and demonstrative sessions through Google Meet to interact with mothers.

The intervention took place in the AA.HH. San Genaro de Villa, in the district of Chorrillos, on Saturday, June 18th.



COVID Prevention



Sección 1 de 3

POST-TEST LUCHANDO CONTRA EL COVID-19 EN EL AA.HH SAN GENARO DE VILLA

Esperamos se encuentre bien. Somos alumnos de la facultad de medicina del 6to año de la Universidad Peruana de Ciencias Aplicadas (UPC) y nos encontramos realizando un Proyecto de Intervención en la comunidad de San Genaro de Villa - Chorrillos, para el cual requerimos de su apoyo.

El presente formulario debe ser realizado al culminar las actividades.

Gracias por su participación.

Nota: Este formulario es completamente confidencial.

Medical students carried out the project “Luchoando contra el COVID-19”, focused on prevention, in the San Genaro de Villa community, through the application of a pre-test and post-test for evaluation.

This informative talk provided information about the virus and emphasized the impor-

Sección 1 de 3

PRE-TEST LUCHANDO CONTRA EL COVID-19 EN EL AA.HH SAN GENARO DE VILLA

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tance of receiving the third and fourth doses to stop the spread of the virus in the community.

It is important to note that the lack of education in this impoverished sector has an impact on the self-care of families. This project was conducted through the Google Meet platform with the participation of some community members.

Intervention to Decrease the Prevalence of Malnutrition in Children and Adolescents in the AAHH San Genaro de Villa

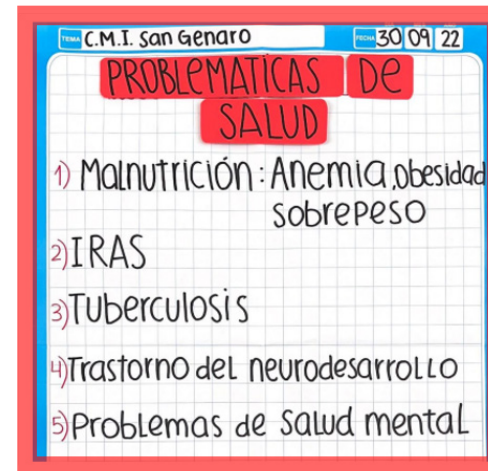


This intervention was carried out by students from the Community Medicine Externship, between September and October of the year 2022.

They conducted interviews with nearby schools and identified health issues in the children, family problems, and economic issues.

The purpose of the intervention was to conduct workshops to contribute to the reduction of the prevalence of malnutrition in children and adolescents in the AA.HH. San Genaro de Villa - Chorrillos.

Educational workshops, health campaigns, anaemia talks, mental health talks, and talks on overweight and obesity were conducted at the San Genaro community center and were directed at mothers. Nutritional assessments were carried out on the children and adolescents, and interviews were conducted with students from nearby schools.



Prevention of Childhood Obesity



Students from the Medicine program carried out the intervention project “Un niño llenito no es un niño sanito: Campaña contra la obesidad infantil” for the prevention of childhood obesity.

They conducted an in-person talk about healthy practices, habits, and virtual activities with the dissemination of videos and educational material. Information was provided about their rights to access healthcare, including access to nutritionists and other healthcare professionals.

This activity benefited 15 families (children aged 6 to 11) from the San Genaro de Villa community in Chorrillos.

As is known, the association between poverty and obesity is a concern and a social problem that affects many low-income communities.



Intervention to Decrease the Prevalence of Teenage Pregnancy in the AAHH San Genaro de Villa



Externship students from the Medicine program carried out an educational campaign aimed at students, with the purpose of contributing to the decrease in the prevalence of teenage pregnancy.

This campaign took place at the Educational Institution No. 7075 “Juan Pablo II” in the AA.HH. San Genaro de Villa, in the district of Chorrillos.

The workshop was conducted with the purpose of informing and raising awareness among fourth-year high school students about the prevention of teenage pregnancy, in order to prevent unintended pregnancies. Participatory techniques were applied.



Reduction of Anaemia Prevalence, Incidence of Respiratory Symptoms, Obesity, and Overweight in Students within the Jurisdiction of CMI Manuel Barreto



Sixth-year students from the Community Health Externship in Medicine conducted an educational activity aimed at elementary and high school students at “Dolores Caverio de Grau” School in the district of San Juan de Miraflores.

The purpose was to contribute to the reduction of anaemia prevalence, incidence of respiratory symptoms, obesity, and overweight in students within the jurisdiction of the Manuel Barreto Maternal and Child Center.



Prevention of Overweight in Women



Students from the Medicine program implemented the intervention project for the prevention of overweight and obesity “Todos contra el sobrepeso en San Genaro”. They conducted a physical activity workshop, telephone interviews, and an educational talk.

The purpose was to intervene in the reduction of the high incidence of overweight in adult women in the San Genaro de Villa area, in the district of Chorrillos.

There is an association between poverty and obesity. It has been found that low-income families are the most vulnerable. This is compounded by sedentary behavior and poor nutrition.



Campaign for the Prevention of Overweight and Obesity



The work was carried out by Medicine program students in the Community Center of the San Juan de Miraflores district, within the jurisdiction of the Trébol Azul Health Center.

This intervention plan, aimed at contributing to the reduction of overweight and obesity, had the purpose of empowering the population about their health status.

A situational health analysis was taken into account, and interviews were conducted with different social actors (Coordinator of the Vaso de Leche Program, president of the community kitchen, and a police officer from the police station). The community, health promoters, and UPC students participated.



Campaña para la disminución de la prevalencia de infecciones respiratorias agudas en niños preescolares de la Cuna Jardín “Capullitos de Jesús” del AA.HH San Genaro de Villa



Alumnos del 6° año de la carrera de Medicina realizaron un taller participativo en la cuna jardín de la comunidad San Genaro de Villa, del distrito de Chorrillos.

Se trata de una comunidad joven y por su ubicación geográfica es un lugar con alta incidencia de enfermedades respiratorias agudas.

Se realizó una feria de salud con el propósito de brindar estrategias para la prevención de infecciones respiratorias agudas. El objetivo fue concientizar y empoderar acerca de la importancia de la vacunación en los niños y en la comunidad en general.



Intervention Project “El Cuidado De La Salud Oral” at Santa Rosa Hospital - Pueblo Libre



Students from the Dentistry program conducted the intervention project at Santa Rosa Hospital, in the district of Pueblo Libre.

They analyzed the district's health situation, concluding that the main problem was a lack of knowledge about oral health care.

The intervention was carried out with patients from the dental service. The activities and goals set generated great satisfaction among participants, who were able to incorporate favorable knowledge for oral health care in patients.



Intervention in the Oral Health of the Mother-Child Pairing in Patients of the Gynecology Service at Santa Rosa Hospital in the District of Pueblo Libre



Dentistry students carried out a project to increase knowledge about oral health and nutrition in the first 1000 days of a baby and in pregnant mothers, in the Gynecology Service at Santa Rosa Hospital, in the District of Pueblo Libre.

The objective was to provide education on oral health and nutrition to pregnant mothers in the Gynecology Service.

The students created educational materials and evaluation instruments (educational sessions, pre-test and post-test questionnaires, flip charts, educational videos, brochures, and a checklist) to increase knowledge about the oral health of the mother-child pairing. The project was executed between April and June of 2022.



Preventive Promotional Health Project in the General Medicine Service of Santa Rosa Hospital - Pueblo Libre



During the period of April - June 2022, students from the Dentistry program conducted the preventive promotional health project in the general medicine service of Santa Rosa Hospital, in the district of Pueblo Libre.

The aim was to increase knowledge about the prevention of oral diseases and disseminate information about the dental coverage provided by the Integral Health Insurance (SIS) among patients of the medicine service. Activities were developed to increase favorable knowledge about oral health and prevent the occurrence of multiple oral diseases in the future.

In this context, educational and evaluation materials were prepared (educational sessions, pre-test and post-test questionnaires, flip charts, posters, brochures, and checklists). Additionally, supplementary virtual material was provided to patients.



Preventive Promotional Project on Oral Health in the Pediatrics Service of Santa Rosa Hospital



During the period from April to June, students from the Dentistry program executed a project in the Pediatrics Service of Santa Rosa Hospital, with the objective of intervening in the generation of a culture of oral health prevention.

The health problems identified in the pediatrics service included parents' lack of awareness about the importance of oral health care for their children, absence of a culture of oral health prevention, lack of knowledge about the coverage provided by the Integral Health Insurance (SIS), and limited economic resources for dental care.

The project had social significance as it contributed to improving the oral health of patients. Workshops were conducted, including educational materials, educational sessions, flip charts, educational videos, and posters.



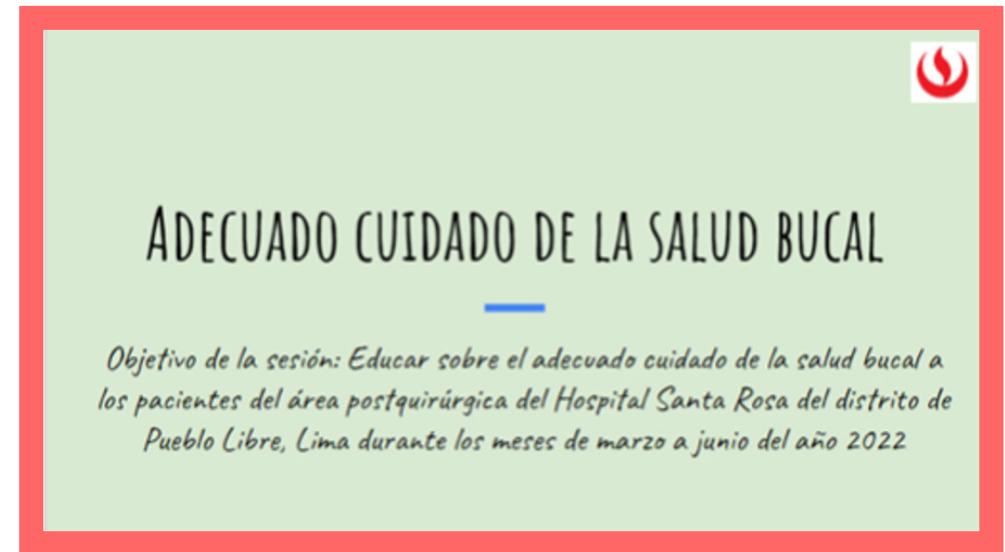
Intervention Project on Oral Health at Santa Rosa Hospital in Pueblo Libre



Dentistry students carried out the intervention project with the purpose of informing about the maintenance of oral health in post-surgical patients.

The goal was to increase knowledge about proper oral health, between the months of March to June of the year 2022. Educational materials and evaluation tools were developed.

Additionally, a healthy area was implemented on the mural of the surgery service, an audiovisual video with session content was shared, and an informative brochure on the topics covered was provided.



Preventive Promotional Intervention Project “Cuidar tu sonrisa es cuidar tu salud” Santa Rosa National Hospital, August to November 2022



Dentistry students executed the project with the aim of increasing knowledge about oral health prevention and its influence on overall health, during the period from August to November. It was directed at patients in the Odontology Department of Santa Rosa Hospital, in the district of Pueblo Libre.

The objective of the project was to increase knowledge about oral health prevention and its influence on overall health in patients. Educational materials and evaluation tools on oral health prevention and its influence on health were developed.



Preventive Promotional Health Project: “Una buena alimentación para una mejor vida saludable” in the District of La Perla, Callao



During 2022, students from the Dentistry program executed a health project with the purpose of intervening in inadequate healthy practices in the family environment of La Perla district, Callao, due to high stress levels, as well as lack of knowledge about types of diet.

The students created virtual pre and post-test questionnaires on healthy practices, as well as an observation guide and a checklist. The target population was satisfied with the topics covered.

RESULTADOS-EVIDENCIAS DE LA EJECUCIÓN

Cuestionario: “Alimentación saludable” Pre-test
<https://forms.gle/yHeovzPXzkC3C6JJ9>

Alimentación saludable Pre-test

Preguntas Respuestas Configuración

Cuestionario: “Alimentación saludable” Post-test
<https://forms.gle/89JCuJ5zUEwdt8NKA>

Alimentación saludable Post-test

Preguntas Respuestas Configuración

Respuestas:
https://docs.google.com/file/d/1TGKF26qH1DFzq4dUifITV5qZHRZpPDEO/edit?usp=docslist_api&filetype=msexcel

Respuestas:
<https://docs.google.com/spreadsheets/d/1Q1AQBtcpRwN4FC1Rx1NN4EfgmKQ8gYZI0ofoCRtGokk/edit>

Link de 14 minutos sobre contenido:
https://drive.google.com/file/d/1kILuXsSwWQ5ONIZ9ILM_evoyMfHmtI17/view?usp=sharing

Preventive Promotional Health Project - Improvement of Healthy Lifestyle and Mental Health within the Family Environment in the District of Santiago de Surco



A project to improve healthy lifestyles and mental health within the family environment in the district of Santiago de Surco was carried out during the period from July to November 2022.

The purpose of this project was to increase healthy eating practices within the family environment. Additionally, it had an educational focus as it aimed to enhance knowledge about healthy eating.

Some problems were observed, such as poor lifestyle practices and misinformation about correct healthy habits that affected the overall health of those involved. The objective was to establish healthy habits and provide strategies aimed at the well-being of the participants.



Preventive Promotional Health Project in the District of Villa El Salvador



A Preventive Promotional Health project was carried out in the district of Villa El Salvador, during the period from August to November 2022. A high level of stress was identified in the participants due to the type of work they were engaged in, whether at a professional or university level.

Environments can become stressful for their mental health; however, participants did not manage to recognize the origin of oral or mental health issues.

The objective was to reduce the level of stress in the family. As part of the assessment, educational materials and instruments such as questionnaires and checklists were developed.



Health Development Project for Improving the Lifestyle of the Family Environment in the District of Chorrillos



During the year 2022, a health development project for improving the lifestyle of the family environment was implemented in the district of Chorrillos.

The objective was to enhance the quality of life through personalized recreational activities. The activities allowed participants to increase their knowledge about physical-recreational activities and their benefits.

The purpose of the project was to generate changes in lifestyles. Educational materials and evaluation tools were developed.

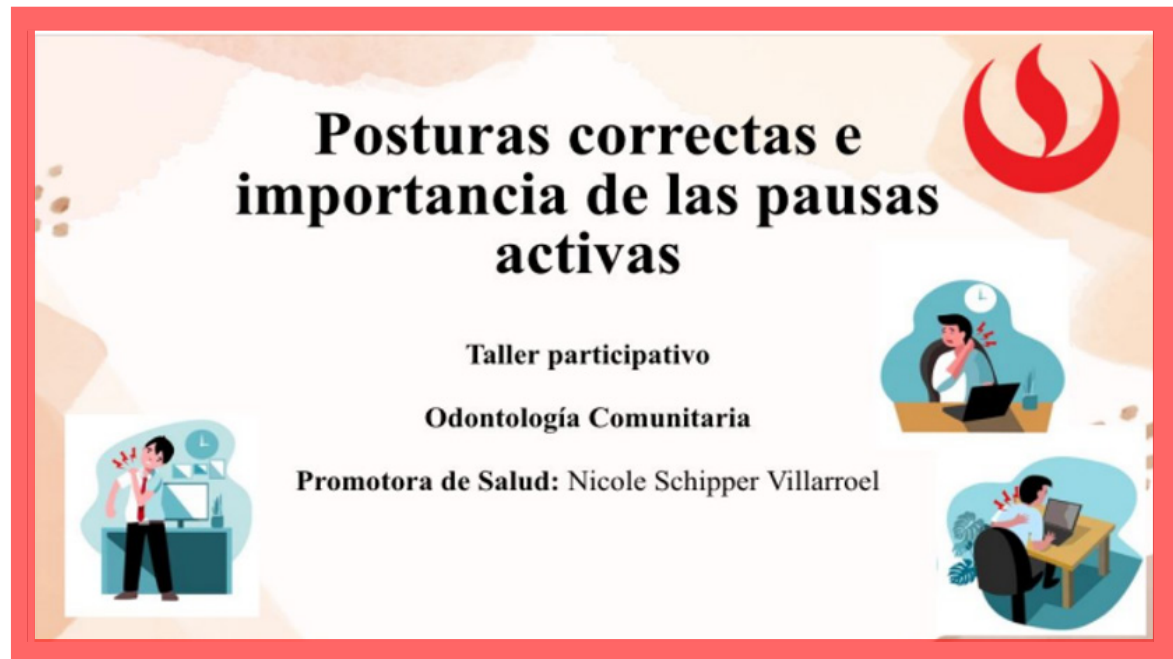


Preventive Promotional Health Project “Salud para la Vida”



A Preventive Promotional Health project for life was carried out. The objective was to increase the practice of ergonomics during work and academic hours within the family environment in the district of Miraflores, between the months of August to November 2022.

They developed educational materials, checklists, questionnaires, infographics, and a participatory workshop. The project provided a knowledge session and a practical workshop that succeeded in increasing correct ergonomic postures and active breaks in the family environment.



Preventive Promotional Health Project “Alimentación adecuada para todos los integrantes de un entorno familiar en el distrito de El Agustino”



A preventive promotional health project was carried out in the District of El Agustino, “Alimentación adecuada para todos los integrantes de un entorno familiar en el distrito de El Agustino”.

After conducting the diagnosis, the project was designed and executed with the aim of educating about the benefits of adequate healthy nutrition and increasing knowledge about this topic.

After evaluation, appropriate healthy habits were implemented in the family environment. This project was carried out between the months of October-November.

*PROYECTO DE SALUD PREVENTIVO
PROMOCIONAL “Alimentación adecuada
para todos los integrantes de un entorno
familiar en el distrito de El Agustino”*

*RESPONSABLE:
-Marilyn Surichaqui Salinas*



Preventive Promotional Intervention Project: Education on Oral Health and Systemic Disease



Students from the Dentistry program conducted the project aimed at patients in the medicine service of Santa Rosa Hospital, in the district of Pueblo Libre.

After analyzing the health situation in the area, the central problem was identified as: Limited knowledge about proper oral health care and its relationship with systemic diseases.

The purpose of this intervention was to increase knowledge about proper oral health care in patients of the medicine service at Santa Rosa Hospital, during the period from August to November 2022. The students developed educational and evaluation materials, which they shared with the patients in the medicine services.



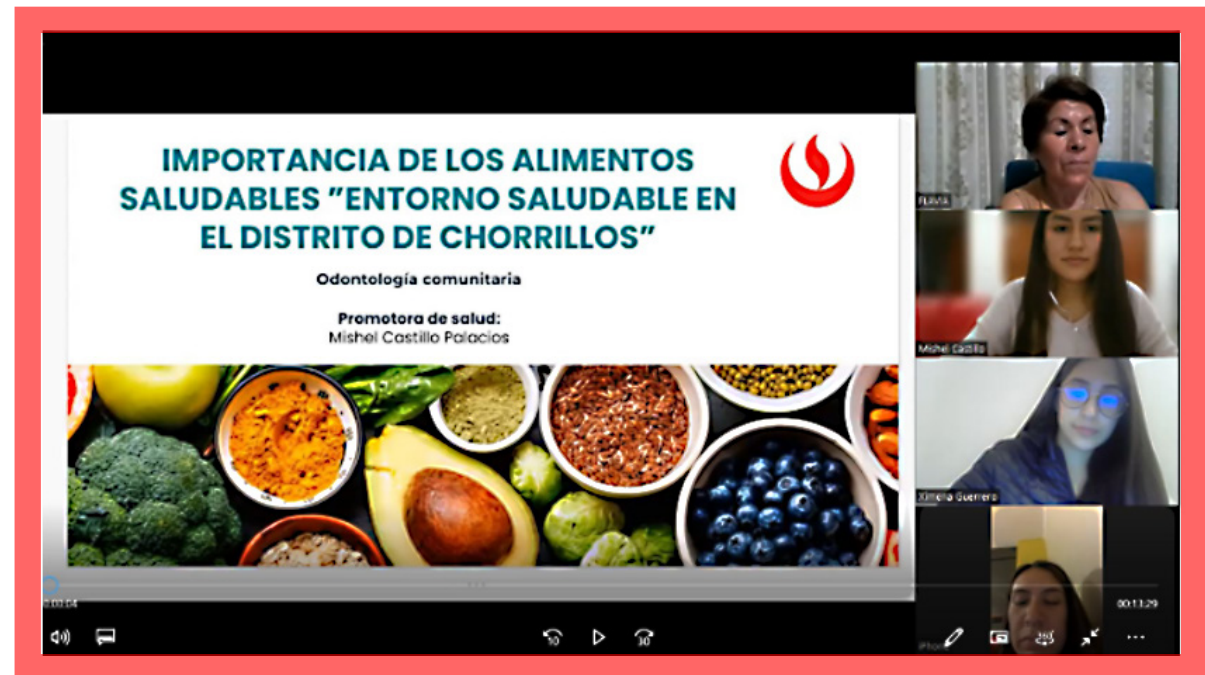
Health Project “Entorno Saludable en el Distrito de Chorrillos”



A Health project called Healthy Environment was carried out in the district of Chorrillos. After conducting the diagnosis, inadequate healthy practices were identified in the district's environment, during the months of September to November 2022.

The purpose of this health project was to increase knowledge, provide recommendations, and promote adequate healthy practices.

The team developed educational material, educational sessions, participatory workshops, the implementation of a program, infographics socialization, knowledge assessment, and a checklist. At the end of the intervention, participants reported an improvement in their quality of life.



Preventive Promotional Health Project: Improving the Lifestyles of the Family Environment in the District of Chorrillos



This project allowed participants to acquire knowledge about nutritional tables, in order to make more informed decisions when choosing food for consumption.

The objective was to promote healthy habits within the family environment in Chorrillos district, from September to December 2022.

Students applied a knowledge questionnaire about good nutrition, a virtual checklist, educational material, nutritional table, and an educational workshop.



Preventive Promotional Health Project “Mejora del Estilo de Vida”



A Preventive Promotional Health project “Mejora del Estilo de Vida” was carried out in the department of San Martin. The objective of the project was to reduce stress levels in the family environment and it was executed from September to December 2022.

The purpose of the project was to incorporate health habits that improve the quality of life and prevent the onset of diseases.

Preventive promotional activities were carried out, as well as their monitoring. Educational material, educational sessions, a poster, virtual checklist for healthy eating and physical activity were developed.



Taller de ejercicio Integral para el adulto mayor



Alumnos de la carrera de Terapia Física ejecutaron el proyecto de intervención Telerehabilitación del Adulto Mayor. El objetivo fue la mejora de la calidad de vida de los adultos mayores del distrito de Jesús María, a través de intervenciones educativas y aplicando un programa de ejercicios adaptados.

Se realizó un programa de ejercicio físico con una frecuencia de 2 veces por semana. Esta consistió en fase de calentamiento y entrenamiento; fase de enfriamiento y juegos cognitivos. De la misma manera, se implementaron sesiones virtuales con el mismo objetivo.

Centro del Adulto Mayor
Av. San Felipe cuadra 3 - Jesús María

Los estudiantes de la carrera de Terapia Física
de la UPC te invitamos al:

**Taller de Ejercicio Integral
para el Adulto Mayor**

Si tienes 60 años o más y quieres pasar un
buen rato ejercitandote, jugando, bailando y
aumentando tu energía este taller es para ti

**¡TE ESPERAMOS LOS
MIÉRCOLES Y VIERNES
DE 12 PM - 1 PM**

INGRESO LIBRE

Intervention Project for Children with Down Syndrome



Students of the Physical Therapy program carried out the intervention project for children with Down Syndrome. It is focused on the parent-child relationship from the association.

It was aimed at children aged 0 to 5 years in the department of Lima. The objective was to train parents by providing relevant information about the management and stimulation of children with Down syndrome, as these children tend to develop certain health problems.



Health Campaign Against Malnutrition/Undernutrition, ADDs, Respiratory Diseases, Gastrointestinal, and Parasitic Diseases



Students from the Medicine program conducted a health campaign targeting patients and attendees of the “Trébol Azul” Health Center on November 5th, from 8 a.m. to 12 a.m.

Brochures, nutritious and cost-effective recipes, and pamphlets explaining the services offered by the Health Center were provided.

The purpose of the intervention was to improve the quality of life for the residents of the area.

UPC
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**GRAN CAMPAÑA DE SALUD CONTRA
DESNUTRICIÓN/MALNUTRICIÓN, EDAS,
ENFERMEDADES RESPIRATORIAS,
ENFERMEDADES GASTROINTESTINALES Y
PARASITARIAS.**

DEGUSTACIÓN DE PLATOS NUTRITIVOS
CHARLAS INFORMATIVAS
ENTREGA DE MASCARILLAS GRATIS

Lugar: C.S. "Trébol Azul"
Hora: 8:00 am
Día: 05 de noviembre
¡NO FALTES!

Health Campaign Targeting Students and Teachers of the Educational Institution 7099 Héctor Pretell Carbonell



Students from the Medicine program conducted a health campaign on healthy eating habits at the Héctor Pretell Carbonell Educational Institution, in the district of San Juan de Miraflores.

The purpose was to contribute to the reduction of malnutrition in students and teaching staff in terms of overweight and obesity.

In this way, it is intended that this intervention will impact the lifestyles of the population served.

Anthropometric assessment was performed on sixth-grade students, and education on healthy eating and physical activity was provided.



Health Project in the Family Environment of Chorrillos District



A situational diagnosis was conducted, revealing a high incidence of stress among the residents of the area, due to the lack of free time as a result of a high workload in their jobs and academic environment. Additionally, a lack of awareness about the importance of recreational activities in the family environment was observed.

The objective was to reduce stress levels within the family environment by making optimal use of free time, prioritizing recreational, creative activities, and personal development. Educational sessions and workshops were conducted to help participants incorporate them into their lives.



Interactive Event with Dance Workshops “Moodanza”



Students of the Audiovisual Communication and Interactive Media program conducted a dance workshop called Moodanza, with the aim of supporting young people in the development of social skills, primarily in the process of socialization.

Dance and playful activities were used as strategies to achieve the workshop's goal, which was replicated on various dates in November 2022.



Playground



Students of the Audiovisual Communication and Interactive Media program executed the Playground project.

The objective of this project was to highlight the importance of artistic activities in the development and strengthening of

soft skills, such as creativity, teamwork, and sociability in children.

It is a means by which parents can strengthen communication with their children and help them connect with their environment.



Green Fest



The Audiovisual Communication and Interactive Media program aims to promote the dissemination of new eco-sustainable ventures and changes in consumer habits among the public.

The project consists of the production and organization of a fair, where new and emerging Medium and Small Companies (MYPES) related to sustainable resource utilization and healthy eating are promoted and given visibility. In addition, a workshop on the preparation of vegan foods was conducted.



Photography Contest “Imágenes para un desarrollo sostenible”



The Communication and Photography program, in collaboration with the Embassy of Israel, organized the contest 'Imágenes para un desarrollo sostenible'. The contest themes were the Sustainable Development Goals (SDGs).

Ambassador Eran Yuvan and Mariana Montalvo, director of the Communications and Photography program at UPC, awarded prizes to the three winners of the “Imágenes para un desarrollo sostenible” contest.

The objective of the contest was to foster creativity through photography, focusing on some of the Sustainable Development Goals outlined in the UN's 2030 agenda; related to health and well-being, quality education, gender equality, climate action, and innovation and entrepreneurship.

Worklife - Female Leadership



The Human Resources department conducted the Worklife - Female Leadership initiative through synchronous sessions on Teams and Zoom. The objective of this program was to provide participants with learning designed for the development of resilience, creativity, imagination, and communication, which would directly impact leadership.

The workshops combined exposition and interaction among the participants and their peers, as well as individual introspection to connect with their own beliefs, internal conversations, and emotions. Additionally, the workshops were linked to self-awareness, time management, leadership, emotional connection, well-being, and pleasure.



BIENESTAR
CREANDO EQUILIBRIO

LAUREATE
PERÚ

PROGRAMA DE LIDERAZGO FEMENINO

Derribar poco a poco las creencias que limitan el crecimiento de la mujer es fundamental para impulsar su bienestar y autorrealización. En Laureate Perú, estamos convencidos de eso.

Por eso, hemos desarrollado una serie de talleres, donde las colaboradoras de nuestras 4 instituciones encontrarán un espacio para conectar con ellas mismas, con sus creencias y emociones, así como aprenderán temas como manejo del tiempo y liderazgo en el trabajo. **¡Inscríbete!**

PRIMER TALLER: AUTOLIDERAZGO

Temas / herramientas que compartiremos:

- Tu mindset, tu app mental (creencias)
- Impact player: ¿Qué significa y requiere de ti?
- R.A.I.N. y un minuto de aterrizaje

Fecha: 20 de octubre Inscríbete **AQUÍ** hasta el 18 de octubre antes del mediodía

*Cupos limitados

Tinkuy

CRECEMOS JUNTOS

Couse-Workshop: Suicide Crisis Intervention



The General Directorate of Operations, Service, and Institutional Quality at UPC conducted the course-workshop on Suicide Crisis Intervention, with the aim of providing techniques to address and reduce the risk of suicidal crises.

There were 30 beneficiaries. Three course-workshops of 3 hours each were scheduled. The workshops reviewed techniques to reduce the risk and approach to suicidal crises. It was aimed at those responsible for first aid, safety, and operations teams, so that they can provide the first response in the event of a crisis. The workshop was conducted via Zoom by a specialist in the field.



Charity Dinner “Inspírate”



Students from the Communications and Business Image program at UPC organized a charity dinner “Inspírate” at the “Ana Cocina de Cambio” restaurant, featuring renowned chefs María Julia Raffo and Pedro Miguel Schiaffino. The dinner aimed to raise funds for the INSPIRA shelter to open a second shelter that provides assistance to over 120 children undergoing oncological treatment.

The “INSPIRA” shelter is a non-profit association led by Dr. Ricardo Pun Chong, where they provide temporary shelter, healthy meals, and assistance to children who come to the capital from the interior of the country to receive oncological treatment, among other illnesses.

The students took on the challenge of raising funds to cover the labor and finishing costs required for the new shelter to open its doors to all children in need.



Phukuy Project: IOT Spirometer for COVID Analysis



**Proyecto Phukuy:
Espirómetro IOT para análisis
del COVID**

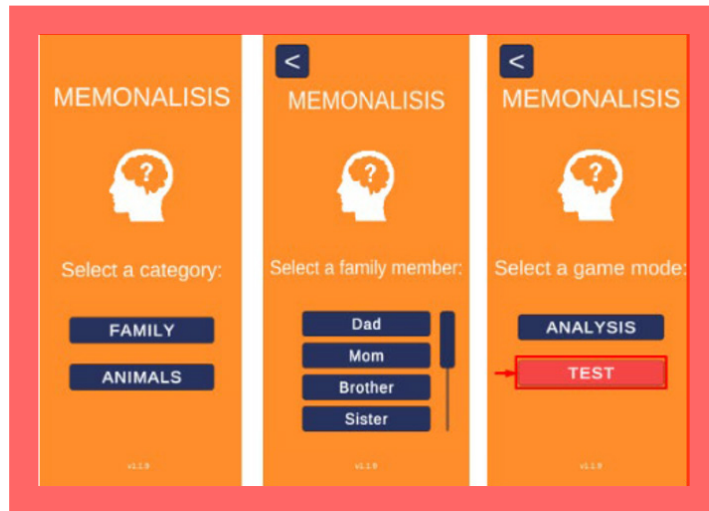
Universidad Peruana de Ciencias Aplicadas (UPC)

Ponente(s): M.S.C. Ing. Sergio Salas Arriarán



The public was presented with an exposition on the design of the “Proyecto Phukuy: Espirómetro IOT para el Análisis del COVID”, developed at UPC in 2020. The event was led by Dr. Carlos Raymundo and involved a team of 8 engineers. The participating audience expressed satisfaction with the project’s progress and its implementation in Peru.

Technological Solution for Children with ADHD



Students of the Information Systems Engineering program developed an application involving the creation of serious games for the assessment of children with Attention Deficit Hyperactivity Disorder (ADHD). The project was implemented at a Health Center in the district of San Martin de Porres in 2022. The objective of the project was for the application to serve as a tool for diagnosing children with ADHD, using augmented reality and making it more engaging for them by incorporating serious games into the assessments.



Sociodemographic Predictors Associated with the Willingness to Get Vaccinated against COVID-19 in Peru: A Cross-Sectional Survey



Authors: Vizcardo, D., Salvador, L.F., Nole-Vara, A., Dávila, K.P., Alvarez-Risco, A., Yáñez, J.A., Mejia, C.R.

Abstract: During the race for the development of a vaccine against COVID-19, even before its commercialization, part of the population has already shown a growing fear of its application. We designed an analytical cross-sectional study using an anonymous survey in the 25 departments of Peru. We surveyed whether the participants were planning on getting vaccinated, as well as other characteristics that were cross-checked in a uni-, bi- and multivariate manner. Of the 1776 respondents, 70% (1251) stated that they were planning to be vaccinated, 20% (346) did not know yet or doubted it, and 10% (179) did not want to be vaccinated. We observed that those who did not get infected with COVID-19 exhibited a higher frequency to not wanting or were uncertain about getting vaccinated (aPR: 1.40; 95% CI: 1.09-1.81; p-value = 0.008). In contrast, there was a lower frequency of vaccine refusal among university students (aPR: 0.75; 95% CI: 0.61-0.92; p-value = 0.005) and healthcare workers (aPR: 0.59; 95% CI: 0.44-0.80; p-value = 0.001); adjusted by place of residence. There is still an important percentage of respondents who do not want to be vaccinated or are hesitant to do it, which was associated with educational level, being a healthcare worker and if they were previously infected with COVID-19. Our results could offer useful information about COVID-19 vaccination campaigns.

Keywords: COVID-19; Peru; SARS-CoV-2; coronavirus; pandemic; vaccination; vaccine; vaccines.

Vaccines, 2022; Volume 10

<https://doi.org/10.3390/vaccines10010048>



Clinical features, hospitalisation and deaths associated with monkeypox: a systematic review and meta-analysis



Authors: Benites-Zapata, V.A., Ulloque-Badaracco, J.R., Alarcon-Braga, E.A., Hernandez-Bustamante, E.A., Mosquera-Rojas, M.D., Bonilla-Aldana, D.K., Rodriguez-Morales, A.J.

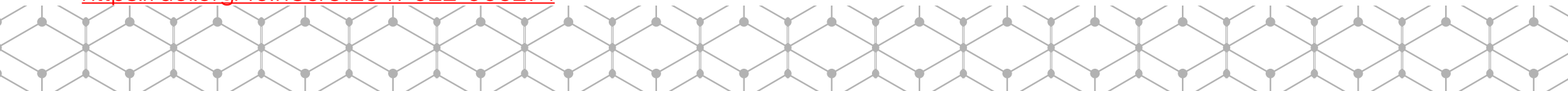
Abstract: Introduction: A multicountry monkeypox disease (MPX) outbreak began in May 2022 in Europe, leading to the assessment as a potential Public Health Emergency of International Concern (PHEIC) on June 23, 2022. Some observational studies have partially characterised clinical features, hospitalisations, and deaths. However, no systematic reviews of this MPX outbreak have been published. Methods: We performed a systematic review with meta-analysis, using five databases to assess clinical features, hospitalisations, complications and deaths of MPX confirmed or probable cases. Observational studies, case reports and case series, were included. We performed a random-effects model meta-analysis to calculate the pooled prevalence and 95% confidence interval (95% CI). In addition, we carried out a subgroup analysis according to the continents and a sensitivity analysis excluding studies classified as having a high risk of bias. Results: A total of 19 articles were included, using only 12 articles in the quantitative synthesis (meta-analysis). For 1958 patients, rash (93%, 95% CI 80–100%), fever (72%, 95% CI 30–99%), pruritus (65%, 95% CI 47–81%), and lymphadenopathy (62%, 47–76%), were the most prevalent manifestations. Among the patients, 35% (95% CI 14–59%) were hospitalised. Some 4% (95% CI 1–9%) of hospitalised patients had fatal outcomes (case fatality rate, CFR). Conclusion: MPX is spreading rapidly, with a third of hospitalised patients, but less than 5% with fatal outcomes.

As this zoonotic virus spreads globally, countries must urgently prepare human resources, infrastructure and facilities to treat patients according to the emerging guidelines and the most reliable clinical information.

Keywords: Monkeypox, Orthopoxvirus, Poxviridae, Zoonotic, Clinical features, Laboratory, Outcomes, Epidemic

Annals of Clinical Microbiology and Antimicrobials , 2022; Volume 21

<https://doi.org/10.1186/s12941-022-00527-1>



Sociodemographic and Psychological Predictors of Intention to Receive a COVID-19 Vaccine in Elderly Peruvians



Authors: Caycho-Rodríguez, T., Tomás, J.M., Carbajal-León, C., Vilca, L.W., Reyes-Bossio, M., Intimayta-Escalante, C., Vivanco-Vidal, A., Saroli-Araníbar, D., Esteban, R.F.C., White, M.

Abstract: Abstract: The implementation of a vaccine against COVID-19 is one of the most important health strategies to mitigate the spread of the disease. The objective of this study was to estimate the prevalence of the intention to be vaccinated against COVID-19 and its predictors in older Peruvian adults. This is a cross-sectional study, where information was collected through an online survey regarding vaccination intention of the participants, as well as sociodemographic and psychological variables. A multiple regression analysis was applied to identify predictors of intention to be vaccinated against COVID-19. We evaluated 245 participants, who had a mean age of 72.74 years old (SD=6.66). 65.5% of these older adults expressed a high likelihood of accepting vaccination, while 20.9% expressed a low likelihood of accepting vaccination, and 13.6% were hesitant. Eleven predictors were identified that explained 66.69% of the intention to vaccinate against COVID-19. This identified place of residence, perceived likelihood of contracting COVID-19, severity of previous infection with COVID-19, fear of the disease, previous refusal of a vaccine, concerns about vaccine sales and speculation, and trust toward vaccines against COVID-19, as the main predictors. Our results show that confidence in vaccines and previous vaccine refusal are relevant predictors of intention to vaccinate against COVID-19 in older adults; these findings may be useful to guide the development of campaigns for the immunization of this vulnerable group in the current pandemic.

Keywords: Elderly, COVID-19, Intention to vaccinate, Peru

Trends in Psychology , 2022; Volume 30 ,pages 206-223

<https://doi.org/10.1007/s43076-021-00099-7>



'We are all in the same boat': How societal discontent affects intention to help during the COVID-19 pandemic



Authors: Resta, E.| Mula, S.| Baldner, C.| Di Santo, D.| Agostini, M.| Bélanger, J.J.| Gützkow, B.| Kreienkamp, J.| Abakoumkin, G.| Khaiyom, J.H.A.| Ahmed, V.| Akkas, H.| Almenara, C.A., siguen...

Abstract: The coronavirus disease 2019 (COVID-19) pandemic has caused a global health crisis. Consequently, many countries have adopted restrictive measures that caused a substantial change in society. Within this framework, it is reasonable to suppose that a sentiment of societal discontent, defined as generalized concern about the precarious state of society, has arisen. Literature shows that collectively experienced situations can motivate people to help each other. Since societal discontent is conceptualized as a collective phenomenon, we argue that it could influence intention to help others, particularly those who suffer from coronavirus. Thus, in the present study, we aimed (a) to explore the relationship between societal discontent and intention to help at the individual level and (b) to investigate a possible moderating effect of societal discontent at the country level on this relationship. To fulfil our purposes, we used data collected in 42 countries (N=61,734) from the Psy Corona Survey, a cross national longitudinal study. Results of multilevel analysis showed that, when societal discontent is experienced by the entire community, individuals dissatisfied with society are more prone to help others. Testing the model with longitudinal data (N=3,817) confirmed our results. Implications for those findings are discussed in relation to crisis management. Please refer to the Supplementary Material section to find this article's Community and Social Impact Statement.

Keywords: COVID-19, intention to help, societal discontent

Journal of Community and Applied Social Psychology, 2022; Volume 32, pages 332-347

<https://doi.org/10.1002/casp.2572>



Intentions to be Vaccinated Against COVID-19: The Role of Prosociality and Conspiracy Beliefs across 20 Countries



Authors: Enea, V., Eisenbeck, N., Carreno, D.F., Douglas, K.M., Sutton, R.M., Agostini, M., Bélanger, J.J., Gützkow, B., Kreienkamp, J., Abakoumkin, G., Abdul Khaiyom, J.H., Ahmed, V., Akkas, H., Almenara, C.A., Atta, M., et al.

Abstract: Understanding the determinants of COVID-19 vaccine uptake is important to inform policy decisions and plan vaccination campaigns. The aims of this research were to: (1) explore the individual- and country-level determinants of intentions to be vaccinated against SARS-CoV-2, and (2) examine worldwide variation in vaccination intentions. This cross-sectional online survey was conducted during the first wave of the pandemic, involving 6697 respondents across 20 countries. Results showed that 72.9% of participants reported positive intentions to be vaccinated against COVID-19, whereas 16.8% were undecided, and 10.3% reported they would not be vaccinated. At the individual level, prosociality was a significant positive predictor of vaccination intentions, whereas generic beliefs in conspiracy theories and religiosity were negative predictors. Country-level determinants, including cultural dimensions of individualism/collectivism and power distance, were not significant predictors of vaccination intentions. Altogether, this study identifies individual-level predictors that are common across multiple countries, provides further evidence on the importance of combating conspiracy theories, involving religious institutions in vaccination campaigns, and stimulating prosocial motives to encourage vaccine uptake.

Keywords: COVID-19, Conspiracy beliefs, Prosociality, Vaccination

Health Communication, 2022

<https://10.1080/10410236.2021.2018179>



A randomised controlled trial to evaluate a medication monitoring system for TB treatment



Authors: Acosta, J., Flores, P., Alarcón, M., Grande-Ortiz, M., Moreno-Exebio, L., Puyen, Z.M.

Abstract:

BACKGROUND: Adherence to TB treatment and therefore treatment success could be improved using digital adherence technology.

OBJECTIVE: To evaluate the effectiveness of a medication event reminder monitor system (MERM) on treatment success and treatment adherence in patients with drug-susceptible pulmonary TB in Perú.

METHODS: This was an experimental, randomised, open-label, controlled study conducted among patients in the second phase of TB treatment. The intervention group received their medications through MERM with the support of a treatment monitor, whereas the control group used the usual strategy. Participants were followed until they completed the 54 doses of the second phase of treatment.



A randomised controlled trial to evaluate a medication monitoring system for TB treatment



RESULTS: The study included 53 patients in each group; four in the intervention group withdrew from the study. Treatment success was significantly more frequent in the MERM group (RR 1.15, 95% CI 1.02–1.30; $P = 0.0322$). There was no significant difference in the adherence outcomes; however, the percentage of patients who missed at least one dose and patients with more than 10% of total doses missed were lower in the intervention group.

CONCLUSION: The use of MERM in the second phase of treatment showed a significant improvement in the treatment success rate in patients with drug-susceptible pulmonary TB.

Keywords: Digital adherence technologies; dispenser pillbox; treatment adherence; treatment success

International Journal of Tuberculosis and Lung Disease , 2022; Volume 26, pages:44-49

<https://doi.org/10.5588/ijtld.21.0373>



What Is the Support for Conspiracy Beliefs About COVID-19 Vaccines in Latin America? A Prospective Exploratory Study in 13 Countries



Authors: Caycho-Rodríguez, T., Ventura-León, J., Valencia, P.D., Vilca, L.W., Carbajal-León, C., Reyes-Bossio, M., White, M., Rojas-Jara, C., Polanco-Carrasco, R., Gallegos, M., Cervigni, M., Martino, P., Palacios, D.A., Moreta-Herrera, R., Samaniego-Pinho, A., Lobos Rivera, M.E., Buschiazzi Figares, A., Puerta-Cortés, D.X., Corrales-Reyes, I.E., Calderón, R., Pinto Tapia, B., Arias Gallegos, W.L., Petzold, O.

Abstract: Conspiracy theories about COVID-19 began to emerge immediately after the first news about the disease and threaten to prolong the negative impact of the COVID-19 pandemic by limiting people's willingness of receiving a life-saving vaccine. In this context, this study aimed to explore the variation of conspiracy beliefs regarding COVID-19 and the vaccine against it in 5779 people living in 13 Latin American countries (Argentina, Bolivia, Chile, Colombia, Cuba, Ecuador, El Salvador, Guatemala, Mexico, Paraguay, Peru, Uruguay and Venezuela) according to sociodemographic variables such as gender, age, educational level and source of information about COVID-19. The study was conducted during the COVID-19 pandemic between September 15 and October 25, 2021. The Spanish-language COVID-19 Vaccine Conspiracy Beliefs Scale (ECCV-COVID) and a sociodemographic survey were used. The results indicate that, in most countries, women, people with a lower educational level and those who receive information about the vaccine and COVID-19 from family/friends are more supportive of conspiracy ideas regarding the COVID-19 vaccine. In the case of age, the results vary by country.



What Is the Support for Conspiracy Beliefs About COVID-19 Vaccines in Latin America? A Prospective Exploratory Study in 13 Countries



The analysis of the responses to each of the questions of the ECCV-COVID reveals that, in general, the countries evaluated are mostly in some degree of disagreement or indecision regarding conspiratorial beliefs about COVID-19 vaccines. The findings could help open further study which could support prevention and treatment efforts during the COVID-19 pandemic.

Keywords: COVID-19, Latin America, beliefs, conspiracy, vaccine

Frontiers in Psychology , 2022; Volume 13

<https://doi.org/10.3389/fpsyg.2022.855713>



Prognostic value of albumin-to-globulin ratio in COVID-19 patients: A systematic review and meta-analysis



Authors: Ulloque-Badaracco, J.R., Mosquera-Rojas, M.D., Hernandez-Bustamante, E.A., Alarcón-Braga, E.A., Herrera-Añazco, P., Benites-Zapata, V.A.

Abstract: Background and aims: The albumin-to-globulin ratio (AGR) has been used to predict severity and mortality in infectious diseases. The aim of this study is to evaluate the prognostic value of the AGR in COVID-19 patients.

Methods: A systematic review and meta-analysis were conducted. We included observational studies assessing the association between the AGR values upon hospital admission and severity or all-cause mortality in COVID-19 patients. In the meta-analyses we used random effect models. Risk of bias was assessed using the Newcastle-Ottawa Scale (NOS). The effect measures were expressed as mean difference (MD) and their 95% confidence intervals (CI). We performed Egger's test and funnel plots to assess the publication bias.

Results: The included studies had a total of 11356 patients corresponding to 31 cohort studies. Severe COVID-19 patients had lower AGR values than non-severe COVID-19 patients (mean difference (MD), -0.27; 95% IC, -0.32 to -0.22; $p < 0.001$; $I^2 = 88\%$). Non-survivor patients with COVID-19 had lower AGR values than survivor patients (MD, -0.29; 95% IC, -0.35 to -0.24; $p < 0.001$; $I^2 = 79\%$). In the sensitivity analysis, we only included studies with low risk of bias, which decreased the heterogeneity for both outcomes (severity, $I^2 = 20\%$; mortality, $I^2 = 5\%$).

Conclusions: Low AGR values upon hospital admission were found in COVID-19 patients with a worse prognosis.

Keywords: Albumin; COVID-19; Globulin; Prognosis.



Prevalence and Predictors of Intention to be Vaccinated Against COVID-19 in Thirteen Latin American and Caribbean Countries



Authors: Caycho-Rodríguez, T., Valencia, P.D., Vilca, L.W., Carbajal-León, C., Vivanco-Vidal, A., Saroli-Araníbar, D., Reyes-Bossio, M., White, M., Rojas-Jara, C., Polanco-Carrasco, R., Gallegos, M., Cervigni, M., Martino, P., Palacios, D.A., Moreta-Herrera, R., Samaniego-Pinho, A., Rivera, M.E.L., Ferrari, I.F., Flores-Mendoza, C., Figares, A.B., Puerta-Cortés, D.X., Corrales-Reyes, I.E., Calderón, R., Tapia, B.P., Arias Gallegos, W.L., Intimayta-Escalante, C.

Abstract: The presence of a significant number of people who do not intend to be vaccinated could negatively impact efforts to control the COVID-19 pandemic. Therefore, this study sought to determine the prevalence of intention to be vaccinated against COVID-19 and associated sociodemographic and psychosocial factors in thirteen countries in Latin America and the Caribbean (LAC). A total of 5510 people from 13 LAC countries participated. Frequencies, percentages, bivariate analyses using chi-square tests, and Poisson regression analysis with robust variance were used. The countries with the highest prevalence of intention to be vaccinated were Brazil (96.94%), Cuba (89.59%), Chile (84.59%), and Mexico (78.33%). On the other hand, the countries with the lowest prevalence were El Salvador (54.01%), Paraguay (55.87%), and Uruguay (56.40%). Prevalence is also reported according to some sociodemographic and health variables. It was found that country, male sex, hours exposed to information about COVID-19, university education, living in an urban area, belief in the animal origin of the virus, perceived likelihood of contracting COVID-19, perceived severity of COVID-19, and concern about infecting others significantly predicted intention to be vaccinated in the 13 LAC countries.



Prevalence and Predictors of Intention to be Vaccinated Against COVID-19 in Thirteen Latin American and Caribbean Countries



While most countries had a high prevalence of intention to be vaccinated, there are still subgroups that have levels of intention that may be insufficient to predict the presence of community immunity. In this sense, knowing the estimates of vaccination intention rates, as well as the associated sociodemographic and psychological factors, can be used to plan actions and interventions that will inform about the safety and benefits of vaccines, as well as strengthen trust in health authorities.

Keywords: Epidemiology, Intention to be vaccinated, Latin America and the Caribbean, Prevalence.

Trends in Psychology, 2022

<https://doi.org/10.1007/s43076-022-00170-x>



COVID-19 symptomatology and compliance with community mitigation strategies in Latin America early during the COVID-19 pandemic



Authors: Herrera-Añazco, P., Urrunaga-Pastor, D., Benites-Zapata, V.A., Bendezu-Quispe, G., Toro-Huamanchumo, C.J., Hernandez, A.V.

Abstract: Introduction: Community mitigation strategies (CMS) have demonstrated to be effective in the reduction of transmission and incidence of COVID-19, especially in the population with symptoms associated with the disease. The aim of this study was to evaluate the association between the presence of COVID-19 symptoms and adherence to CMS in Latin American adults.

Methods: We carried out a secondary analysis of a database developed by the University of Maryland and Facebook social network during the COVID-19 pandemic. We included Latin American adults that used the Facebook platform and participated in a survey conducted from April 23 to May 23, 2020. The principal outcome variable was reported compliance with the three main CMS (physical distancing, use of face masks, and hand washing). The exposure variable included symptoms suspicious for COVID-19 defined as the presence of three or more symptoms of an acute clinical case of COVID-19. We performed generalized linear models of the Poisson family with a logarithmic link function to evaluate the association between the presence of COVID-19 symptoms and reported compliance with CMS. We calculated crude and adjusted prevalence ratios (PR) with their 95% confidence intervals (95%CI).



COVID-19 symptomatology and compliance with community mitigation strategies in Latin America early during the COVID-19 pandemic



Results: We analyzed 1,310,690 adults from Latin America; 48.1% were male and 42.9% were under 35 years of age. The prevalence of suspicious symptoms of COVID-19 was 18.5% and reported compliance with the three CMS was 45.3%. The countries with the highest proportion of reported compliance with the three CMS were Peru, Bolivia and Panama, while those with the lowest reported compliance were Costa Rica, Nicaragua and Honduras. In the adjusted model, people with suspicious symptoms for COVID-19 had a 14% lower compliance with the three CMS (aPR = 0.86; 95%CI: 0.85-0.87; $p < 0.001$).

Conclusions: Less than half of the participants complied with the CMS, and those presenting suspicious symptoms for COVID-19 had lower reported compliance with the three CMS.

Keywords: COVID-19; Coronavirus infections; Hand disinfection; Latin America; Masks; Pandemics; Physical distancing; SARS-CoV-2; Social networking.

Preventive Medicine Reports, 2022; Volume 25

<https://doi.org/10.1016/j.pmedr.2021.101665>



Predictors of adherence to public health behaviors for fighting COVID-19 derived from longitudinal data



Authors: Schumpe, B.M., Van Lissa, C.J., Bélanger, J.J., Ruggeri, K., Mierau, J., Nisa, C.F., Molinario, E., Gelfand, M.J., Stroebe, W., Agostini, M., Gützkow, B., Jeronimus, B.F., Kreienkamp, J., Kutlaca, M., Lemay, E.P., Reitsema, A.M., Siguen...

Abstract: The present paper examines longitudinally how subjective perceptions about COVID-19, one's community, and the government predict adherence to public health measures to reduce the spread of the virus. Using an international survey (N = 3040), we test how infection risk perception, trust in the governmental response and communications about COVID-19, conspiracy beliefs, social norms on distancing, tightness of culture, and community punishment predict various containment-related attitudes and behavior. Autoregressive analyses indicate that, at the personal level, personal hygiene behavior was predicted by personal infection risk perception. At social level, social distancing behaviors such as abstaining from face-to-face contact were predicted by perceived social norms. Support for behavioral mandates was predicted by confidence in the government and cultural tightness, whereas support for anti-lockdown protests was predicted by (lower) perceived clarity of communication about the virus. Results are discussed in light of policy implications and creating effective interventions.

Keywords: Public health, COVID-19, Perception

Scientific Reports , 2022, Volume 12

<https://doi.org/10.1038/s41598-021-04703-9>



Comparison of cytokines levels among COVID-19 patients living at sea level and high altitude



Authors: Del Valle-Mendoza, J., Tarazona-Castro, Y., Merino-Luna, A., Carrillo-Ng, H., Kym, S., Aguilar-Luis, M.A., del Valle, L.J., Aquino-Ortega, R., Martins-Luna, J., Peña-Tuesta, I., Silva-Caso, W.

Abstract: Background: At the end of 2019, a novel coronavirus denominated SARS-CoV-2 rapidly spread through the world causing the pandemic coronavirus disease known as COVID-19. The difference in the inflammatory response against SARS-CoV-2 infection among people living at different altitudes is a variable not yet studied. Methods: A descriptive cross-sectional study was performed in two Peruvian cities at different altitudes for comparison: Lima and Huaraz. Five important proinflammatory cytokines were measured including: IL-6, IL-2, IL-10, IFN- γ and TNF- α using ELISA assays. Results: A total of 35 COVID-19 patients and 10 healthy subjects were recruited from each study site. The mean levels of IL-6 ($p < 0.03$) and TNF- α ($p < 0.01$) were significantly different among the study groups. In the case of IL-6, patients from Lima had a mean level of 16.2 pg/ml (healthy) and 48.3 pg/ml (COVID-19), meanwhile, patients from Huaraz had levels of 67.3 pg/ml (healthy) and 97.9 pg/ml (COVID-19). Regarding TNF- α , patients from Lima had a mean level of 25.9 pg/ml (healthy) and 61.6 pg/ml (COVID-19), meanwhile, patients from Huaraz had levels of 89.0 pg/ml (healthy) and 120.6 pg/ml (COVID-19). The levels of IL-2, IL-10 and IFN- γ were not significantly different in the study groups. Conclusion: Patients with COVID-19 residing at high-altitude tend to have higher levels of inflammatory cytokines compared to patients living at sea level, particularly IL-6 and TNF- α .

A better understanding of the inflammatory response in different populations can contribute to the implementation of therapeutic and preventive approaches. Further studies evaluating more patients, a greater variety of cytokines and their clinical impact are required.

Keywords: COVID-19, Cytokines, Different altitudes, Peru, SARS-CoV-2



Using machine learning to identify important predictors of COVID-19 infection prevention behaviors during the early phase of the pandemic



Authors: Van Lissa, C.J., Stroebe, W., vanDellen, M.R., Leander, N.P., Agostini, M., Draws, T., Grygoryshyn, A., Gützgow, B., Kreienkamp, J., Vetter, C.S., Abakoumkin, G., Abdul Khaiyom, J.H., Ahmed, V., Akkas, H., Siguen...

Abstract: Before vaccines for coronavirus disease 2019 (COVID-19) became available, a set of infection-prevention behaviors constituted the primary means to mitigate the virus spread. Our study aimed to identify important predictors of this set of behaviors. Whereas social and health psychological theories suggest a limited set of predictors, machine-learning analyses can identify correlates from a larger pool of candidate predictors. We used random forests to rank 115 candidate correlates of infection-prevention behavior in 56,072 participants across 28 countries, administered in March to May 2020. The machine-learning model predicted 52% of the variance in infection-prevention behavior in a separate test sample—exceeding the performance of psychological models of health behavior. Results indicated the two most important predictors related to individual-level injunctive norms. Illustrating how data-driven methods can complement theory, some of the most important predictors were not derived from theories of health behavior—and some theoretically derived predictors were relatively unimportant.

Keywords: Machine learning, COVID-19, health behaviors, social norms, public goods dilemma, random forest

Patterns, 2022, Volume 3

<https://doi.org/10.1016/j.patter.2022.100482>



Utility of TG/HDL-c ratio as a predictor of mortality and cardiovascular disease in patients with chronic kidney disease undergoing hemodialysis: A systematic review



Authors: Gonzáles-Rubianes, D.Z., Figueroa-Osorio, L.K., Benites-Zapata, V.A., Pacheco-Mendoza, J., Herrera-Añazco, P.

Abstract: The triglyceride/high-density cholesterol-lipoprotein (TG/HDL-c) is a biomarker of cardiovascular events and mortality. In hemodialysis patients, the evidence is controversial. A systematic review was carried out in the Medline, Scopus, Embase, Web of Science, and Pubmed databases to identify the relevant cohort studies on cardiovascular events and mortality in hemodialysis patients the role of TG/HDL-c as a risk factor. Four cohort-type studies were evaluated, with a total of 52,579 hemodialysis patients. Three studies conducted in Asian populations and one study in the United States had the highest percentage of the sample (50,673 patients). The elevated TG/HDL-c ratio is associated with better survival, and there is a consistent gradual inverse association between TG/HDL-c and mortality in all analysis subgroups. In the decile categorization of the exposure variable, a 21% decrease in the risk of cardiovascular mortality and a 15% decrease in all-cause mortality in the highest decile compared to the reference group (D10 aHR = 0.79; 95% CI: 0.69–0.91 and D10 aHR = 0.85; 95%CI: 0.78–0.92). Our results show that the TG/HDL-c ratio is a protective factor for cardiovascular outcomes and mortality in the American population and a risk factor for them in the population from Asia.

Keywords: Cardiovascular diseases; chronic; lipids; mortality; renal dialysis; renal insufficiency.

Hemodialysis International , 2022, Volume 26, pages:137-146 <https://doi.org/10.1111/hdi.12981>



Lockdown Lives: A Longitudinal Study of Inter-Relationships Among Feelings of Loneliness, Social Contacts, and Solidarity During the COVID-19 Lockdown in Early 2020



Authors: van Breen, J.A., Kutlaca, M., Koç, Y., Jeronimus, B.F., Reitsema, A.M., Jovanović, V., Agostini, M., Bélanger, J.J., Gützkow, B., Kreienkamp, J., Abakoumkin, G., Khaiyom, J.H.A., *siguen...*

Abstract: Abstract: We examine how social contacts and feelings of solidarity shape experiences of loneliness during the COVID-19 lockdown in early 2020. From the PsyCorona database, we obtained longitudinal data from 23 countries, collected between March and May 2020. The results demonstrated that although online contacts help to reduce feelings of loneliness, people who feel more lonely are less likely to use that strategy. Solidarity played only a small role in shaping feelings of loneliness during lockdown. Thus, it seems we must look beyond the current focus on online contact and solidarity to help people address feelings of loneliness during lockdown. Finally, online contacts did not function as a substitute for face-to-face contacts outside the home—in fact, more frequent online contact in earlier weeks predicted more frequent face-to-face contacts in later weeks. As such, this work provides relevant insights into how individuals manage the impact of restrictions on their social lives.

Keywords: COVID-19; loneliness; longitudinal methodology; online communication; solidarity.

Personality and Social Psychology Bulletin, 2022, Volume 48, pages:1315-1330

<https://doi.org/10.1177/01461672211036602>



An Investigation in Analyzing the Food Quality Well-Being for Lung Cancer Using Blockchain through CNN



Authors: Aboamer, M.A., Sikkandar, M.Y., Gupta, S., Vives, L., Joshi, K., Omarov, B., Singh, S.K.

Abstract: Deep learning (DL) is a new approach that provides exceptional speed in healthcare activities with greater accuracy. In this regard, “convolutional neural network” or CNN and blockchain are two important parts that together fasten the disease detection procedures securely. CNN can detect and predict diseases like lung cancer and help determine food quality, and blockchain is responsible for data. This research is going to analyze the extension of blockchain with the help of CNN for lung cancer prediction and making food safer. CNN algorithm has been trained with a huge number of images by altering the filters, features, epoch values, padding value, kernel size, and resolution. Subsequently, the CNN accuracy has been measured to understand how these factors affect the accuracy. A linear regression analysis has been carried out in IBM SPSS where the independent variables selected are image dataset augmentation, epochs, features, pixel size (90×90 to 512×512), kernel size (0-7), filters (10-40), and padding. The dependent variable is the accuracy of CNN. Findings suggested that a larger number of epochs improve the CNN accuracy; however, when more than 12 epochs are considered, the accuracy may decrease. A greater pixel/resolution also improves the accuracy of cancer and food image detection. When images are provided with excellent features and filters, the CNN accuracy improves.



An Investigation in Analyzing the Food Quality Well-Being for Lung Cancer Using Blockchain through CNN



The main objective of this research is to comprehend how the independent variables affect the accuracy (dependent), but the reading may not be fully exact, and thus, the researcher has conceded out a minor task, which delivered evidence supportive of the analysis and against the analysis. As a result, it can be determined that image augmentation and a large number of images develop the CNN accuracy in lung cancer prediction and food safety determination when features and filters are applied correctly. A total of 10-12 epochs are desirable for CNN to receive 99% accuracy with 1 padding.

Keywords: Biological organs, Convolutional neural networks, Deep learning, Diseases, Forecasting, Image enhancement, Pixels, Regression analysis

Journal of Food Quality , 2022, Volume 2022

<https://doi.org/10.1155/2022/5845870>



Determinants of Eye Care Service Utilization among Peruvian Adults: Evidence from a Nationwide Household Survey



Authors: Barrenechea-Pulache, A., Portocarrero-Bonifaz, A., Hernández-Vásquez, A., Portocarrero-Ramos, C., Moscoso-Carrasco, J.

Abstract:

Purpose: This study analyzes the factors associated with eye care service utilization among Peruvians 50 years of age and older, measured as self-reporting of having undergone examination of visual acuity during the last 12 months.

Methods: A secondary analysis of the 2019 Demographic and Family Health Survey (ENDES, for its acronym in Spanish) database was carried out. We estimated the weighted proportion of adults 50 years of age and older that reported having undergone a visual acuity examination in the previous 12 months and the frequency according to the variables of interest. Crude (PR) and adjusted prevalence ratios (aPR) of eye care service utilization were constructed using generalized linear models.

Results: Approximately 28.8% of Peruvians 50 years of age and older underwent a visual acuity examination in the previous 12 months. Having a higher education (aPR = 1.79; 95% CI: 1.33-2.40), health insurance such as EsSalud (aPR = 1.54; 95% CI: 1.28-1.87), a previous diagnosis of cataracts (aPR = 1.86; 95% CI: 1.67-2.09) and being part of the richest wealth



Determinants of Eye Care Service Utilization among Peruvian Adults: Evidence from a Nationwide Household Survey



quintile (aPR = 2.36; 95% CI: 1.74-3.20) were associated with greater utilization of eye care services, while living in the jungle was associated with a lower likelihood of utilization of these services.

Conclusion: The unequal distribution of health resources within the territory and socioeconomic gaps among the population could explain our findings. Further efforts are needed to fulfill the eye health needs of the Peruvian population.

Keywords: Eye health; Peru; health services accessibility; health surveys; socioeconomic factors.

Ophthalmic Epidemiology, 2022, Volume 29 , pages: 339-348

<https://doi.org/10.1080/09286586.2021.1948577>



C-Reactive Protein-to-Albumin Ratio and Clinical Outcomes in COVID-19 Patients: A Systematic Review and Meta-Analysis



Authors: Zavalaga-Zegarra, H.J., Palomino-Gutierrez, J.J., Ulloque-Badaracco, J.R., Mosquera-Rojas, M.D., Hernandez-Bustamante, E.A., Alarcon-Braga, E.A., Benites-Zapata, V.A., Herrera-Añazco, P., Hernandez, A.V.

Abstract: C-reactive protein-to-albumin ratio (CAR) is an independent risk factor in cardiovascular, cerebrovascular, and infectious diseases. Through this study, we investigated the CAR values with respect to the severity and mortality of COVID-19 patients. We performed a systematic review and meta-analysis to retrieve studies that evaluated CAR values upon hospital admission in relation to the severity or mortality of COVID-19 patients. We adopted a random-effect model to calculate the pooled mean difference (MD) and their 95% confidence intervals (CI). Quality assessment was appraised using a Newcastle-Ottawa scale and publication bias was assessed using the Begg-test and funnel plot. We equally performed a subgroup analysis using study location and a sensitivity analysis only with studies with low risk of bias. We analyzed 32 studies (n = 12445). Severe COVID-19 patients had higher on-admission CAR values than non-severe COVID-19 patients (MD: 1.69; 95% CI: 1.35-2.03; $p < 0.001$; $I^2 = 89\%$).

Non-survivor patients with COVID-19 had higher CAR values than survivor patients (MD: 2.59; 95% CI: 1.95-3.23; $p < 0.001$; $I^2 = 92\%$). In sensitivity analysis, the relationship remained with a decreasing of heterogeneity for severity (MD: 1.22; 95% CI: 1.03-1.40; $p < 0.001$; $I^2 = 13\%$) and for mortality (MD: 2.99; 95% CI: 2.47-3.51; $p < 0.001$; $I^2 = 0\%$). High CAR values were found in COVID-19 patients who developed severe disease or died.

Keywords: C-reactive protein; COVID-19; albumin; meta-analysis.

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COVID-19 stressors and health behaviors: A multilevel longitudinal study across 86 countries



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Abstract: Anxiety associated with the COVID-19 pandemic and home confinement has been associated with adverse health behaviors, such as unhealthy eating, smoking, and drinking. However, most studies have been limited by regional sampling, which precludes the examination of behavioral consequences associated with the pandemic at a global level. Further, few studies operationalized pandemic-related stressors to enable the investigation of the impact of different types of stressors on health outcomes. This study examined the association between perceived risk of COVID-19 infection and economic burden of COVID-19 with health-promoting and health-damaging behaviors using data from the PsyCorona Study: an international, longitudinal online study of psychological and behavioral correlates of COVID-19. Analyses utilized data from 7,402 participants from 86 countries across three waves of assessment between May 16 and June 13, 2020. Participants completed self-report measures of COVID-19 infection risk, COVID-19-related economic burden, physical exercise, diet quality, cigarette smoking, sleep quality, and binge drinking. Multilevel structural equation modeling analyses showed that across three time points, perceived economic burden was associated with reduced diet quality and sleep quality, as well as increased smoking. Diet quality and sleep quality were lowest among respondents who perceived high COVID-19 infection risk combined with high economic burden. Neither binge drinking nor exercise were associated with perceived COVID-19 infection risk, economic burden, or their interaction. Findings point to the value of developing interventions to address COVID-related stressors, which have an impact on health behaviors that, in turn, may influence vulnerability to COVID-19 and other health outcomes.

Keywords: COVID-19, Health behaviors, Infection risk, Economic burden

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Consumption of Herbal Supplements or Homeopathic Remedies to Prevent COVID-19 and Intention of Vaccination for COVID-19 in Latin America and the Caribbean



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Abstract: Users of complementary and alternative medicine (CAM) have a lower intention to receive vaccines. Furthermore, Latin America and the Caribbean (LAC) region are among the most affected areas by the COVID-19 pandemics and present a high proportion of CAM users. Therefore, this study evaluates the association between the consumption of herbal supplements or homeopathic remedies to prevent COVID-19 and the intention to vaccinate against COVID-19 in the LAC region. We conducted a secondary data analysis of a Massachusetts Institute of Technology (MIT) survey with Facebook to assess COVID-19 beliefs, behaviours, and norms. Crude and adjusted prevalence ratios (aPR) with their respective 95% confidence intervals (95% CI) were calculated using generalized linear models of the Poisson family with the log link function. The prevalence of the use of products to prevent COVID-19 was the following: consumption of herbal supplements (7.2%), use of homeopathic remedies (4.8%), and consumption of garlic, ginger, and lemon (11.8%). An association was found between using herbal supplements (19.0% vs. 12.8%; aPR = 1.44; 95% CI: 1.30–1.58), the use of homeopathic remedies (20.3% vs. 12.3%; aPR = 1.58; 95% CI: 1.25–1.98), and the consumption of garlic, ginger, and lemon (18.9% vs. 11.9%; aPR = 1.55; 95% CI: 1.50–1.61) and non-intention to vaccinate against COVID-19.



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In the LAC population, there is an association between using herbal supplements, using homeopathic remedies and consuming garlic, ginger, and lemon to prevent infection by COVID-19 and non-intention to vaccinate against this disease. Therefore, it is necessary to design targeted strategies for groups that consume these products as preventive measures against COVID-19 to increase vaccination coverage and expand the information regarding transmission and prevention strategies for SARS-CoV-2.

Keywords: Homeopathy; herbal medicine; vaccination; COVID-19; Latin America

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Does Breast-Conserving Surgery with Radiotherapy have a Better Survival than Mastectomy? A Meta-Analysis of More than 1,500,000 Patients



Authors: De la Cruz Ku, G., Karamchandani, M., Chambergo-Michilot, D., Narvaez-Rojas, A.R., Jonczyk, M., Príncipe-Meneses, F.S., Posawatz, D., Nardello, S., Chatterjee, A.

Abstract:

Background

There have been conflicting studies reporting on survival advantages between breast-conserving surgery with radiotherapy (BCS) in comparison with mastectomy. Our aim was to compare the efficacy of BCS and mastectomy in terms of overall survival (OS) comparing all past published studies.

Methods

We performed a comprehensive review of literature through October 2021 in PubMed, Scopus, and EMBASE. The studies included were randomized controlled trials (RCTs) and cohorts that compare BCS versus mastectomy. We excluded studies that included male sex, stage 0, distant metastasis at diagnosis, bilateral synchronous cancer, neoadjuvant radiation/chemotherapy, and articles with incomplete data. We performed a meta-analysis following the random-effect model with the inverse variance method.

Results

From 18,997 publications, a total of 30 studies were included in the final analysis: 6 studies were randomized trials, and 24



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were retrospective cohorts. A total of 1,802,128 patients with a follow-up ranging from 4 to 20 years were included, and 1,075,563 and 744,565 underwent BCS and mastectomy, respectively.

Among the population, BCS is associated with improved OS compared with mastectomy [relative risk (RR) 0.64, 95% confidence interval (CI) 0.55–0.74]. This effect was similar when analysis was performed in cohorts and multi-institutional databases (RR 0.57, 95% CI 0.49–0.67). Furthermore, the benefit of BCS was stronger in patients who had less than 10 years of follow-up (RR 0.54, 95% CI 0.46–0.64).

Conclusions

Patients who underwent BCS had better OS compared with mastectomy. Such results depicting survival advantage, especially using such a large sample of patients, may need to be included in the shared surgical decision making when discussing breast cancer treatment with patients.

Keywords: Radiotherapy, Mastectomy, Surgery

Annals of Surgical Oncology, 2022, Volume 29 pages:6163-6188

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Mesenchymal Stromal Cells in Ischemic Brain Injury



Authors: Brooks, B., Ebedes, D., Usmani, A., Gonzales-Portillo, J.V., Gonzales-Portillo, D., Borlongan, C.V.

Abstract: Ischemic brain injury represents a major cause of death worldwide with limited treatment options with a narrow therapeutic window. Accordingly, novel treatments that extend the treatment from the early neuroprotective stage to the late regenerative phase may accommodate a much larger number of stroke patients. To this end, stem cell-based regenerative therapies may address this unmet clinical need. Several stem cell therapies have been tested as potentially exhibiting the capacity to regenerate the stroke brain. Based on the long track record and safety profile of transplantable stem cells for hematologic diseases, bone marrow-derived mesenchymal stromal cells or mesenchymal stromal cells have been widely tested in stroke animal models and have reached clinical trials. However, despite the translational promise of MSCs, probing cell function remains to be fully elucidated. Recognizing the multi-pronged cell death and survival processes that accompany stroke, here we review the literature on MSC definition, characterization, and mechanism of action in an effort to gain a better understanding towards optimizing its applications and functional outcomes in stroke.

Keywords: Brain injury; mesenchymal stem cells; mesenchymal stromal cells; stem cells; stroke.

Cells, 2022, Volume 11

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Detection of SARS-CoV-2 antibodies in febrile patients from an endemic region of dengue and chikungunya in Peru



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Abstract: Introduction: The rapid expansion of the novel SARS-CoV-2 virus has raised serious public health concerns due to the possibility of misdiagnosis in regions where arboviral diseases are endemic. We performed the first study in northern Peru to describe the detection of SARS-CoV-2 IgM antibodies in febrile patients with a suspected diagnosis of dengue and chikungunya fever.

Materials and methods: A consecutive cross-sectional study was performed in febrile patients attending primary healthcare centers from April 2020 through March 2021. Patients enrolled underwent serum sample collection for the molecular and serological detection of DENV and CHIKV. Also, serological detection of IgM antibodies against SARS-CoV-2 was performed.

Results: 464 patients were included during the study period, of which (40.51%) were positive for one pathogen, meanwhile (6.90%) presented co-infections between 2 or more pathogens. The majority of patients with mono-infections were positive for SARS-CoV-2 IgM with (73.40%), followed by DENV 18.09% and CHIKV (8.51%). The most frequent co-infection was DENV + SARS-CoV-2 with (65.63%), followed by DENV + CHIKV and DENV + CHIKV + SARS-CoV-2, both with



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(12.50%). The presence of polyarthralgias in hands (43.75%, $p < 0.01$) and feet (31.25%, $p = 0.05$) were more frequently reported in patients with CHIKV mono-infection. Also, conjunctivitis was more common in patients positive for SARS-CoV-2 IgM (11.45%, $p < 0.01$). The rest of the symptoms were similar among all the study groups.

Conclusion: SARS-CoV-2 IgM antibodies were frequently detected in acute sera from febrile patients with a clinical suspicion of arboviral disease. The presence of polyarthralgias in hands and feet may be suggestive of CHIKV infection. These results reaffirm the need to consider SARS-CoV-2 infection as a main differential diagnosis of acute febrile illness in arboviruses endemic areas, as well as to consider co-infections between these pathogens.

Keywords:

PLoS ONE, 2022, Volume 17

<https://doi.org/10.1371/journal.pone.0265820>



Fibrinogen-to-Albumin Ratio and Blood Urea Nitrogen-to-Albumin Ratio in COVID-19 Patients: A Systematic Review and Meta-Analysis



Authors: Ulloque-Badaracco, J.R., Alarcon-Braga, E.A., Hernandez-Bustamante, E.A., Al-kassab-Córdova, A., Mosqueira-Rojas, M.D., Ulloque-Badaracco, R.R., Huayta-Cortez, M.A., Maita-Arauco, S.H., Herrera-Añazco, P., Benites-Zapata, V.A.

Abstract: Fibrinogen-to-albumin ratio (FAR) and blood urea nitrogen-to-albumin ratio (BAR) are inflammatory biomarkers that have been associated with clinical outcomes of multiple diseases. The objective of this study is to evaluate the association of these biomarkers with the severity and mortality of COVID-19 patients. A systematic search was performed in five databases. Observational studies that reported the association between FAR and BAR values with the severity and mortality of COVID-19 patients were included. Random-effects models were used for meta-analyses, and effects were expressed as Odds Ratio (OR) and their 95% confidence intervals (CI). Publication bias was assessed using the Begg test, while the quality assessment was assessed using the Newcastle Ottawa Scale. A total of 21 studies ($n = 7949$) were included. High FAR values were associated with a higher risk of severity (OR: 2.41; 95% CI 1.41–4.12; $p < 0.001$) and mortality (OR: 2.05; 95% CI 1.66–2.54; $p < 0.001$). High BAR values were associated with higher risk of mortality (OR: 4.63; 95% CI 2.11–10.15; $p < 0.001$). However, no statistically significant association was found between BAR values and the risk of severity (OR: 1.16; 95% CI 0.83–1.63; $p = 0.38$). High FAR and BAR values were associated with poor clinical outcomes.

Keywords: Albumin, blood urea nitrogen, COVID-19, fibrinogen, urea

Tropical Medicine and Infectious Disease , 2022, Volume 7

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Design and Cross-Cultural Invariance of the COVID-19 Vaccine Conspiracy Beliefs Scale (COVID-VCBS) in 13 Latin American Countries



Authors: Caycho-Rodríguez, T., Valencia, P.D. Ventura-León, J., Vilca, L.W., Carbajal-León, C., Reyes-Bossio, M., White, M., Rojas-Jara, C., Polanco-Carrasco, R., Gallegos, M., Cervigni, M., Martino, P., Palacios, D.A., Moreta-Herrera, R., siguen...

Abstract:

Aims: Over the past 2 years, the vaccine conspiracy beliefs construct has been used in a number of different studies. These publications have assessed the determinants and outcomes of vaccine conspiracy beliefs using, in some cases, pooled data from different countries, and compared the results across these contexts. However, studies often do not consider measurement invariance as a necessary requirement for comparative analyses. Therefore, the aim of this study was to develop and evaluate the cross-cultural MI of the COVID-19 Vaccine Conspiracy Beliefs Scale (COVID-VCBS) in 12 Latin American countries.

Methods: Confirmatory factor analysis, item response theory analysis and alignment method were applied to test measurement invariance in a large number of groups.

Results: The COVID-VCBS showed robust psychometric properties and measurement invariance for both factor loadings and crosstabs. Also, a higher level of acceptance of conspiracy beliefs about vaccines is necessary to respond



Design and Cross-Cultural Invariance of the COVID-19 Vaccine Conspiracy Beliefs Scale (COVID-VCBS) in 13 Latin American Countries



to higher response categories. Similarly, greater acceptance of conspiracy beliefs about COVID-19 vaccines was related to a lower intention to be vaccinated.

Conclusion: The results allow for improved understanding of conspiracy beliefs about COVID-19 vaccines in the countries assessed; furthermore, they provide researchers and practitioners with an invariant measure that they can use in cross-cultural studies in Latin America. However, further studies are needed to test invariance in other countries, with the goal of developing a truly international measure of conspiracy beliefs about COVID-19 vaccines.

Keywords: COVID-19; Latin America; conspiracy beliefs; invariance; vaccines.

Frontiers in Public Health , 2022, Volume 10

<https://doi.org/10.3389/fpubh.2022.908720>



Neutrophil-to-lymphocyte ratio and platelet-to-lymphocyte ratio as risk factors for mortality in Peruvian adults with chronic kidney disease



Authors: Umeres-Francia, G.E., Rojas-Fernández, M.V., Herrera-Añazco, P., Benites-Zapata, V.A.

Abstract: Objective: To assess the association between the neutrophil-to-lymphocyte ratio (NLR) and platelet-to-lymphocyte ratio (PLR) with all-cause mortality in Peruvian patients with chronic kidney disease (CKD) attending a tertiary hospital. Methods: We conducted a retrospective cohort study in adults with CKD in stages 1–5. The outcome variable was mortality and as variables of exposure to NLR and PLR. Both ratios were categorized as high with a cutoff point of 3.5 and 232.5, respectively. We carried out a Cox regression model and calculated crude and adjusted hazard ratios (HR) with their 95% confidence interval (95% CI). Results: We analyzed 343 participants with a mean age of 78.3 (\pm 11.9) years and 62.9% (n = 216) men. The median follow-up time was 2.45 years (2.08–3.08), and the frequency of deaths was 17.5% (n = 60). The mortality of patients with high NLR was 28% compared to 15.7% of the group with normal NLR, and the mortality was 35.7% in those with high PLR and 15.6% in those with normal PLR. In the crude analysis, the high NLR and PLR were significantly associated with all-cause mortality (HR = 2.01; 95% CI 1.11–3.66) and (HR = 2.58; 95% CI 1.31–5.20). In the multivariate model, after adjusting for age, sex, serum creatinine, albumin and hemoglobin, the high NLR and PLR remained as independent risk factors for all-cause mortality (aHR = 1.97; 95% CI 1.05–3.69) and (aHR = 2.62; 95% CI 1.25–5.51), respectively. Conclusion: Our study suggests the relationship between high NLR and PLR with all-cause mortality in patients with CKD.

Keywords: Kidney failure, Chronic, Neutrophils, Blood platelets, Lymphocytes, Mortality

Renal Replacement Therapy , 2022, Volume 8 <https://doi.org/10.1186/s41100-022-00420-9>



Cross-cultural validity of the five items Mindful Attention Awareness Scale (MAAS-5) in Peru and Mexico during the COVID-19 pandemic



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Abstract: The Spanish version of the 5-item Mindful Attention Awareness Scale (MAAS-5) is a brief measure of the general tendency to be attentive and aware of experiences in the present moment during daily life. The MAAS-5 has been used in different countries; however, an assessment of its cross-cultural measurement invariance (MI) has not been conducted. Therefore, the study aimed to evaluate the cross-cultural measurement invariance of the MAAS-5 in university students from two countries: Peru and Mexico. A total of 1144 university students from Peru (N = 822) and Mexico (N = 322) responded online to the Spanish version of the 5-item Mindful Attention Awareness Scale (MAAS-5). A multigroup confirmatory factor analysis was performed. Measurement invariance tests the hypothesis that the model behind a set of scores is comparable between groups. The results showed that the unidimensional structure of the MAAS-5 is the same between Peruvian and Mexican university students. Therefore, it is suggested that university students from both countries conceptualize the mindfulness in a similar way. As a result, the MAAS-5 can be used to compare differences between countries. No significant differences were observed in the MAAS-5 score between Peruvian and Mexican university students. The present study contributes to a better understanding of the psychometric properties of the MAAS-5 by presenting MI results in two Latin American countries. Implications of the findings are discussed, which will facilitate a more solid and reliable use of the MAAS-5 in future cross-cultural studies.

Keywords: Cross-cultural; Invariance; Mexico; Mindfulness; Peru.



Association between the level of physical activity, sedentary lifestyle and back pain in nutrition and dietetics students of a university in Lima in the context of the COVID-19 pandemic



Authors: Curotto-Winder, D.A., Becerra-Bravo, G., Bravo-Cucci, S.

Abstract: Objective:

To verify the association between the levels of physical activity, sedentary lifestyle and the presence of back pain in nutrition and dietetics students from a private university.

Methods:

Analytical cross-sectional study, the population were students of nutrition and dietetics. Adults with at least one semester of studies were included. Back pain was evaluated using the Nordic standardized Kourinka questionnaire, physical activity and sedentary behavior using the International Physical Activity Questionnaire short version. Controlling for sex, age, cycle, hours spent studying, practicing physical activity and qualified athlete status. The instruments were applied using virtual format.

Results:

108 participants of both sexes were analyzed. The students carry out an average of 4.6 hours of study per day outside the virtual classes received, 74.1% were physically active and 74% sit for more than eight hours a day. 65.7% refer to having suffered from back pain and the associated factors are the hours of study per day ($RPa = 1,088$), the average sitting hours



Association between the level of physical activity, sedentary lifestyle and back pain in nutrition and dietetics students of a university in Lima in the context of the COVID-19 pandemic



per day (RPa = 1,047), as well as accumulating more than 8 hours sitting a day has an RPa = 1,372 compared to that they accumulate less than eight hours sitting daily.

Conclusions:

sedentary behavior and especially the hours of study outside the class carried out by nutrition and dietetic students are directly related to back pain, thus greater sedentary behavior increases the probability of suffering from back pain.

Keywords: Back Pain; Physical Activity; Sedentary Behavior; University Student; activity questionnaire; global burden; prevalence; health; disease; risk; confinement; reliability; countries; exercise; Social Sciences - Other Topics.

Retos, 2022, Volume 45, pages:1019-1030

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Exploring Contextual Differences for Sexual Role Strain Among Transgender Women and Men Who Have Sex with Men in Lima, Peru



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Abstract: Sexual and gender politics inform relational expectations surrounding sexual experiences of Peruvian transgender women (TW) and men who have sex with men (MSM). We used the framework of sexual role strain, or incongruence between preferred sexual role and actual sexual practices, to explore potential conflicts between personally articulated identities and externally defined norms of gender and sexuality and its potential to increase HIV/STI risk. Cross-sectional individual- and dyad-level data from 766 TW and MSM in Lima, Peru were used to assess the partnership contexts within which insertive anal intercourse was practiced despite receptive role preference (receptive role strain), and receptive anal intercourse practiced despite insertive role preference (insertive role strain). Sexual role strain for TW was more common with non-primary partners, while for MSM it occurred more frequently in the context of a primary partnership. Receptive role strain was more prevalent for TW with unknown HIV status (reference: without HIV) or pre-sex drug use (reference: no pre-sex drug use). For homosexual MSM, receptive role strain was more prevalent during condomless anal intercourse (reference: condom-protected) and with receptive or versatile partners (reference: insertive). Among heterosexual or bisexual MSM, insertive role strain was more prevalent with insertive or versatile partners (reference: receptive), and less prevalent with casual partners (reference: primary). Our findings suggest TW and MSM experience different vulnerabilities during sexual role negotiation with different partner-types. Future studies should explore the impact of sexual role strain on condom use agency, HIV/STI risk, and discordances between public and private presentations of gender and sexual orientation.

Keywords: Condom use, HIV, Men who have sex with men, STI, Sexual role strain, Transgender women.

Archives of Sexual Behavior , 2022, Volume 51, pages: 1977-1991 <https://doi.org/10.1007/s10508-021-02181-8>



Depression Symptoms and Mortality in Elderly Peruvian Navy Veterans: A Retrospective Cohort Study



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Abstract: Our study was design to determine the association between depressive symptoms and mortality in adults over 60 years old Navy Peruvian Veterans. We performed a retrospective cohort study based on a previous cohort study. A total of 1681 patients over 60 years old were included between 2010–2015. Demographic information, self-reported information about falls, physical frailty assessment, tobacco consumption, hypertension, Type 2 Diabetes Mellitus, Chronic Obstructive Pulmonary Disease and was collected. Depression was assessed by the short form of the Geriatric Depression Scale. We found that depressive symptoms were present in 24.9% of the participants and 40.5% of them died. Mortality risk in patients with depressive symptoms, physical frailty, and male sex was: RR of 23.1 (95% CI: 11.7–45.7), 3.84 (95% CI: 2.16–6.82), and 1.37 (95% CI: 1.07–1.75) respectively. We concluded that depressive symptoms in Peruvian retired military personnel and their immediate relatives are high and are significantly associated with mortality. Also, being male and frail was associated with an increased risk of death. This reinforces that early detection and assessment of depressive symptoms could be an opportunity to improve the health status of older adults.

Keywords: Depression, mortality, aging, mental health, navy veterans

Advances in Gerontology , 2022, Volume 12 , pages: 56-62

<https://doi.org/10.1134/S2079057022010039>



Association between Ancestry-Specific 6q25 Variants and Breast Cancer Subtypes in Peruvian Women



Authors: Zavala, V.A., Casavilca-Zambrano, S., Navarro-Vásquez, J., Castañeda, C.A., Valencia, G., Morante, Z., Calderón, M., Abugattas, J.E., Gómez, H., Fuentes, H.A., Liendo-Picoaga, R., Cotrina, J.M., Monge, C., Neciosup, S.P., Huntsman, S., Hu, D., Sánchez, S.E., Williams, M.A., Núñez-Marrero, A., Godoy, L., Hechmer, A., Olshen, A.B., Dutil, J., Ziv, E., Zabaleta, J., Gelaye, B., Vásquez, J., Gálvez-Nino, M., Enriquez-Vera, D., Vidaurre, T., Fejerman, L.

Abstract: **Background:** Breast cancer incidence in the United States is lower in Hispanic/Latina (H/L) compared with African American/ Black or Non-Hispanic White women. An Indigenous American breast cancer-protective germline variant (rs140068132) has been reported near the estrogen receptor 1 gene. This study tests the association of rs140068132 and other polymorphisms in the 6q25 region with subtype-specific breast cancer risk in H/Ls of high Indigenous American ancestry. **Methods:** Genotypes were obtained for 5,094 Peruvian women with (1,755) and without (3,337) breast cancer. Associations between genotype and overall and subtype-specific risk for the protective variant were tested using logistic regression models and conditional analyses, including other risk-associated polymorphisms in the region. **Results:** We replicated the reported association between rs140068132 and breast cancer risk overall [odds ratio (OR), 0.53; 95% confidence interval (CI), 0.47-0.59], as well as the lower odds of developing hormone receptor negative (HR-) versus HR+ disease (OR, 0.77; 95% CI, 0.61-0.97). Models, including HER2, showed further heterogeneity with reduced odds for



Association between Ancestry-Specific 6q25 Variants and Breast Cancer Subtypes in Peruvian Women



HR+HER2+ (OR, 0.68; 95% CI, 0.51-0.92), HR-HER2+ (OR, 0.63; 95% CI, 0.44-0.90) and HR-HER2- (OR, 0.77; 95% CI, 0.56-1.05) compared with HR+HER2-. Inclusion of other risk-associated variants did not change these observations.

Conclusions: The rs140068132 polymorphism is associated with decreased risk of breast cancer in Peruvians and is more protective against HR- and HER2+ diseases independently of other breast cancer-associated variants in the 6q25 region. Impact: These results could inform functional analyses to understand the mechanism by which rs140068132-G reduces risk of breast cancer development in a subtype-specific manner. They also illustrate the importance of including diverse individuals in genetic studies.

Keywords: Breast Neoplasms, Female, Hispanic or Latino, Humans, Logistic Models, Peru Receptor, ErbB-2 Receptors Estrogen Receptors, Progesterone United States

Cancer Epidemiology Biomarkers and Prevention, 2022, Volume 31 , pages: 1602-1609

<https://doi.org/10.1158/1055-9965.EPI-22-0069>



IoT Watercare: Water Quality Control System in Unofficial Settlements of Peru Based in an IoT Architecture



Authors: Salgado, J., Pizarro, C., Wong, L., Castillo, J.

Abstract: Many homes in the country of Peru, especially those located in unofficial settlements, are not connected to public service networks, and in the case of residential water, require tanker truck delivery. However, this water has often been contaminated from the upstream storage, conveyance and delivery systems that provide it, and thus will not comply with government water quality standards, ultimately compromising the health of the people who rely on it. While the topic of quality monitoring in traditional water networks has been studied, research has not focused on water quality control in under-developed and under-served unofficial settlements. This study introduces an IoT architecture and web-based system for real-time monitoring of the key water quality parameters to help municipalities and other government entities to act early when large volumes of low-quality water are detected. The system proposed was implemented across five layers: capture, communication, processing, storage and presentation. Two experiments were conducted in a residential home with real time measurement of temperature, turbidity, TDS y pH. When comparing the results of both experiments, the pH parameter had a better precision with a 2% error rate. In addition, the survey results showed that the experts agree with the proposal.

Keywords: Housing, Network architecture, Quality control, Surveys, Tanks (containers), Water quality

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<https://doi.org/10.23919/FRUCT54823.2022.9770881>



Immunonutrition as a potential strategy to prevent and cope with coronavirus disease (COVID-19)



Authors: Acevedo-Espinola, R., Torres-Obregón, S.E.B.

Abstract: In this article, a brief review of immunonutrition as a feasible alternative to modulating the immune system in defence of the SARS-CoV-2 that causes COVID-19 was presented. Immunonutrition is the nutritional practice that includes the necessary nutrients to modulate the activity of the immune system in health and disease. To date, studies are encouraging because they indicate that a good diet restores or improves the immune system's response to pathogens such as SARS-CoV-2. In addition, applying immunonutrition helps people recover with fewer sequelae after going through a serious infection in hospitalization and/or intensive care unit. Finally, it is suggested that immunonutrition be applied in conjunction with other good lifestyles and strictly following current health recommendations.

Keywords: COVID-19, Immunonutrition, Pandemic, SARS-CoV-2, Diet, Nutrition

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Factors associated with the intention to participate in COVID-19 vaccine clinical trials: A cross-sectional study in Peru



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Abstract: Objective

To evaluate the factors associated with the intention to participate in COVID-19 vaccine clinical trials in the Peruvian population.

Methods

Cross-sectional study and secondary analysis of a database that involved Peruvian population during September 2020. The Poisson regression model was used to estimate the associated factors.

Results: Data from 3231 individuals were analyzed, 44.1% of whom intended to participate in COVID-19 vaccine clinical trials. Factors associated with the outcome were being male (RPa: 1.25; 95% CI: 1.15–1.35), being from the highlands region (RPa: 1.18; 95% CI: 1.09–1.28) or jungle (RPa: 1.30; 95% CI: 1.15–1.47), having a relative that is a healthcare professional (PRa: 1.16; 95% CI: 1.06–1.28), using a medical source of information (PRa: 1.28; 95% CI: 1.17–1.41), and trusting in the possible effectiveness of vaccines (PRa: 1.40; 95% CI: 1.29–1.51). The main reason for not participating in the trial was the possibility of developing side effects (69.80%).

Conclusion: There is an urgent need to generate a perception of safety in COVID-19 vaccine clinical trials, to increase the population's intention to participate in these studies, and to provide evidence-based information about the vaccine.

Keywords: COVID-19, Coronavirus, Intention to participate, Vaccine, Clinical Trial, Associated factors

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Factors associated with nutritional deficiency biomarkers in candidates for bariatric surgery: A cross-sectional study in a peruvian high-resolution clinic



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Abstract: Previous studies have described multiple nutritional deficiencies after bariatric surgery (BS). However, few studies have evaluated these deficiencies prior to BS, specifically in Latin America. This study aimed to determine the factors associated with nutritional deficiency biomarkers in candidates for BS in Peru. We included adults of both sexes, aged 18 to 59 years, admitted to a Peruvian clinic with a body mass index (BMI) ≥ 30 kg/m²; they were candidates for BS from 2017 to 2020. We considered the serum levels of hemoglobin and albumin (in tertiles) as the nutritional deficiency biomarkers. In order to assess the associated factors, we calculated crude (cPR) and adjusted prevalence ratios (aPR) with their respective 95% confidence intervals (95%CI). We analyzed 255 patients: 63.1% were males, with a mean age of 37.1 ± 10.3 years and mean hemoglobin and albumin values of 14.0 ± 1.5 g/dL and 4.6 ± 0.4 g/dL, respectively. We found that males (aPR = 1.86; 95%CI: 1.26–2.73; p = 0.002), participants between 30 and 49 (aPR = 2.02; 95%CI: 1.24–3.28; p = 0.004) or 50 years or more (aPR = 2.42; 95%CI: 1.35–4.35; p = 0.003), participants with a BMI ≥ 40 kg/m² (aPR = 1.68; 95%CI: 1.09–2.60; p = 0.018), participants with impaired high-density lipoprotein levels (aPR = 1.43; 95%CI: 1.01–2.05; p = 0.049) and individuals in the high tertile of C-reactive protein (aPR = 6.94; 95%CI: 3.37–14.32; p < 0.003) had a higher



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probability of being in the lower tertile of albumin. In addition, we found that the male sex (aPR = 6.94; 95%CI: 3.37–14.32; $p < 0.001$) and elevated cholesterol levels (aPR = 0.71; 95%CI: 0.52–0.97; $p = 0.034$) were associated with the lowest hemoglobin tertile.

In our setting, nutritional deficiency biomarkers were associated with sociodemographic, anthropometric and laboratory markers. The pre-bariatric surgery correction of nutritional deficiencies is essential, and can prevent major complications after surgery.

Keywords: Bariatric surgery, Nutrition, Nutritional assessment, Obesity

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Prevalence and Factors Associated with Depression in Healthcare Personnel During the SARS-CoV-2 Pandemic in the Department of Piura, Peru



Authors: Espinoza-Ascurra, G., Gonzales-Graus, I., Meléndez-Marón, M., Cabrera, R.

Abstract: Introduction

The COVID-19 pandemic has increased the magnitude of mental illnesses such as depression, not only in the general population, but also in healthcare personnel. However, in Peru the prevalence, and the associated factors for developing depression in healthcare personnel, are not known. The objective was to determine the prevalence and identify the factors associated with depression in healthcare personnel, in the context of the SARS-CoV-2 pandemic.

Methods

An analytical cross-sectional study was carried out from May to September, 2020 in healthcare establishments. A sample of 136 health workers were included and a survey was applied to collect the data. Depression as a dependent variable was measured using the Zung self-report scale. To identify the associated factors, the bivariate and multivariate analysis was performed by logistic regression with STATA v 14.



Prevalence and Factors Associated with Depression in Healthcare Personnel During the SARS-CoV-2 Pandemic in the Department of Piura, Peru



Results

The prevalence of depression was 8.8% (95%CI, 4.64-14.90). Having a family member or friend who had died from COVID-19 was associated with depression (OR = 6.78; 95%CI, 1.39-32.90; P = 0.017). Whereas the use of personal protective equipment was found to be a protective factor against developing depression (OR = 0.03; 95%CI, 0.004-0.32; P = 0.003).

Conclusions

Approximately 1 in 10 healthcare professionals and technicians developed depression during the COVID-19 pandemic in this study. In addition, having relatives or friends who had died from COVID-19 was negatively associated with depression and use of personal protective equipment was identified as a protective factor.

Keywords: Depression, Healthcare personnel, Prevalence, Risk factors, Coronaviridae

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Develop a Model for Assessing the Most Efficient Diseases Diagnosis using Machine Learning



Authors: Vives, L., Basha, N.K., Poonam, Gehlot, A., Chole, V., Pant, K.

Abstract: So, machine learning techniques are being developed to improve performance and maintenance prediction. Increasing our knowledge of the relationship between humans and algorithms, Because data is so valuable, improving strategies for intelligently having to manage the now-ubiquitous content infrastructures is a necessary part of the process toward completely autonomous agents. Numerous researchers recently developed numerous computer-aided diagnostic algorithms employing various supervised learning approaches. Early identification of sickness may help to reduce the number of people who die as a result of these illnesses. Using machine learning techniques, this research creates an efficient automated illness diagnostic algorithm. We chose three key disorders in this paper: coronavirus, cardiovascular diseases, and diabetes. The data are inputted into a mobile application in the suggested model, the investigation is then done in a real-time dataset that used a pre-trained model machine learning technique trained within the same dataset then implemented in firebase, and lastly, the illness identification result can be seen in the mobile application. Logistic regression is a method of prediction calculation.

Keywords: Algorithm, automatic assistance, classification, clustering, Data Acquisition, Data Management, Data processing, Data protection, data wrangling, Deep learning, Healthcare, imputation, Internet of things, Interpretation, probabilities, regression, Security, statistics, supervised learning

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Concordance between Different Criteria for Metabolic Syndrome in Peruvian Adults Undergoing Bariatric Surgery



Authors: Echevarria-Castro, N, Silva-Parra, K., Polar-Trinidad, M., Sánchez-Vicente, J.C., Salinas-Sedo, G., Toro-Huamanchumo, C.J.

Abstract: Background: Metabolic Syndrome (MetS) is a clinical entity that has been linked to several non-communicable diseases. There are various consensuses to determine its presence, such as the IDF, ALAD, Harmonized, AHA/NHLBI, NCEP-ATP III or AACE criteria. However, there is currently no standardization to properly identify it.

Objective: To assess the diagnostic concordance between different criteria for MetS in Peruvian adults undergoing bariatric surgery.

Methods: We conducted a secondary analysis of the institutional database of a bariatric clinic located in Lima, Peru. We obtained data from adults between 18-59 years who underwent bariatric surgery (Roux-en-Y Gastric Bypass or Sleeve Gastrectomy). According to the Kappa coefficient, a heatmap was designed to analyze the concordance of the criteria.

Results: An almost perfect concordance was found between all criteria except AACE. The highest kappa coefficient ($\kappa = 0.980$) was recorded between the IDF and ALAD criteria using all the sample. Similar results were obtained when we stratified by sex.

Conclusions: This study shows that, excluding the AACE, different criteria for metabolic syndrome could be used in Latino adults undergoing bariatric surgery with similar results. Given the postoperative implications, we believe that IDF and ALAD would be the best options in our population.

Keywords: Metabolic syndrome; obesity; bariatric surgery; latinos; adults

Educational policies in response to the pandemic caused by the COVID-19 virus in Latin America: An integrative documentary review



Authors: Suyo-Vega, J.A., Meneses-La-Riva, M.E., Fernández-Bedoya, V.H., Alarcón-Martínez, M., Ocupa-Cabrera, H.G., Alvarado-Suyo, S.A., Polonia, A.D.C., Miotto, A.I.

Abstract: Educational policies in the face of the pandemic caused by the COVID-19 virus took an unexpected turn in Latin America. Virtuality constituted a key opportunity for the continuity of basic fundamental services in the citizen's right to education. The objective of this research was to analyze the educational public policies adopted by governments in Latin America in the face of the pandemic. The methodology was an integrative documentary review of the main international organizations whose documents provided relevant information on the actions to be implemented in fourteen Latin American countries. The results obtained show that the priority was to reestablish the continuity of educational services using mass communication resources, such as radio, television, digital platforms, making visible the inequity in the access to the Internet at home. It was also identified a deficiency in the competencies and digital resources of the educational community, discrimination and inclusion of people with some type of disability or different languages, especially in urban or rural areas because they do not have technological means. It was concluded that the educational policies in Latin America proposed during the COVID-19 period were designed without a real situational diagnosis in each country, to meet the demands of urban and rural areas in an equitable manner with the will of governments, providing budgets and resources that benefit the educational community, as an achievement of state policies.

Keywords: Educational policies, virtual education, Latin America, response to the COVID-19, education

Frontiers in Education , 2022, Volume 7 <https://doi.org/10.3389/feduc.2022.918220>



Alternative cost-effective media to facilitate MODS culture for diagnostics of tuberculosis



Authors: Sheen, P., Rodriguez, J., Alcántara, R., Vargas, J., Grandjean, L., Moore, D.A.J., Gilman, R.H., Zimic, M.

Abstract: Most culture-based methods for tuberculosis diagnosis remain low-cost options for low- and mid-income countries. The MODS culture is a rapid and low-cost assay to diagnose tuberculosis and determine drug susceptibility. However, its implementation is limited due to the low accessibility to supplies required for the enriched medium. In this study, we evaluate two alternative culture media: A powder-based mixed (PM) and a lyophilized media (LM). Catalase, PANTA, and gamma irradiation were evaluated as additions to PM and LM. The culture performance of the alternative media was compared with the standard MODS medium (MM) using *Mycobacterium tuberculosis* isolates and positive acid-fast smear sputum samples. Overall, no significant difference was observed in the bacterial growth between PM and LM with MM. However, PANTA and gamma irradiation combined reduced bacterial growth significantly in all media variants. A median positivity day of 6 ± 5 days was observed for sputum samples, regardless of the culture medium. The preliminary results show that the two variants culture media have a similar performance to the standard MODS medium. The powder-based media with PANTA (PM_P) showed a time-to-positivity and sensitivity similar to the standard MODS medium. It is the simplest to prepare and does not require any sterilization process.

Keywords: Culture media; Diagnostics; Irradiation; Lyophilization; MODS; Tuberculosis.

Tuberculosis , 2022, Volume 135

<https://doi.org/10.1016/j.tube.2022.102225>



Association between gestational diabetes mellitus and periodontal disease: Systematic review



Authors: León-Ríos, X.A., da Silva Pires, S., Gil-Montoya, J.A.

Abstract: Aim: To determine whether there is an association between periodontal disease in pregnant women and the development of gestational diabetes mellitus during their pregnancy. Objective: To determine if there is an association between periodontal disease in pregnant women and the development of gestational diabetes mellitus during her pregnancy. Methods: The present systematic review was performed according to the Preferred Reporting Items for Systematic Reviews and Meta-Analysis Protocols (PRISMA) guidelines. Four electronic data bases were searched: MEDLINE (via PubMed), Cochrane Library, Scopus and Web of Science, through February 2021. Eligible studies were assessed for methodological quality using the Newcastle-Ottawa scale. Results: From 161 studies, 8 were eligible: 3 case-control, 2 cross-sectional and 3 cohort studies. Most of the studies supported an association between periodontitis and GDM. Conclusion: Periodontitis is associated with increased risk for GDM compared to woman without periodontitis. Future robust studies with different designs in distinct populations are needed to enlarge on these findings.

Keywords: Gestational diabetes mellitus, Hyperglycaemia, Periodontal disease, Pregnant women, Systematic review

Clinica e Investigacion en Ginecologia y Obstetricia , 2022, Volume 49

<https://doi.org/10.1016/j.gine.2022.100773>



Identifying RO9021 as a Potential Inhibitor of PknG from *Mycobacterium tuberculosis*: Combinative Computational and in Vitro Studies



Authors: Arica-Sosa, A., Alcántara, R., Jiménez-Avalos, G., Zimic, M., Milón, P., Quiliano, M.

Abstract: Tuberculosis (TB) is an infectious disease caused by *Mycobacterium tuberculosis* (Mtb). Despite being considered curable and preventable, the increase of antibiotic resistance is becoming a serious public health problem. Mtb is a pathogen capable of surviving in macrophages, causing long-term latent infection where the mycobacterial serine/threonine protein kinase G (PknG) plays a protective role. Therefore, PknG is an important inhibitory target to prevent Mtb from entering the latency stage. In this study, we use a pharmacophore-based virtual screening and biochemical assays to identify the compound RO9021 (ChEMBL3237561) as a PknG inhibitor. In detail, 1.5 million molecules were screened using a scalable cloud-based setup, identifying 689 candidates, which were further subjected to additional screening employing molecular docking. Molecular docking spotted 62 compounds with estimated binding affinities of -7.54 kcal/mol (s.d. = 0.77 kcal/mol). Finally, 14 compounds were selected for in vitro experiments considering previously reported biological activities and commercial availability. In vitro assays of PknG activity showed that RO9021 inhibits the kinase activity similarly to AX20017, a known inhibitor. The inhibitory effect was found to be dose dependent with a relative IC₅₀ value of 4.4 ± 1.1 μ M. Molecular dynamics simulations predicted that the PknG-RO9021 complex is stable along the tested timescale. Altogether, our study indicates that RO9021 is a noteworthy drug candidate for further developing new anti-TB drugs that hold excellent reported pharmacokinetic parameters.

Keywords:

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GC-MS Profile, Antioxidant Activity, and in Silico Study of the Essential Oil from *Schinus molle* L. Leaves in the Presence of Mosquito Juvenile Hormone-Binding Protein (mJHBP) from *Aedes aegypti*



Authors: Herrera-Calderon, O., Chavez, H., Enciso-Roca, E.C., Común-Ventura, P.W., Hañari-Quispe, R.D., Figueroa-Salvador, L., Loyola-Gonzales, E.L., Pari-Olarte, J.B., Aljarba, N.H., Alkahtani, S., Batiha, G.E.-S.

Abstract: Abstract: *Schinus molle* is a medicinal plant used as an anti-inflammatory and for rheumatic pain in the traditional medicine of Peru. On the other hand, *Aedes aegypti* is the main vector of several tropical diseases and the transmitter of yellow fever, chikungunya, malaria, dengue, and Zika virus. In this study, the aim was to investigate the antioxidant activity in vitro and the insecticidal activity in silico, in the presence of the mosquito juvenile hormone-binding protein (mJHBP) from *Aedes aegypti*, of the essential oil from *S. molle* leaves. The volatile phytochemicals were analyzed by gas chromatography-mass spectrometry (GC-MS), and the profile antioxidants were examined by DPPH, ABTS, and FRAP assays. The evaluation in silico was carried out on mJHBP (PDB: 5V13) with an insecticidal approach. The results revealed that EO presented as the main volatile components to alpha-phellandrene (32.68%), D-limonene (12.59%), and beta-phellandrene (12.24%). The antioxidant activity showed values for DPPH = 11.42 ± 0.08 $\mu\text{mol ET/g}$, ABTS = $134.88 \pm$



GC-MS Profile, Antioxidant Activity, and in Silico Study of the Essential Oil from *Schinus molle* L. Leaves in the Presence of Mosquito Juvenile Hormone-Binding Protein (mJHBP) from *Aedes aegypti*



4.37 $\mu\text{mol ET/g}$, and FRAP = $65.16 \pm 1.46 \mu\text{mol ET/g}$. Regarding the insecticidal approach in silico, alpha-muurolene and gamma-cadinene had the best binding energy on mJHBP ($\Delta G = -9.7 \text{ kcal/mol}$), followed by beta-cadinene ($\Delta G = -9.5 \text{ kcal/mol}$). Additionally, the volatile components did not reveal antioxidant activity, and its potential insecticidal effect would be acting on mJHBP from *A. aegypti*.

Keywords: *Aedes*, Anacardiaceae, Animals, Antioxidants, Gas Chromatography-Mass Spectrometry, Insecticides, Juvenile Hormones, Larva, Mosquito Vectors, Oils, Volatile, Plant Leaves, Zika Virus, Zika virus infection

BioMed Research International, 2022, Volume 2022

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Efficacy and harms of tocilizumab for the treatment of COVID-19 patients: A systematic review and meta-analysis



Authors: Piscocya, A., del Riego, A.P., Cerna-Viacava, R., Rocco, J., Roman, Y.M., Escobedo, A.A., Pasupuleti, V., Michael White, C., Hernandez, A.V.

Abstract: Introduction: We systematically assessed benefits and harms of tocilizumab (TCZ), which is an antibody blocking IL-6 receptors, in hospitalized COVID-19 patients.

Methods: Five electronic databases and two preprint webpages were searched until March 4, 2021. Randomized controlled trials (RCTs) and inverse probability treatment weighting (IPTW) cohorts assessing TCZ effects in hospitalized, COVID-19 adult patients were included. Primary outcomes were all-cause mortality, clinical worsening, clinical improvement, need for mechanical ventilation, and adverse events (AE). Inverse variance random-effects meta-analyses were performed with quality of evidence (QoE) evaluated using GRADE methodology.

Results: Nine RCTs ($n = 7,021$) and nine IPTW cohorts ($n = 7,796$) were included. TCZ significantly reduced all-cause mortality in RCTs (RR 0.89, 95%CI 0.81-0.98, $p = 0.03$; moderate QoE) and non-significantly in cohorts (RR 0.67, 95%CI 0.44-1.02, $p = 0.08$; very low QoE) vs. control (standard of care [SOC] or placebo). TCZ significantly reduced the need for mechanical ventilation (RR 0.80, 95%CI 0.71-0.90, $p = 0.001$; moderate QoE) and length of stay (MD -1.92 days, 95%CI



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-3.46 to -0.38, $p = 0.01$; low QoE) vs. control in RCTs. There was no significant difference in clinical improvement or worsening between treatments. AEs, severe AEs, bleeding and thrombotic events were similar between arms in RCTs, but there was higher neutropenia risk with TCZ (very low QoE). Subgroup analyses by disease severity or risk of bias (RoB) were consistent with main analyses. Quality of evidence was moderate to very low in both RCTs and cohorts.

Conclusions: In comparison to SOC or placebo, TCZ reduced all-cause mortality in all studies and reduced mechanical ventilation and length of stay in RCTs in hospitalized COVID-19 patients. Other clinical outcomes were not significantly impacted. TCZ did not have effect on AEs, except a significant increased neutropenia risk in RCTs. TCZ has a potential role in the treatment of hospitalized COVID-19 patients.

Keywords:

PLoS ONE, 2022, Volume 17

<https://doi.org/10.1371/journal.pone.0269368>



Diagnosis of a duodenal-colonic cyst with inflammatory content derived of a metastatic gallbladder adenocarcinoma: a case report



Authors: Vargas-García, E.K.,García-Saravia, J.L., Fernández-Aristi, A.R., Cáceres- Bedoya, M.A.

Abstract: The existence of a cystic mass which walls originated from a metastatic gallbladder adenocarcinoma is infrequent. We present the case of 68-year-old male that present to the emergency department with abdominal distention, hyporexia and jaundice. Upon exploratory laparotomy, a duodeno-colonic cyst with walls formed by metastatic cells derived from a Gallbladder Adenocarcinoma. Metastatic disease from a gallbladder adenocarcinoma to transverse colon and duodenum formed adhesences between both organs, leading to the formation of cystic mass. Cancer cells have multiple adaptation mechanisms in order to survive harsh environments.

Keywords: Adenocarcinoma, Gallbladder, Case report, Cystic mass

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Type 2 diabetes mellitus and anxiety symptoms: A cross-sectional study in Peru



Authors: Bernabe-Ortiz, A., Arteaga-Zarate, G., Demarini-Olivares, G., Torres-Slimming, P.A.

Abstract: Background: Information about the effect of type 2 diabetes mellitus (T2DM) awareness in the prevalence of anxiety disorders is scarce. Moreover, reports from resource-constrained and semiurban settings are usually focused on hospital-based data, instead of population-based surveys. We aimed to evaluate the association between T2DM and anxiety symptoms, with emphasis on T2DM awareness.

Methods: A secondary data analysis was conducted using information from a population-based study. The outcome of interest was the presence of anxiety symptoms assessed by the Goldberg anxiety test, while the exposure variable was T2DM, defined using the oral glucose tolerance test. In addition, another definition was used based on self-reported T2DM awareness of previous diagnosis. Prevalence ratios (PR) and 95% confidence intervals (CI) were reported using Poisson regression models.

Results: Data from 1,607 participants, of mean age 48.2 (SD: 10.6) years, and 809 (50.3%) females, were analyzed. Of all participants, 176 (11.0%; 95% CI: 9.5%-12.6%) had T2DM, 105 (59.7%) were aware of previous diagnosis, and 674 (41.9%; 95% CI: 39.5%-44.4%) had anxiety symptoms. In multivariable model, T2DM was not associated with anxiety symptoms



Type 2 diabetes mellitus and anxiety symptoms: A cross-sectional study in Peru



(PR = 1.16; 95% CI: 0.99-1.36); however, individuals aware of T2DM diagnosis had a 36% (95% CI: 14%-64%) greater prevalence of anxiety symptoms compared to those without T2DM.

Additionally, those aware of T2DM diagnosis had a 56% (95% CI: 13%-116%) higher probability to have anxiety symptoms compared to those not aware of T2DM diagnosis. Conclusions: The association between T2DM and anxiety symptoms was present among those participants who self-reported T2DM diagnosis, as opposed to those with T2DM but not aware and to those without T2DM. Evaluation of anxiety symptoms may be relevant among those with previous T2DM diagnosis.

Keywords: Anxiety; Awareness; Peru; Type 2 diabetes mellitus

Wellcome Open Research, 2022, Volume 6

<https://doi.org/10.12688/wellcomeopenres.17328.2>



A Blink Detection Algorithm Based on Image Processing and Convolutional Neural Networks



Authors: Avalos, M., Binasco, S., Kemper, G., Salazar-Gamarra, R.

Abstract: Blink detection is an important task for human-computer interaction and behavior analysis. Although there is previous research regarding drowsiness detection, computer vision syndrome, and computer access by disabled patients, these have certain limitations for their algorithm's accuracy due to a wide range of acquisition. Particularly, head movements, scene conditions, and the number of people in a frame present the main limiting factors. This paper proposes a low latency algorithm based on image processing and a convolutional neural network (CNN). The first technique is used to simplify the amount of computational cost by reducing the input data of the CNN. Then, the CNN is used to classify whether a specific frame is in an 'open' or 'closed' eye state. As this proposal was tested in a development board, limited CPU specifications and a reduced image database were considered for the CNN architecture and its training. The algorithm was tested using a CSI camera and a Jetson Nano 4 GB development board, obtaining a 99.5% accuracy for blink detection.

Keywords: Blink detection, Image processing, Convolutional neural network

Smart Innovation, Systems and Technologies , 2022, Volume 295, pages: 615-621

https://doi.org/10.1007/978-3-031-08545-1_60



Acute presentation of post-traumatic stress by COVID-19



Authors: Reyes-Tejada, A.L., Gonzales-Huaman, K.S., Leon-Nina, E.C., Murga-Cabrera, A.E., Carrasco-Altamirano, J.A., Mejia, C.R.

Abstract: Introduction:

COVID-19 has generated diverse reactions and social changes in different populations, which may influence mental health.

Objective:

To describe the characteristics and risk factors of post-traumatic stress by COVID-19 in the Peruvian population.

Methods:

A retrospective cohort was studied in 2276 people over 18 years of age. The diagnosis of post-traumatic stress disorder was obtained with the Short Post-traumatic Stress Disorder Rating Interview (SPRINT-E) scale ($\alpha = 0.92$), which was crossed with important variables; association statistics were obtained.

Results:

The main risk factors for post-traumatic stress were being a woman ($p < 0.001$); having obesity or cardiovascular disease ($p < 0.001$); spending more hours per day being informed about the subject ($p < 0.001$); having a family member who had suffered from post-traumatic stress disorder ($p < 0.001$); having a relative who has suffered from COVID-19 ($p = 0.045$), having a relative or friend who has died from this disease ($p = 0.020$); having relatives with psychiatric diagnoses ($p = 0.018$); having a harmful habit ($p < 0.001$), suffering from depression, anxiety or stress ($p < 0.001$; for each of the three disorders).



Acute presentation of post-traumatic stress by COVID-19



On the contrary, the older the age ($p < 0.001$) and the higher the academic degree ($p < 0.001$), the lower the risk of post-traumatic stress.

Conclusion:

The factors associated with post-traumatic stress due to COVID-19 in the Peruvian population are obesity or cardiovascular disease, possession of harmful habits, family psychiatric history, having family members infected or killed by COVID-19, and suffering from depression, anxiety or stress.

Keywords: COVID-19; post-traumatic stress; risk factors

Revista Cubana de Medicina Militar , 2022, Volume 51

http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S0138-65572022000200004&lng=en&nrm=iso



Prevalence of Severe Acute Respiratory Syndrome Coronavirus 2 Antibodies Among Market and City Bus Depot Workers in Lima, Peru



Authors: Tovar, M., Peinado, J., Palomino, S., Llanos, F., Ramírez, C., Valderrama, G., Calderón, R.I., Williams, R.B.| Velásquez, G.E.| Mitnick, C.D.| Franke, M.F.| Lecca, L.

Abstract: We report severe acute respiratory syndrome coronavirus 2 antibody positivity among market and city bus depot workers in Lima, Peru. Among 1285 vendors from 8 markets, prevalence ranged from 27% to 73%. Among 488 workers from 3 city bus depots, prevalence ranged from 11% to 47%. Self-reported symptoms were infrequent.

Keywords: COVID-19; essential work; frontline worker.

Clinical Infectious Diseases , 2022, Volume 74 , pages: 343-346

<https://doi.org/10.1093/cid/ciab323>



Poor sleep Quality and Obstructive Sleep Apnea are Associated with Maternal Mood, and Anxiety Disorders in Pregnancy



Authors: Rubio, E., Levey, E.J., Rondon, M.B., Friedman, L., Sanchez, S.E., Williams, M.A., Gelaye, B.

Abstract: Background: Previous studies suggest sleep quality and obstructive sleep apnea (OSA) may be associated with psychiatric symptoms, including depression, anxiety, and posttraumatic stress disorder (PTSD). However, few studies have examined the relationship between sleep quality and OSA with maternal psychiatric symptoms during pregnancy, a state of vulnerability to these disorders.

Objective: The objective of our study is to examine the association between poor sleep quality and sleep apnea with antepartum depression, anxiety, and PTSD among pregnant women.

Methods: A cross-sectional study was conducted among women seeking prenatal care in Lima, Peru. Sleep quality was measured using the Pittsburgh Sleep Quality Index, and the Berlin questionnaire was used to identify women at high risk for OSA. Depression, generalized anxiety, and PTSD symptoms were measured using the Patient Health Questionnaire-9, Generalized Anxiety Disorder Assessment, and PTSD Checklist - Civilian Version. Multivariate logistic regression procedures were used to estimate adjusted odds ratios (aOR) and 95% confidence intervals (95% CI).

Results: Approximately 29.0% of women had poor sleep quality, and 6.2% were at high risk for OSA. The prevalence of psychiatric symptoms was high in this cohort with 25.1%, 32.5%, and 30.9% of women reporting symptoms of antepartum depression, antepartum anxiety, and PTSD, respectively.



Poor sleep Quality and Obstructive Sleep Apnea are Associated with Maternal Mood, and Anxiety Disorders in Pregnancy



Women with poor sleep quality had higher odds of antepartum depression (aOR = 3.28; 95%CI: 2.64-4.07), generalized anxiety (aOR = 1.94; 95%CI: 1.58-2.38), and PTSD symptoms (aOR = 2.81; 95% CI: 2.28-3.46) as compared with women who reported good sleep quality. Women with a high risk of OSA had higher odds of antepartum depression (aOR = 2.36; 95% CI: 1.57-3.56), generalized anxiety (aOR = 2.02, 95% CI: 1.36-3.00), and PTSD symptoms (aOR = 2.14; 95%CI: 1.43-3.21) as compared with those with a low risk of sleep apnea.

Conclusions: Poor sleep quality and high risk of OSA are associated with antepartum depression, generalized anxiety, and PTSD symptoms among pregnant women. Further characterizations of the associations of these prevalent sleep, mood, and anxiety conditions among pregnant women could aid in evaluating and delivering optimal perinatal care to women with these comorbidities.

Keywords: Anxiety; Depression; Posttraumatic stress disorder; Pregnancy; Sleep apnea; Sleep quality..

Maternal and Child Health Journal, 2022, Volume 26 , pages: 1540-1548

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MoniCovid: Monitoring System for Patients with Symptoms of COVID-19



Authors: Reyes, B., Manrique, A., Herrera, E.

Abstract: Nowadays, more than 2,1 million confirmed cases had been reported in Peru of people infected by COVID-19. According to the Ministry of Health data, an increase in the occupancy of Intensive Care Unit beds is observed. This high number of cases added to the capacity of few hospital beds causes the increase in patients whom medical centres in Peru cannot treat. We present MoniCovid as an application to monitor health parameters periodically and ensure the treatment and stability for patients with suspicions or mild COVID-19 symptoms and who belong to the low socioeconomic levels that represent more than half of the Peruvian population. In addition, it allows physicians to review follow-up reports for each patient and determine if they need emergency care. We use the methodology of Building Progressive Web Apps book to incorporate native functionality into the web application. In this way, MoniCovid becomes a multiplatform capable application that allows it to be acquired by many patients. A case study in Lima showed that MoniCovid application is functional and allows reducing the time of patient monitoring and medical diagnosis by 70.89% and 56.56% respectively. In addition, a user acceptance of 4.74 in usability and 4.71 in user experience.

Keywords: COVID-19, Patient monitoring, Pandemics, Sociology, User experience, Proposals, Medical diagnosis

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<https://doi.org/10.23919/CISTI54924.2022.9820115>



Diagnostic Performance Assessment of Saliva RT-PCR and Nasopharyngeal Antigen for the Detection of SARS-CoV-2 in Peru



Authors: Calderón, R.I., Jhaveri, T.A., Tovar, M.A., Palomino, J.S., Barreda, N.N., Sanabria, O.M., Peinado, J., Ramirez, C., Zavalaga, L.F.L., Valderrama, G., Franke, M.F., Mitnick, C.D., Lecca, L., Velásquez, G.E.

Abstract: Widely available and reliable testing for SARS-CoV-2 is essential for the public health response to the COVID-19 pandemic. We estimated the diagnostic performance of reverse transcription PCR (RT-PCR) performed on saliva and the SD Biosensor STANDARD Q antigen test performed on nasopharyngeal swab compared to the reference standard, nasopharyngeal swab (NP) RT-PCR. We enrolled participants living and/or seeking care in health facilities in North Lima, Peru from November 2020 to January 2021. Consenting participants underwent same-day RT-PCR on both saliva and nasopharyngeal swab specimens, antigen testing on a nasopharyngeal swab specimen, pulse oximetry, and standardized symptom assessment. We calculated sensitivity, specificity, and predictive values for the nasopharyngeal antigen and saliva RT-PCR compared to nasopharyngeal RT-PCR. Of 896 participants analyzed, 567 (63.3%) had acute signs/symptoms of COVID-19. The overall sensitivity and specificity of saliva RT-PCR were 85.8% and 98.1%, respectively. Among participants with and without acute signs/symptoms of COVID-19, saliva sensitivity was 87.3% and 37.5%, respectively. Saliva sensitivity was 97.4% and 56.0% among participants with cycle threshold (CT) values of ≤ 30 and > 30 on nasopharyngeal RT-PCR, respectively. The overall sensitivity and specificity of nasopharyngeal antigen were 73.2% and 99.4%, respectively. The sensitivity of the nasopharyngeal antigen test was 75.1% and 12.5% among participants with and without acute signs/symptoms of COVID-19, and 91.2% and 26.7% among participants with CT values of ≤ 30 and



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>30 on nasopharyngeal RT-PCR, respectively. Saliva RT-PCR achieved the WHO-recommended threshold of >80% for sensitivity for the detection of SARS-CoV-2, while the SD Biosensor nasopharyngeal antigen test did not.

IMPORTANCE In this diagnostic validation study of 896 participants in Peru, saliva reverse transcription PCR (RT-PCR) had >80% sensitivity for the detection of SARS-CoV-2 among all-comers and symptomatic individuals, while the SD Biosensor STANDARD Q antigen test performed on nasopharyngeal swab had <80% sensitivity, except for participants whose same-day nasopharyngeal RT-PCR results showed cycle threshold values of <30, consistent with a high viral load in the nasopharynx. The specificity was high for both tests. Our results demonstrate that saliva sampling could serve as an alternative noninvasive technique for RT-PCR diagnosis of SARS-CoV-2. The role of nasopharyngeal antigen testing is more limited; when community transmission is low, it may be used for mass screenings among asymptomatic individuals with high testing frequency. Among symptomatic individuals, the nasopharyngeal antigen test may be relied upon for 4 to 8 days after symptom onset, or in those likely to have high viral load, whereupon it showed >80% sensitivity.

Keywords: COVID-19; Peru; RT-PCR; SARS-CoV-2; antigen; diagnosis; nasopharyngeal swab; saliva; validation.

Microbiology Spectrum, 2022, Volume 10

<https://doi.org/10.1128/spectrum.00861-22>



Multiple Biliary Stones: a Rare Long-term Complication after Whipple Procedure



Authors: Kirschbaum-Rubin, S., Flores-Ortega, D.

Abstract: Abstract: A hypertensive, diabetic woman underwent a successful Whipple procedure at the age of 84 due to carcinoma of the ampulla of Vater. She presented an extremely rare complication 24 months after the surgery, consisting of acute cholangitis due to multiple biliary lithiasis associated with a bilioenteric anastomotic stricture. The diagnosis was confirmed with computed tomography, magnetic resonance cholangiopancreatography, and cholangiography. The patient was successfully treated with multiple percutaneous transhepatic cholangioplasties.

Keywords: Ampullary cancer, Anastomotic stricture, Biliary lithiasis, Cholangioplasty, Long-term complication, Whipple procedure

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Effectiveness of the Inactivated SARS-CoV-2 (Vero Cell) Vaccine in Peruvian Health Workers



Authors: Solis-Castro, M.E., Jaramillo-Corrales, A., Gonzalez Seminario, R.V., Janampa Grados, N., Mamani Pilco, I.E., Vargas Quispe, K.E., La Torre Rosillo, L.Y., Vásquez Dominguez, M.N., Enriquez Cusi, D.T., Minaya, P., Pardo Ruiz, K.J., Díaz-Vélez, C., Pachas, V.A., Alberca, R.W., Pachas, P.E.

Abstract: Introduction: The COVID-19 pandemic has caused a global health crisis. Vaccines against this disease have demonstrated variable efficacy and safety, although effectiveness has not been evaluated. In February 2021, the Ministry of Health of Peru approved the emergency use of the inactivated SARS-CoV-2 (Vero Cell) vaccine and initiated vaccination with health personnel at the national level. The objective of the study is to determine the effectiveness of this vaccine to reduce infections, hospitalizations, and deaths due to COVID-19.

Methodology: We performed a retrospective cohort study in the period from 23 February to 26 June 2021; data were obtained from the Ministry of Health (including demographic, epidemiologic, clinical, hospital, laboratory results, deaths, and both date and quantity of vaccine doses delivered). The exposed cohort were those who received one or two vaccine doses and the non-exposed were unvaccinated. The events studied were infections, hospitalizations and deaths in the cohorts. We consider a case confirmed for COVID-19 if the test result was positive for SARS-CoV-2, via PCR or antigen test.



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Effectiveness was measured with incidence density ratio and risk. Confounding factors were controlled using a Poisson model with robust variance.

Results: We enlisted 520,733 health workers, of whom 415,212 had two vaccine doses and 105,521 were unvaccinated. The median age was 40 years (IQR: 32-50), and 65.6% were female. The effectiveness of two vaccine doses fourteen days after application adjusted by age, sex, hospitalization, and antecedent of having the infection was 90.9% (95% CI: 85.5-94.2%); effectiveness to avoid death from COVID-19; 67.7% (60.1-73.8%) effectiveness to avoid hospitalizations; and 26.3% (23.8-28.6%) effectiveness to reduce the risk of infection by SARS-CoV-2 relative to the unvaccinated cohort.

Conclusions: The inactivated SARS-CoV-2 (Vero Cell) vaccine used in two doses has an acceptable effectiveness against death and risk of hospitalization, whereas it has less effectiveness in preventing COVID-19 infection.

Keywords: COVID-19; SARS-CoV-2; effectiveness; vaccine.

Life, 2022, Volume 12

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Biochemical failure and toxicity in treatment with brachytherapy and external beam radiotherapy compared with radical prostatectomy in localized prostate cancer



Authors: Galdos-Bejar, M., Belanovic-Ramirez, I., Alvarado, G.F., Castillo, R.D.

Abstract: Background: Localized prostate cancer (T1-3N0M0) has therapeutic options such as radical prostatectomy (RP), external beam radiation therapy (EBRT) and brachytherapy (BT). However, the evidence of the outcome of these treatments is limited and no studies have been conducted comparing biochemical failure (BF) and toxicity associated with surgical treatment and EBRT + high-dose brachytherapy (HDBT) in the region.

Materials and methods: Retrospective cohort study, clinical records of patients diagnosed with localized prostate cancer between 2014 and 2018 were reviewed at one of the main private neoplasm centers in Lima, Peru; Cox regression was used for both the BF outcome and the grade 2 toxicity outcome, calculating the hazard ratio (HR) with 95% confidence interval (CI).

Results: Of 549 patients, 76.3% (419) received RP as primary treatment, and 72% were between 50 and 70 years old at the time of diagnosis. The patients treated with EBRT + HDBT presented worse characteristics. The EBRT + HDBT group had a 40% lower risk of presenting BF (HR = 0.6; 95% CI: 0.4-0.9), and also a 50% greater risk of presenting toxicity greater than or equal to grade 2 (HR = 1.5; 95% CI: 1.0-2.0) than the group treated with RP.



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Conclusion: Our results show that when comparing patients treated with EBRT + HDBT and RP, BF was greater in RP, and post-treatment toxicity was greater in EBRT + HDBT.

Keywords: Biochemical failure; brachytherapy; prostate neoplasm; prostatectomy; radiotherapy; toxicity.

Reports of Practical Oncology and Radiotherapy , 2022, Volume 27, pages: 644-654

<https://doi.org/10.5603/RPOR.a2022.0080>



Hospitalizations and mortality of patients with heart failure in the COVID-19 era in Peru



Authors: Hernández-Vásquez, A., Visconti-Lopez, F.J., Alburquerque-Cruz, R., Rojas-Roque, C.

Abstract: Objectives

The worldwide heart failure (HF) prevalence is 8.52 per 1000 inhabitants, with a global economic burden of 346.17 billion dollars. With the COVID-19 pandemic, the focus of medical care has changed to treating the morbidity and mortality of patients with COVID-19 and reducing medical procedures or visits to patients with HF, with the impact being greater in low- and middle-income countries.

Methods

We performed an interrupted time series analysis of HF to determine the changes in the trend of hospitalizations and in-hospital mortality of HF patients before and after the mandatory lockdown in Peru.

Results

A total of 18,514 adults were included in the analysis. Monthly hospital admissions immediately decreased by 599 (95% confidence interval [CI]: 113 to 1085) and the difference in slope before and after the lockdown was 6.4 hospital admissions (95% CI: -4 to 18). In-hospital mortality increased by 18% (95% CI: -8%–43%) and the difference in slope before and after the lockdown was -0.3% (95% CI: -0.9%–0.25%).

Conclusions

There was a reduction in hospitalizations and an increase in the in-hospital mortality of patients with HF before and after the mandatory lockdown due to the COVID-19 pandemic in Peru.

Keywords: COVID-19Heart failure, Hospital mortality, Hospitalization Trends Peru



Evaluation of the broth microdilution plate methodology for susceptibility testing of *Mycobacterium tuberculosis* in Peru



Authors: Puyén, Z.M., Santos-Lázaro, D., Vigo, A.N., Coronel, J., Alarcón, M.J., Cotrina, V.V., Moore, D.A.J.

Abstract: Background: Tuberculosis (TB) is a communicable, preventable and curable disease caused by the bacterium *Mycobacterium tuberculosis* (MTB). Peru is amongst the 30 countries with the highest burden of multidrug-resistant tuberculosis (MDR-TB) worldwide. In the fight against drug-resistant tuberculosis, the UKMYC6 microdilution plate was developed and validated by the CRyPTIC project. The objective of the study was to evaluate the use of the broth microdilution (BMD) plate methodology for susceptibility testing of drug-resistant MTB strains in Peru.

Methods: MTB strains isolated between 2015 and 2018 in Peru were used. 496 nationally-representative strains determined as drug-resistant by the routine 7H10 Agar Proportion Method (APM) were included in the present study. The Minimum Inhibitory Concentration (MIC) of 13 antituberculosis drugs were determined for each strain using the UKMYC6 microdilution plates. Diagnostic agreement between APM and BMD plate methodology was determined for rifampicin, isoniazid, ethambutol, ethionamide, kanamycin and levofloxacin. Phenotypes were set using binary (or ternary) classification based on Epidemiological cut-off values (ECOFF/ECV) proposed by the CRyPTIC project. Whole Genome Sequencing (WGS) was performed on strains with discrepant results between both methods.

Results: MIC distributions were determined for 13 first- and second-line anti-TB drugs, including new (bedaquiline, delamanid) and repurposed (clofazimine, linezolid) agents. MIC results were available for 80% (397/496) of the strains at



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14 days and the remainder at 21 days. The comparative analysis determined a good agreement ($0.64 \leq k \leq 0.79$) for the drugs rifampicin, ethambutol, ethionamide and kanamycin, and the best agreement ($k > 0.8$) for isoniazid and levofloxacin. Overall, 12% of MIC values were above the UKMYC6 plate dilution ranges, most notably for the drugs rifampicin and rifabutin. No strain presented MICs higher than the ECOFF/ECV values for the new or repurposed drugs. Discrepant analysis using genotypic susceptibility testing by WGS supported half of the results obtained by APM (52%, 93/179) and half of those obtained by BMD plate methodology (48%, 86/179).

Conclusions: The BMD methodology using the UKMYC6 plate allows the complete susceptibility characterization, through the determination of MICs, of drug-resistant MTB strains in Peru. This methodology shows good diagnostic performances for rifampicin, isoniazid, ethambutol, ethionamide, kanamycin and levofloxacin. It also allows for the characterization of MICs for other drugs used in previous years against tuberculosis, as well as for new and repurposed drugs recently introduced worldwide.

Keywords: Antimicrobial agents; Broth microdilution; Drug resistance; Drug susceptibility testing; Minimum inhibitory concentration; *Mycobacterium tuberculosis*.

BMC Infectious Diseases , 2022, Volume 22

<https://doi.org/10.1186/s12879-022-07677-9>



Meeting 24-h movement guidelines and markers of adiposity in adults from eight Latin America countries: the ELANS study



Authors: Ferrari, G., Cristi-Montero, C., Drenowatz, C., Kovalskys, I., Gómez, G., Rigotti, A., Cortés, L.Y., Yépez García, M., Liria-Domínguez, M.R., Herrera-Cuenca, M., Peralta, M., Marques, A., Marconcin, P., da Costa, R.F., Leme, A.C.B., Farías-Valenzuela, C., Ferrero-Hernández, P., Fisberg, M.

Abstract: Abstract: This study aimed to compare compliance with 24-h movement guidelines across countries and examine the associations with markers of adiposity in adults from eight Latin American countries. The sample consisted of 2338 adults aged 18-65 years. Moderate-to-vigorous physical activity (MVPA) and sedentary behavior (SB) data were objectively measured using accelerometers. Sleep duration was self-reported using a daily log. Body mass index and waist circumference were assessed as markers of adiposity. Meeting the 24-h movement guidelines was defined as ≥ 150 min/week of MVPA; ≤ 8 h/day of SB; and between 7 and 9 h/day of sleep. The number of guidelines being met was 0.90 (95% CI 0.86, 0.93) with higher value in men than women. We found differences between countries. Meeting two and three movement guidelines was associated with overweight/obesity (OR: 0.75, 95% CI 0.58, 0.97 and OR: 0.69, 95% CI 0.51, 0.85, respectively) and high waist circumference (OR: 0.74, 95% CI 0.56, 0.97 and OR: 0.77, 95% CI 0.62, 0.96). Meeting MVPA and SB recommendations were related to reduced adiposity markers but only in men.

Future research is needed to gain insights into the directionality of the associations between 24-h movement guidelines compliance and markers of adiposity but also the mechanisms underlying explaining differences between men and women.

Keywords:

Scientific Reports, 2022, Volume 12 <https://doi.org/10.1038/s41598-022-15504-z>



Acceptance towards COVID-19 vaccination in Latin America and the Caribbean: A systematic review and meta-analysis



Authors: Alarcón-Braga, E.A., Hernandez-Bustamante, E.A., Salazar-Valdivia, F.E., Valdez-Cornejo, V.A., Mosquera-Rojas, M.D., Ulloque-Badaracco, J.R., Rondon-Saldaña, J.C., Zafra-Tanaka, J.H.

Abstract: Introduction

Vaccination represents an important strategy to mitigate COVID-19 related morbidity and mortality by protecting against severe forms of the disease and reducing hospitalization and death rates. In this sense, the objective of this study is to estimate the prevalence of Vaccination Intention (VI) against COVID-19 in Latin America and Caribbean (LAC).

Methods

We conducted a systematic review with a comprehensive search strategy for the following databases: PubMed, Scopus and Web of Science. A random-effect model meta-analysis was carried out using observational studies assessing the intention to vaccines against COVID-19 in LAC countries. The Clopper-Pearson method was used to estimate 95% Confidence Intervals. The quality assessment was developed using the Newcastle-Ottawa Scale adapted for cross-sectional studies. A subgroup analysis by study location and a sensitivity analysis were developed.

Results

Nineteen cross-sectional studies were included. Five meta-analyses were performed according to the target population



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of the included studies. The VI in the general population of LAC was 78.0% (95%CI: 74.0%–82.0%). The VI for non-pregnant women was 78.0% (95%CI: 58.0%–99.0%), for elderly population was 63.0% (95%CI: 59.0%–69.0%), for pregnant women was 69.0% (95%CI: 61.0%–76.0%) and for health-personnel was 83.0% (95% CI: 71.0%–96.0%). The sensitivity analysis for general population meta-analysis that included only low risk of bias studies showed a 77.0% VI (95%CI: 73.0%–82.0%) and for non-pregnant women, 85.0% VI (95%CI: 79.0%–90.0%).

Conclusion

Despite the high prevalence of VI in general population found in our study, VI prevalence from elderly people and pregnant women are lower than other population groups and overall population.

Keywords: COVID-19, Vaccination intention, Public health

Travel Medicine and Infectious Disease, 2022, Volume 49

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Administrative measures for the labor reinsertion of people with HIV-AIDS



Authors: Dávila, L.V., Morán, R.C.D., del Carmen Agüero Corzo, E., Nizama, J.L.R., Gómez, H.E.L.

Abstract:

Keywords:

Boletín de Malariología y Salud Ambiental , 2022, Volume 62, pages:151-161

<https://doi.org/10.52808/BMSA.7E6.622.005>



What Drives Abdominal Obesity in Peru? A Multilevel Analysis Approach Using a Nationally Representative Survey



Authors: Hernández-Vásquez, A., Olazo-Cardenas, K.M., Visconti-Lopez, F.J., Barrenechea-Pulache, A.

Abstract: Abdominal obesity (AO) is a serious public health threat due to its increasing prevalence and effect on the development of various non-communicable diseases. A multilevel analysis of the 2019 Demographic and Family Health Survey (ENDES in Spanish) using the Latin American Diabetes Association (ALAD in Spanish) cut-off points was carried out to evaluate the individual and contextual factors associated with AO in Peru. A total of 30,585 individuals 18 years and older were included in the analysis. The prevalence of AO among Peruvians in 2019 was 56.5%. Individuals of older age (aOR 4.64; 95% CI: 3.95-5.45), women (aOR 2.74; 95% CI: 2.33-3.23), individuals with a higher wealth index (aOR 2.81; 95% CI: 2.40-3.30) and having only secondary education (aOR 1.45; 95% CI: 1.21-1.75) showed increased odds of presenting AO compared to their peers. At a contextual level, only the Human Development Index (aOR 1.59; 95% CI: 1.17-2.16) was associated with the development of AO. A high Human Development Index is the contextual factor most associated with AO. It is necessary to formulate and implement new public health policies focused on these associated factors in order to reduce the prevalence of OA and prevent the excessive burden of associated noncommunicable diseases.

Keywords: Peru; abdominal obesity; epidemiology; health surveys; multilevel analysis.

International Journal of Environmental Research and Public Health , 2022, Volume 19

<https://doi.org/10.3390/ijerph191610333>



Measurement of Risk Factors Associated With bereavement Severity and Deterioration by COVID-19: A Spanish Validation Study of the Pandemic Grief Risk Factors



Authors: Caycho-Rodríguez, T., Lee, S.A., Vilca, L.W., Carbajal-León, C., Reyes-Bossio, M., Delgado-Campusano, M., Gallegos, M., Carranza Esteban, R., Noe-Grijalva, M.

Abstract: The present study translated and evaluated the psychometric evidence of the Pandemic Grief Risk Factors (PGRF) in a sample of 363 people from the general population of Peru who suffered the death of a loved one by COVID-19 (63.4% women and 36.6% men, where 78.5% were between 18 and 29 years old). The findings indicated that the PGRF is a unidimensional and reliable measure. The PGRF items can differentiate between individuals with different levels of risk factors and thus cover a wide range of the latent construct. Also, a greater sense of distress for each of the risk factors for pandemic grief is necessary to answer the higher response categories. Risk factors significantly and positively predict COVID-19-associated dysfunctional grief. The results indicated that the PGRF in Spanish is a measure with adequate psychometric properties to measure risk factors for pandemic grief.

Keywords: COVID-19; pandemic grief; risk factors; unidimensional; validity.

Omega (United States) , 2022

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Near-hanging Injury in a Pediatric Patient



Authors: Espinoza-Espinoza, Y., Morocho-Pinedo, M., Alarcon-Braga, E., Carreazo, N.Y.

Abstract: Suicide is a public health problem. Suicide by hanging is seen in all ages, starting around the age of 10-12. “Hanging injuries” is the term used to refer to people who survive after hanging. We present the case of a pediatric patient who survived mechanical asphyxia by hanging. A 12-year-old female patient who recently attempted suicide by hanging herself was admitted to the nearest hospital presenting “near-hanging injuries.” She received ventilatory support and sedation-analgesia in the Pediatric Intensive Care Unit (PICU), treating cerebral edema with mannitol. Upon discharge, she presented neurological and structural sequelae. Although suicide is one of the most common causes of death in the pediatric population, near-hanging injuries are rare in this setting. Patients with these injuries should be treated aggressively and early to avoid possible complications. In this case, the family’s action and the late treatment influenced the lousy evolution of the patient.

Keywords: Asphyxia, Attempted suicide, Child, Neck injuries, Resuscitation

Pakistan Paediatric Journal , 2022, Volume 46, pages: 233-236

<https://www.scopus.com/record/display.url?eid=2-s2.0-85134528195&origin=resultslist>
<http://hdl.handle.net/10757/660950>



Low sexual function is associated with menopausal status in mid-aged women with human immunodeficiency virus infection



Authors: Mezones-Holguín, E., Arriola-Montenegro, J., Cutimanco-Pacheco, V., Al-Kassab-Córdova, A., Niño-García, R., Zeta, L.A., Urrunaga-Pastor, D., Blümel, J.E., Chedraui, P., Pérez-López, F.R.

Abstract: Objective: To assess the association between menopausal status and female sexual function among mid-aged women with human immunodeficiency virus (HIV) infection.

Methods: We carried out a cross-sectional study of 221 sexually active HIV-infected women ages 40 to 59 years, based on a secondary analysis of a three-hospital survey in Lima, Perú. We classified menopausal status according to Stages of Reproductive Aging Workshop criteria (STRAW+10); this exposure variable was categorized as binary (non-postmenopausal and postmenopausal) and-for exploratory analysis-as multinomial (pre-, peri-, and postmenopausal). We defined low sexual function (LSF) using the 6-item Female Sexual Function Index (total score ≤ 19). Socio-demographic and clinical variables were assessed, including age, used highly active antiretroviral therapy scheme, disease duration, depressive symptoms, and co-morbidities. We performed Poisson generalized linear models with a robust variance to estimate 95% confidence interval (CI), crude prevalence ratios (cPRs), and adjusted prevalence ratios (aPRs) by epidemiological and statistical approaches using nonparametric method of bias-corrected and accelerated bootstrap resampling with 1,000 repetitions.



Low sexual function is associated with menopausal status in mid-aged women with human immunodeficiency virus infection



Results: Studied women had a median age of 47.0 years (interquartile range: 7.5); 25.3% were premenopausal, 25.8% were perimenopausal, and 48.9% were postmenopausal. Also, 64.3% had LSF. The frequency of LSF was 53.6% in non-postmenopausal and 75.0% in postmenopausal women. Postmenopausal status was associated with LSF in both the crude (cPR = 1.39; 95% CI: 1.13-1.71) and the adjusted regression models (aPR = 1.38; 95% CI: 1.12-1.71).

Conclusions: HIV-infected postmenopausal women have a higher prevalence of LSF than those non-postmenopausal ones, even when adjusting for multiple potential confounders.

Keywords:

Menopause , 2022, Volume 29 , pages: 317-326

<https://doi.org/10.1097/GME.0000000000001914>



Germline Pathogenic Variant Prevalence Among Latin American and US Hispanic Individuals Undergoing Testing for Hereditary Breast and Ovarian Cancer: A Cross-Sectional Study



Authors: Ossa Gomez, C.A., Achatz, M.I., Hurtado, M., Sanabria-Salas, M.C., Sullcahuaman, Y., Chávarri-Guerra, Y., Dutil, J., Nielsen, S.M., Esplin, E.D., Michalski, S.T., Bristow, S.L., Hatchell, K.E., Nussbaum, R.L., Pineda-Alvarez, D.E., Ashton-Prolla, P.

Abstract: PURPOSE

To report on pathogenic germline variants detected among individuals undergoing genetic testing for hereditary breast and/or ovarian cancer (HBOC) from Latin America and compare them with self-reported Hispanic individuals from the United States.

METHODS

In this cross-sectional study, unrelated individuals with a personal/family history suggestive of HBOC who received clinician-ordered germline multigene sequencing were grouped according to the location of the ordering physician: group A, Mexico, Central America, and the Caribbean; group B, South America; and group C, United States with individuals who self-reported Hispanic ethnicity. Relatives who underwent cascade testing were analyzed separately.

RESULTS

Among 24,075 unrelated probands across all regions, most were female (94.9%) and reported a personal history suggestive of HBOC (range, 65.0%-80.6%); the mean age at testing was 49.1 ± 13.1 years. The average number of genes analyzed per patient was highest in group A ($A 63 \pm 28$, $B 56 \pm 29$, and $C 40 \pm 28$). Between 9.1% and 18.7% of patients had



Germline Pathogenic Variant Prevalence Among Latin American and US Hispanic Individuals Undergoing Testing for Hereditary Breast and Ovarian Cancer: A Cross-Sectional Study



pathogenic germline variants in HBOC genes (highest yield in group A), with the majority associated with high HBOC risk. Compared with US Hispanics individuals the overall yield was significantly higher in both Latin American regions (A v C $P = 1.64 \times 10^{-9}$, B v C $P < 2.2 \times 10^{-16}$). Rates of variants of uncertain significance were similar across all three regions (33.7%-42.6%). Cascade testing uptake was low in all regions (A 6.6%, B 4.5%, and C 1.9%).

CONCLUSION

This study highlights the importance of multigene panel testing in Latin American individuals with newly diagnosed or history of HBOC, who can benefit from medical management changes including targeted therapies, eligibility to clinical trials, risk-reducing surgeries, surveillance and prevention of secondary malignancy, and genetic counseling and subsequent cascade testing of at-risk relatives.

Keywords: Breast Neoplasms, Carcinoma, Ovarian Epithelial, Cross-Sectional Studies, Female, Germ Cells, Hispanic or Latino, Humans, Latin America, Male, Ovarian Neoplasms, Prevalence, United States

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Reply to “Conceptual interpretation and clinical applicability of A systematic review and meta-analysis about prognostic value of Apolipoproteins in COVID-19 patients”



Authors: Ulloque-Badaracco, J.R., Hernandez-Bustamante, E.A., Herrera-Añazco, P., Benites-Zapata, V.A.

Abstract: No abstract available

Keywords:

Travel Medicine and Infectious Disease , 2022, Volume 46

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Ineffective penicillin treatment and absence of partner treatment may drive the congenital syphilis epidemic in Brazil



Authors: Swayze, E.J., Cambou, M.C., Melo, M., Segura, E.R., Raney, J., Santos, B.R., Lira, R., Pinto, R.B., Varella, I.R.D.S., Nielsen-Saines, K.

Abstract: BACKGROUND

Reducing congenital syphilis has been the focus of Brazilian health programs for decades, yet the cases continue to increase. Although health interventions have targeted HIV screening and treatment, syphilis management continues to be challenging. Syphilis during pregnancy may enhance the HIV maternal seroconversion risk. The potential factors fueling the syphilis epidemic were evaluated in south Brazil, an area of high HIV or syphilis endemicity.

OBJECTIVE

We hypothesized that ineffective treatment because of a lack of partner treatment, late presentation to care, and reinfection of previously treated mothers were potential drivers of syphilis mother-to-child transmission.

STUDY DESIGN

Data on women diagnosed with syphilis during pregnancy between January 1, 2008 and December 31, 2018 were obtained from a large urban hospital in Porto Alegre, Brazil. The patients were stratified into effective vs ineffective treatment groups according to the World Health Organization guidelines. Crude and adjusted risk ratios for the prediction of congenital syphilis and adverse fetal or neonatal outcomes were computed using Poisson regression.



Ineffective penicillin treatment and absence of partner treatment may drive the congenital syphilis epidemic in Brazil



RESULTS

Nearly 56,000 pregnant women delivered over the 11-year period; 1541 (2.8%) had confirmed syphilis during pregnancy, with 934 (61%) receiving ineffective syphilis treatment because of late presentation and diagnosis, delayed treatment initiation, and loss to follow-up with no treatment recorded.

Ineffective treatment was associated with maternal education, prenatal care, timing of syphilis diagnosis, venereal diseases research laboratory titers, and maternal HIV coinfection. On multivariate regression analysis, ineffective treatment (adjusted risk ratio, 4.52; 95% confidence interval, 2.35–8.69), absence of prenatal care (adjusted risk ratio, 9.31; 95% confidence interval, 3.77–23.0), syphilis diagnosis at delivery (adjusted risk ratio, 3.08; 95% confidence interval, 2.07–4.58), and maternal nontreponemal titers $\geq 1:64$ (1.09–1.93) were associated with an increased risk of fetal loss. Ineffective treatment (adjusted risk ratio, 1.71; 95% confidence interval, 1.59–1.84), year of diagnosis 2014 to 2016 (adjusted risk ratio, 1.07; 95% confidence interval, 1.02–1.13), absence of prenatal care (adjusted risk ratio, 1.44; 95% confidence interval, 1.17–1.76), and maternal nontreponemal titers $> 1:4$ were associated with an increased risk of congenital syphilis. Although partner treatment reduced the congenital syphilis risk (adjusted risk ratio, 0.60; 95% confidence interval, 0.55–0.66), only 31.8% of partners received treatment. Maternal HIV coinfection was not associated with an increased risk of fetal loss, low birthweight, preterm birth, congenital syphilis, or symptomatic neonatal infection.

CONCLUSION

Public health initiatives promoting effective syphilis treatment in pregnancy, increased access to high-quality prenatal care, and partner treatment should be considered to reduce congenital syphilis.

Keywords: Brazil; HIV; ineffective treatment; mother-to-child transmission; partner treatment; pregnancy; prenatal care; public health; syphilis.



Factors associated with post-traumatic stress disorder symptoms in the post-quarantine context of the COVID-19 pandemic in Peruvian medical students



Authors: Alejandro-Salinas, R., Rojas-Cueva, A.C., Visconti-Lopez, F.J., Osorio-Martinez, M.L., Toro-Huamanchumo, C.J.

Abstract: Background

In March 2020, the Peruvian state introduced quarantine as a measure to control the spread of SARS-CoV-2. It has been suggested that being in quarantine is associated with the development of symptoms of Post-traumatic Stress Disorder (PTSD). The present study aims to explore the factors associated with the development of PTSD in a post-quarantine context due to COVID-19 in medical students.

Objectives

To evaluate the factors associated with the development of post-quarantine PTSD symptoms in medical students from a Peruvian university.

Methods

Analytical cross-sectional study. The objective will be developed after the lifting of the quarantine in Peru. Medical students enrolled during the 2020-01 academic cycle of the Peruvian University of Applied Sciences will be included.

To collect the outcome variable (PTSD), the Impact of Event Scale - Revised (IES-R) will be used. The associated factors will be collected through a form that will be validated by experts and piloted in the field. The crude and adjusted coeffi-



Factors associated with post-traumatic stress disorder symptoms in the post-quarantine context of the COVID-19 pandemic in Peruvian medical students



cients will be calculated, using bivariate and multivariate linear regression models, respectively. We will use the “manual forward selection” technique to obtain a final model with minimally sufficient fit. After each model comparison and decision, multicollinearity will be evaluated with the variance inflation factor and matrix of independent variables.

Results

Not having health insurance, having relatives or close friends who contracted the disease and having a lower family income are factors associated with PTSD in the post-quarantine context of the COVID-19 pandemic in medical students at a Peruvian university.

Conclusions

Clinical evaluation is important for medical students with a high probability of having PTSD symptoms. We recommend conducting a longitudinal study to identify causality and other unstudied factors related to PTSD.

Keywords: COVID-19, Medical students, Posttraumatic stress disorders, Pandemic, Peru

Heliyon , 2022, Volume 8

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Late myocardial reperfusion in ST-elevation myocardial infarction: Protocol for a systematic review and meta-analysis



Authors: Vargas-Fernández, R., Chacón-Díaz, M., Basualdo-Meléndez, G.W., Barón-Lozada, F.A., Visconti-Lopez, F.J., Comandé, D., Hernández-Vásquez, A.

Abstract: Introduction: ST-segment elevation myocardial infarction (STEMI) is the most severe clinical form of acute myocardial infarction, for which the current treatment consists of effective and timely myocardial reperfusion (within 12 hours of symptom onset). However, between 10% and 15% of patients with STEMI arrive at hospital facilities 12 hours after the onset of symptoms (late presentation). Therefore, the objective of the present study will be to determine if late revascularisation (12-72 hours after the onset of symptoms) affects the indicators of cardiovascular mortality, reinfarction, recurrent infarction, hospitalisation for heart failure and post infarction angina compared with no late revascularisation in patients with STEMI.

Methods and analysis: A systematic literature search of PubMed, The Cochrane Library, Embase, Cumulative Index to Nursing and Allied Health Literature (CINAHL), Web of Science, Scopus and Global Health will be conducted. Publications in English, Portuguese or Spanish that report the clinical results of primary percutaneous revascularisation (primary PCI) in adult patients with STEMI 12-72 hours after the onset of symptoms will be included.



Late myocardial reperfusion in ST-elevation myocardial infarction: Protocol for a systematic review and meta-analysis



Studies with participants with a diagnosis other than STEMI or patients with STEMI of >12 hours complicated by heart failure, cardiogenic shock or ventricular arrhythmias, and studies of combined interventions (pharmacoinvasive strategy) were excluded. Two independent authors will identify the relevant publications, and discrepancies will be adjudicated by a third author. Data extraction will be performed by two independent authors and verified by a third author. Risk of bias of studies will be assessed using the Cochrane 'risk of bias' tool (RoB 2) or Risk Of Bias In Non-randomised Studies - of Interventions (ROBINS-I) tool. If appropriate, a meta-analysis will be performed in order to examine the effect of late re-vascularisation in clinical outcomes of interest.

Ethics and discussion: This study will use published data only, thus, ethical approval will not be required. The results will be disseminated through peer-reviewed publication and conference presentations.

Prospero registration number: CRD42021283429.

Keywords: CARDIOLOGY; Coronary heart disease; Coronary intervention; Ischaemic heart disease; Myocardial infarction.

BMJ Open , 2022, Volume 12

<https://doi.org/10.1136/bmjopen-2021-059610>



Obstetric tetanus in an immunized patient



Authors: Principe-Collazos, J., Ramos-Yataco, A., Uribe, A.G.G., Cahuayme-Zuniga, L., Arevalo, I., Delgado-Cáceres, F.M.

Abstract: Obstetric tetanus is defined as a *C. tetani* infection that occurs during pregnancy or within six weeks of delivery. In Peru, there are no reports of obstetric tetanus cases. Here we report a sixth case of obstetric tetanus in a puerperal woman who underwent curettage for postpartum hemorrhage, despite immunization against tetanus.

Keywords: Obstetric tetanus, Postpartum hemorrhage, Immunization

IDCases, 2022, Volume 29

<https://doi.org/10.1016/j.idcr.2022.e01568>



Surgical Treatment and Reconstruction of Nasal Defects According to the Aesthetic Subunits Principles



Authors: Núñez-Castañeda, J.M., Chang-Grozo, S.L.

Abstract: Abstract: The aim of this study was to determine the prevalence of nasal skin cancer, its location by facial aesthetic subunits and the type of reconstructive procedures performed for each nasal subunit after excision for nasal skin tumors. Observational cross-sectional study of all consecutive patients with the diagnosis of skin tumor located in the nasal unit, treated from 2018 to 2019 by the department of head and neck surgery of a general hospital. 60 patients were treated with nasal skin tumors excisions. A total of 52 patients (86,6%) had basal cell skin cancer, 7 (11,6%) had squamous cell skin cancer and 1 (1,6%) had melanoma. Fifty-nine patients (98.33%) presented a primary tumor and just 1 case (1,66%) received a previous surgical treatment. Regardless of the type of tumor, the tip subunit was the most often involved with 29 (48,33%) cases in total. Despite of the nasal aesthetic subunit affected, the most frequent type of procedure used for reconstruction was the rotation or advancement flap, based on aesthetic nasal subunits, which was performed in 39 cases (65%). Nasal reconstruction after skin cancer can be very complex, especially since all patients have high expectations about the results. In order to achieve good results, there is a necessity for careful analysis of the defect, correct planning and excellent technical execution of the procedures. Frequently, staged procedures will be needed to achieve an optimal result.

Keywords: Facial aesthetic units; Nasal reconstruction; Skin cancer.

Indian Journal of Otolaryngology and Head and Neck Surgery, 2022, Volume 74, pages: 305-313

<https://doi.org/10.1007/s12070-021-02475-2>



ETC Distance Learning Studies during COVID-19, a meta-analysis



Authors: Dreifuss-Serrano, C., Herrera, P.C.

Abstract: The recent increase in the amount of research on Distance Learning in Engineering, Technology, and Computing, produced by the adaptations in response to the sanitary emergency, makes it necessary to systematize, classify and analyze the current trends. This paper presents a meta-analysis of peer-reviewed papers written and published in the Iberoamerican region, regarding remote learning and distant teaching in ETC. Using PRISMA, we selected articles located in several academic repositories, which were classified in order to identify countries of origin, types of research (research, application, review), main keywords, and universities. The results were then analyzed to identify regional trends and possible lines of action to better ensure that the research efforts continue after the emergency.

Keywords: Analysis, application, distant learning, meta-análisis, PRISMA, Research, review

EDUNINE 2022 - 6th IEEE World Engineering Education Conference: Rethinking Engineering Education After COVID-19: A Path to the New Normal, Proceedings , 2022

<https://doi.org/10.1109/EDUNINE53672.2022.9782397>



The adaptation of brand communication on Facebook during the COVID-19 crisis



Authors: Tapia Pacheco, D.I., Arbaiza, F.

Abstract: As a result of the pandemic, many brands were forced to adapt their communication. Among the messages disseminated are those of an emotional, reflective, optimistic and even entertaining nature. This behavior has been analyzed by some authors, calling this adaptation of brand discourse to the reality of an existing crisis as Advertcrisis. The objective of this study is to analyze how KFC, Cinemark and Samsung adapted their communication on Facebook during the COVID-19 crisis. It should be noted that these brands market internationally; however, the study of their communication was based on the social networks they manage in Peru. Therefore, the study is subject to a national market. To do so, a comparative review of the messages before and during the crisis was carried out through a qualitative research based on the case study. The results were contrasted with theoretical reflections, obtaining as a result that the three brands were immersed in the scenario described by the Advertcrisis theory.

Keywords: COVID-19, Social networking (online), Pandemics, Reflection, Behavioral sciences, Information systems

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<https://doi.org/10.23919/CISTI54924.2022.9820391>



Network analysis of the relationships between conspiracy beliefs towards COVID-19 vaccine and symptoms of fear of COVID-19 in a sample of latin american countries



Authors: Caycho-Rodríguez, T., Ventura-León, J., Valencia, P.D., Vilca, L.W., Carbajal-León, C., Reyes-Bossio, M., Delgado-Campusano, M., Rojas-Jara, C., Polanco-Carrasco, R., Gallegos, M., Cervigni, M., Martino, P., Palacios, D.A., Moreta-Herrera, R., Samaniego-Pinho, A., Elías Lobos Rivera, M., Figares, A.B., Puerta-Cortés, D.X., Corrales-Reyes, I.E., Calderón, R., Tapia, B.P., Arias Gallegos, W.L., Petzold, O.

Abstract: The present study examined how conspiracy beliefs about COVID-19 vaccines specifically relate to symptoms of fear of COVID-19 in a sample of four South American countries. A total of 1785 people from Bolivia, Colombia, Ecuador, and Peru participated, responding to a sociodemographic survey, the Fear of COVID-19 scale (FCV-19 S) and the Vaccine Conspiracy Beliefs Scale-COVID-19 (VCBS-COVID-19). Network analysis identified the most important symptoms of fear and conspiracy beliefs about COVID-19 vaccines (nodes) and the associations between them (edges). In addition, the robustness of the network of these indicators of centrality and the possible differences in the structure and connectivity of the networks between the four countries were evaluated. The results suggest that the nodes with the highest centrality were items 2 and 5 of the FCV-19 S and item 2 of the VCBS-COVID-19. Likewise, item 6 is the belief that most predicts conspiracy beliefs about vaccines against COVID-19; while item 6 was the symptom that most predicts fear of COVID-19. The findings strongly support cross-cultural similarities in the networks across the four countries rather than differences.



Network analysis of the relationships between conspiracy beliefs towards COVID-19 vaccine and symptoms of fear of COVID-19 in a sample of latin american countries



Although it was expected that a higher presence of symptoms of fear of COVID-19 may lead people to compensate for their fear by believing in conspiratorial ideas about vaccines and, consequently, rejecting the COVID-19 vaccine, the results do not clearly show this relationship. This could lead other researchers to generate evidence to explain the differences between Latin American countries and countries in other contexts in terms of vaccination rates. This evidence could be useful to develop policies favoring vaccination against COVID-19 that are more contextualized to the Latin American region, characterized by social instability and economic recession during the pandemic.

Keywords: Conspiracy beliefs; Fear of COVID; Network analysis; Vaccines.

Current Psychology , 2022

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Risk Factors for Intensive Care Unit Admission Or Mortality In Adults Hospitalized For COVID-19 At High Altitude



Authors: Alva, N., Asqui, G., Alvarado, G.F., Muchica, F.

Abstract: **Objective.** To determine the risk factors for admission to the intensive care unit (ICU) or mortality in patients hospitalized for COVID-19 in a hospital in Puno, Peru. **Materials and methods.** Retrospective cohort study in adults hospitalized between April and December 2020. We evaluated Sociodemographic characteristics, vital functions, comorbidities, treatment received and its association with admission to ICU or mortality (adverse outcome). Poisson regression with robust variance was used to calculate crude and adjusted relative risks (RR) with their 95% confidence intervals (95%CI). **Results.** A total of 348 medical records were analyzed. The median age in years was 42.5 (IQR: 30.0; 58.0); 38.2% were male, and 35.3% died or were admitted to the ICU. Those admitted with an oxygen saturation $\leq 75\%$ were 2.79 times more likely to have the adverse outcome ($p < 0.001$), compared to those admitted with a saturation $\geq 85\%$; those admitted with a value between 75-79% were 2.92 times more likely to have the adverse outcome ($p < 0.001$); likewise, those admitted with saturation between 80-84% were 1.70 times more likely to have the adverse outcome; however, the difference was not statistically significant ($p=0.066$). In addition, male patients, $RR= 1.75$ ($p < 0.001$); those with tachypnea, $RR=1.66$ ($p=0.010$); or with diabetes, $RR = 1.53$ ($p=0.011$) had higher risk of presenting the adverse outcome.

Conclusions. The risk factors for ICU admission or mortality due to COVID-19 were male sex, age over 40 years, low saturation, diabetes and tachypnea.

Keywords: COVID-19; Mortality; Inpatients; Altitude; Oximetry (source: MeSH NLM).

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<https://doi.org/10.17843/rpmesp.2022.392.10721>



Mean Platelet Volume in Neonatal Sepsis: Meta-Analysis of Observational Studies



Authors: Toro-Huamanchumo, C.J., Cabanillas-Ramirez, C., Quispe-Vicuña, C., Caballero-Alvarado, J.A., León-Figueroa, D.A., Cruces-Tirado, N., Barboza, J.J.

Abstract: Introduction: Early onset neonatal sepsis (EONS), particularly in preterm sepsis, is a potentially fatal issue. Evaluation of mean platelet volume (MPV) as an EONS predictor was the goal. Methods: Four databases were used to conduct a systematic evaluation of cohort and case–control studies. Up till the end of October 2022, 137 articles were found utilizing the search method. Following the review, 12 studies were included. Leukocytes, MPV, platelets, gender, birth weight, gestational age, mortality, and C-reactive protein (CRP) were all taken into account while analyzing the prediction of EONS. Inverse-variance methodology and the random-effects model were used. Using GRADE, the evidence's quality was evaluated. Results: Neonatal patients with sepsis had significantly higher MPV levels than do neonates without sepsis (MD 1.26; 95% CI 0.89–1.63; $p < 0.001$). An increased MPV during the first 24 h postpartum was associated with high CRP values and high risk of neonatal mortality. In the investigations, the MPV cutoff for sepsis patients was 9.95 (SD 0.843). Overall certainty of the evidence was very low. Conclusions: The increased MPV during the first 24 h postpartum may be predictive of EONS and mortality. Future studies are warranted.

Keywords: Early onset sepsis; infant mortality; mean platelet volume; newborn; sepsis
Children, Volume 9, Issue 12, December 2022, Article number 1821

<https://doi.org/10.3390/children9121821>



Model to Assess the Level of Depression by Analyzing Facial Images and Voice of Patients



Authors: Ramos-Cuadros, A, Palomino-Santillan, L., Ugarte, W.

Abstract: Depression is considered as a common mental disorder, which is present in people of all ages causing a negative impact on different aspects of life such as mood, vitality, and interests in the enjoyment of activities, making them impossible in the long term, and in the most chronic cases can lead to suicide. Giving rise to the opportunity for collaboration between mental health specialists and the use of technological tools to support the evaluation of the level of depression to provide an optimal clinical diagnosis of the patient and an adequate referral to start treatment. In Peru, the COVID-19 epidemic has reduced physical contact and accessibility to health professionals in a timely manner, causing the patient's mental health to not be recognized or treated properly, which leads to the chronicity of the disease, to the psychological suffering, and the high costs that are required for special care. Thus, one of the challenges of this research is to implement a technological model that evaluates levels of recurrent depression by analyzing facial images and voice to detect the chronicity of depressive symptoms in young Peruvians. Our results show that in a simulated scenario, young patients were disposed to execute a self-administered questionnaire for depression having an optimal perception of satisfaction and usability on the mobile application based on the functionalities of the model.

Keywords: Depression, Facial Detection, Audio Analysis

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<https://doi.org/10.5220/0011034500003188>



Oral and general health conditions involved in periodontal status during pregnancy: a prospective cohort study



Authors: Gil-Montoya, J.A., Rivero-Blanco, T., Leon-Rios, X., Exposito-Ruiz, M., Pérez-Castillo, I., Aguilar-Cordero, M.J.

Abstract: Purpose: Pregnancy is a period in a woman's life that has important consequences on oral health, particularly for gingival health. Present study aims to identify women at higher risk of developing periodontal disease (gingivitis and periodontitis) during late pregnancy and evaluate how this condition evolves during this period. Methods: Prospective cohort study was designed with pregnant women who were assessed during the first and third trimesters of gestation in a southern Spanish public hospital. Data regarding gingival and periodontal health, oral hygiene, and overall health status (obesity and diabetes mellitus) were collected. Reporting followed STROBE checklist. Results: Significantly higher number of women had the periodontal and gingival disease in the third trimester of gestation compared with in early pregnancy. In the third trimester of gestation, 42 (28.6%) and 63 (42.9%) of women presented symptoms of periodontal disease and gingival disease, respectively. Obesity (OR 2.834; 95%CI 0.919–8.741), worse oral hygiene during the first trimester of gestation (OR: 4.031; 95%CI 2.12–7.65), and periodontal disease during early pregnancy (OR: 15.104; 95%CI 3.60–63.36) most effectively predicted periodontal disease during late pregnancy. Conclusions: Pregnancy is associated with exacerbated periodontal and gingival disease symptoms throughout the different trimesters of gestation. Obesity and oral hygiene during early pregnancy were the risk factors that most contributed to the aforementioned changes in periodontal disease.

Keywords: Obesity; Oral health; Oral hygiene; Pregnancy; Pregnancy-related periodontal status, Archives of Gynecology and Obstetrics

Diagnostic Performance of the Rapid Test for the Detection of NS1 Antigen and IGM and IGG anti-antibodies against dengue virus



Authors: Valdivia-Conroy, B., Vasquez-Calderón, J.M., Silva-Caso, W., Martins-Luna, J., Aguilar-Luis, M.A., Del Valle-Mendoza, J., Puyén, Z.M.

Abstract: Objectives. To assess the diagnostic performance of the SD dengue DUO rapid test (Inyecta) for the detection of NS1, IgM and IgG in comparison to the ELISA test. Materials and methods. This is a diagnostic test evaluation that included 286 serum samples from patients with symptomatology attributable to dengue from endemic areas of Peru. The samples were analyzed by ELISA and the SD dengue DUO rapid test (In-yecta) for IgM, NS1 and IgG at the Instituto de Investigación Nutricional in Lima. Results. The sensitivity of the rapid test was 68.0% for NS1 and IgM, and 86.0% for IgG, improving to 75.0% and 81.0% for NS1 and IgM, respectively, during the first three days. The specificity for all three analytes was greater than 87.0%. The concordance of the results, measured by the Kappa coefficient for the three analytes, was good and no cross-reaction with other arboviruses was found. Conclusions. The SD dengue DUO rapid test allows detection of NS1, IgM and IgG with adequate sensitivity and specificity. Sensitivity for IgM and NS1 increases when detected during the first three days of symptoms. Therefore, we recommend its implementation in primary care centers for early and timely diagnosis.

Keywords: Dengue; DENV (Source: MeSH NLM); Diagnosis; IgG; IgM; NS1 Antigen; Peru; Rapid Test

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<https://doi.org/10.17843/rpmesp.2022.394.11471>





Evaluation of three alternatives cost-effective culture media for *Mycobacterium tuberculosis* detection and drug susceptibility determination using the microscopic observation drug susceptibility (MODS) assay

Authors: Rodriguez, J., Alcántara, R., Rodríguez, J., Vargas, J., Roncal, E., Antiparra, R., Gilman, R.H, Grandjean, L., Moore, D., Zimic, M., Sheen, P.

Abstract: Tuberculosis phenotypic detection assays are commonly used in low-resource countries. Therefore, reliable detection methods are crucial for early diagnosis and treatment. The microscopic observation drug susceptibility (MODS) assay is a culture-based test to detect *Mycobacterium tuberculosis* and characterize drug resistance in 7–10 days directly from sputum. The use of MODS is limited by the availability of supplies necessary for preparing the enriched culture. In this study, we evaluated three dry culture media that are easier to produce and cheaper than the standard one used in MODS [1]: an unsterilized powder-based mixed (Boldú et al., 2007) [2], a sterile-lyophilized medium, and (Sengstake et al., 2017) [3] an irradiated powder-based mixed. Mycobacterial growth and drug susceptibility were evaluated for rifampin, isoniazid, and pyrazinamide (PZA). The alternative cultures were evaluated using 282 sputum samples with positive acid-fast smears. No significant differences were observed in the positivity test rates. The positivity time showed high correlations (ρ) of 0.925, 0.889, and 0.866 between each of the three alternative media and the standard. Susceptibility testing for MDR and PZA showed an excellent concordance of 1 compared to the reference test. These results demonstrate that dry culture media are appropriate and advantageous for use in MODS in low-resource settings.

Keywords: Dengue; DENV (Source: MeSH NLM); Diagnosis; IgG; IgM; NS1 Antigen; Peru; Rapid Test

Volume 137, December 2022 <https://doi.org/10.1016/j.tube.2022.102273>



Atherogenic index of plasma and coronary artery disease: A systematic review



Authors: Rodriguez, J., Alcántara, R., Rodríguez, J., Vargas, J., Roncal, E., Antiparra, R., Gilman, R.H, Grandjean, L., Moore, D., Zimic, M., Sheen, P.

Abstract: Various studies suggest that the atherogenic index of plasma (AIP) is associated with the risk of coronary artery disease (CAD) in different clinical scenarios. This review aimed to synthesize evidence of the association between AIP values and CAD. A literature search was carried out on four databases, namely, PubMed, Scopus, Web of Science, and Ovid-Medline. A handsearch was performed on preprint repositories (MedRxiv and Research Square). The effect measurements were expressed as odds ratios (OR) with their corresponding 95% confidence intervals (CI). For the quantitative synthesis, we employed a random-effects model. We analyzed 14 articles (with 40,902 participants) from seven different countries. The quantitative analysis revealed that an increase in one unit of AIP was associated with higher odds of developing CAD (OR 2.11; 95% CI 1.65–2.69; $P < 0.001$; $I^2 = 98\%$). We conducted subgroup analyses of Chinese (OR 1.89; 95% CI 1.40–2.56; $P < 0.001$) and non-Chinese studies (OR 2.51; 95% CI 1.42–4.42; $P < 0.001$). The sensitivity analysis by risk of bias continued to demonstrate an association, and the heterogeneity remained unchanged (OR 1.75; 95% CI 1.33–2.31; $P < 0.001$; $I^2 = 98\%$). Higher AIP values were associated with higher odds of developing CAD.

Keywords: Coronary disease, dyslipidemias, atherosclerosis, lipids, heart diseases

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Clinical phenotypes of multisystem inflammatory syndrome in children (MIS-C) associated with COVID-19



Authors: Alvarado-Gamarra, G., Del Aguila, O., Dominguez-Rojas, J., Chonlon-Murillo, K., Atamari-Anahui, N., Borcic, A., - Sánchez, S., Huamani-Echaccaya, P., Garcés-Ghilardi, R., Estupiñan-Vigil, M.

Abstract: The multisystem inflammatory syndrome in children associated with COVID-19 (MIS-C) is infrequent but potentially lethal. There are few reports of this disease and its phenotypes in Latin America. Objective(s) To describe the characteristics of the clinical phenotypes of MIS-C in hospitalized patients in Lima, Peru. Patients and Method:

A descriptive and retrospective study in patients under 14 years old with a diagnosis of MIS-C at the Hospital Nacional Edgardo Rebagliati Martins (Lima, Peru), from April 2020 to August 2021. Clinical-demographic and microbiological variables were recorded. According to these, patients with MIS-C were classified into the shock phenotype, Kawasaki disease (KD) without shock, and the fever and inflammation phenotype, analyzing their clinical outcomes. Result(s) 58 patients were analyzed. 32 (55.2%) presented the shock phenotype, 15 (25.8%) Kawasaki disease (KD) phenotype without shock, and 11 (19%) fever and inflammation phenotype. In the shock phenotype, 17 had KD. The mean age was 7 +/- 3.5 years and 67.2% were males. Gastrointestinal and mucocutaneous manifestations predominated in all phenotypes. The mortality was 3.5%. The frequency of coronary aneurysms was 10.2%. Most patients received immunomodulatory



Clinical phenotypes of multisystem inflammatory syndrome in children (MIS-C) associated with COVID-19



and antiplatelet treatment. Patients with shock phenotype showed greater involvement in inflammatory markers, hematological dysfunction, and myocardial injury, with a higher frequency of respiratory failure and invasive mechanical ventilation. Conclusion(s) In our case series, patients with shock phenotype were the most frequent and had worse clinical outcomes. Active surveillance of clinical phenotypes is needed to make an early diagnosis and management to improve the prognosis in these patients.

Keywords: Coronavirus; Pediatric Multisystemic Inflammatory Syndrome; Pediatrics; Shock; active surveillance; article; case study; child; clinical outcome; coronary artery aneurysm; coronavirus disease 2019; demography; early diagnosis; female; feve

Andes Pediátrica , Volumen 93(6), págs. 841-850, 2022.

<https://doi.org/10.32641/andespediatr.v93i6.4084>



Association between glycemic control and albuminuria among Peruvian adults with diabetes mellitus 2: a cross-sectional analytical study



Authors: Collazos-Huamán, L.D.C., Guerreros-Espino, C., Herrera-Añazco, P., Benites-Zapata, V.A.

Abstract: Background: Albuminuria is a risk factor for microvascular and macrovascular complications in the diabetic population. However, few studies have correlated poor glycemic control and albuminuria prevalence in Hispanic populations.

Objective: To evaluate the association between glycemic control and albuminuria among Peruvian adults with type 2 diabetes mellitus (T2DM).

Design and setting: Cross-sectional analytical study among adults with T2DM in Lima, Peru.

Methods: We included adults over 18 years old who were in a clinical follow-up program at a private clinic in Lima in 2018. Poor glycemic control was defined as a serum value of glycosylated hemoglobin A1C (HbA1C) $\geq 7\%$. Albuminuria was defined as albumin values ≥ 30 mg/dl in the first morning urine. We generated generalized linear regression models from the Poisson family with robust variance. We calculated the crude and adjusted prevalence ratios (PRs) with their 95% confidence interval (CI).



Association between glycemic control and albuminuria among Peruvian adults with diabetes mellitus 2: a cross-sectional analytical study



Results: We analyzed 907 participants of median age 58 years (interquartile range, IQR 49 to 66), and 62.8% were males. The prevalence of poor glycemic control was 39.8%, and the prevalence of albuminuria was 22.7%. The prevalences of albuminuria in groups with poor glycemic control and adequate glycemic control were 32.7% and 16.1%, respectively. In the adjusted regression analysis, we found a statistically significant association between poor glycemic control and albuminuria (annual percentage rate, aPR = 1.70; 95% CI: 1.28-2.27).

Conclusions: The prevalence of poor glycemic control and albuminuria was high in our study population. Moreover, Peruvian T2DM adults with poor glycemic control were more likely to have albuminuria.

Keywords: Diabetes mellitus; Albuminuria; Glycated hemoglobin A; Diabetes complications; Peru

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A Telemedicine and Telehealth Conceptual Managerial Framework: Opportunities, Challenges, and Trends in the Healthcare Promotion



Authors: Silva, L.S., Scavarda, A., Dias, A., Ramos, E., Esqueda, S.

Abstract: The combination of technology and medicine presents new opportunities to transform the provision of health services more effectively and sustainably. Telemedicine emerges as a tool to face the challenges of access to health, but it also faces challenges to be popularized among health professionals and the population. From an economic point of view, telemedicine can be seen as a way to increase the rate of preventive medicine, to reduce the high rate of hospital occupancy and worsening of diseases, reducing spending on hospitalizations and surgeries. And from a social perspective, it can democratize access to health services, offering more health care to reach more remote areas. The purpose of this article is to make a framework of the literature found at Scopus that relates the themes Telemedicine, Telehealth, and Latin America to analyze the participation of these concepts in health promotion. In view of the articles found, there was a low rate of publication in global journals, but several articles talking about the insertion of these concepts in the education of health professionals. Another important factor observed is how the technological structure and the socioeconomic vulnerability found in Latin America are points that need government assistance to be successful in the provision of health. And that the concepts of telemedicine and telehealth can help the country's development by reaching people and places where health care is scarce.

Keywords: Health assistance; Latin America; Social development; Telehealth; Telemedicine

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Associated factors to depression diagnosed during incarceration in Peruvian male prisoners: a sub-analysis of the national census of prison population



Authors: Al-kassab-Córdova, A., Silva-Perez, C., Quevedo-Ramirez, A., Mendoza Lugo, M.G., Azcarruz-Asencios, J., Castañeda-Montenegro, G., Bravo-Cucci, S., Maguina, J.L.

Abstract: Purpose: Depression has become a major health concern, particularly in developing countries. This disorder is highly prevalent among certain vulnerable populations, such as prisoners. In Peru, prisons are overcrowded, and the health of prisoners is neglected. Thus, this study aims to estimate the prevalence of depression diagnosed during incarceration in male inmates from all Peruvian prisons and assess its associated factors. Design/methodology/approach: A cross-sectional study was conducted based on the secondary data analysis of the National Census of Prison Population 2016 in Peru. This study included records of prisoners who reported whether they were diagnosed with depression by a health-care professional after admission into the prisons. Descriptive, bivariate and multivariable analyses were performed. Findings: Of the 63,312 prisoners included in this study, 1,007 reported an in-prison diagnosis of depression by a health-care professional, which represents a prevalence of 1.59%. Substance use disorder (adjusted prevalence ratio [aPR] 3.10; 95% confidence interval [CI]: 1.91–5.03), hypertension (aPR 7.20; 95% CI: 6.28–8.24) and previous discrimination (aPR 1.97; 95% CI: 1.62–2.40) were strongly associated with depression, even when adjusting for multiple confounders. Other directly associated variables were, for example, violence during childhood, infrequent visits in prison and diabetes. Originality/value: The right of prisoners to adequate health care is being neglected in Peru. Mental health is a cornerstone of health quality. Acknowledging which factors are associated with depression in prison is important to implement strategies to improve the mental health of prisoners.

Keywords: Correctional health care, Depression, Health in prison, Peru, Prison, Prisoners

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Development of 3D-Printed Orthopedic Insoles for Patients with Diabetes and Evaluation with Electronic Pressure Sensors



Authors: Zuñiga, J., Moscoso, M., Padilla-Huamantínco, P.G., Lazo-Porras, M., Tenorio-Mucha, J., Padilla-Huamantínco, W., Tincopa, J.P.

Abstract: The correct distribution of loads on foot, known as plantar pressures, is a relevant parameter for evaluating the evolution of some diseases. Anomalies can lead to pain and discomfort in other body parts. Diabetes changes foot tissues and compromises biomechanics, resulting in ulcers and, eventually, amputation. Customized insoles allow the re-distribution of plantar pressures and are a complementary strategy to diabetes management. Nowadays, scanning and 3D printing technology can generate faster and more accurate customized insoles opening new opportunities for local medical device development. This study reports the development of 3D-printed insoles using two polymers, thermoplastic polyether-polyurethane and thermoplastic polyurethane polyester-based polymer, and the evaluation of plantar pressure distribution in walk trials using a clinical protocol and low-cost electronic system. The two 3D-printed insoles performed as well as a standard insole. No significant difference was found in average peak pressure distribution. The digital manufacturing workflow of customized insoles can be implemented in middle-income countries. Three-dimensionally printed insoles have the potential for diabetes management, and further material evaluations are needed before using them in health facilities.

Keywords: Insoles; 3D printing; plantar pressure; electronic sensor

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Predicting mortality in pulmonary tuberculosis: A systematic review of prognostic models



Authors: Bert-Dulanto, A., Alarcón-Braga, E.A., Castillo-Soto, A., Escalante-Kanashiro, R.

Abstract: Background: Pulmonary tuberculosis is a highly prevalent disease in low-income countries; clinical prediction tools allow healthcare personnel to catalog patients with a higher risk of death in order to prioritize medical attention. Methodology: We conducted a literature search on prognostic models aimed to predict mortality in patients diagnosed with pulmonary tuberculosis. We included prospective and retrospective studies where prognostic models predicting mortality were either developed or validated in patients diagnosed with pulmonary tuberculosis. Three reviewers independently assessed the quality of the included studies using the PROBAST tool (Prediction model study Risk of Bias Assessment Tool). A narrative review of the characteristics of each model was conducted. Results: Six articles (n = 3553 patients) containing six prediction models were included in the review. Most studies (5 out of 6) were retrospective cohorts, only one study was a prospective case-control study. All the studies had a high risk of bias according to the PROBAST tool in the overall assessment. Regarding the applicability of the prediction models, three studies had a low concern of applicability, two high concern and one unclear concern. Five studies developed new prediction rules. In general, the presented models had a good discriminatory ability, with areas under the curve fluctuating between 0.65 up to 0.91. Conclusion: None of the prognostic models included in the review accurately predict mortality in patients with pulmonary tuberculosis, due to great heterogeneity in the population and a high risk of bias.

Keywords: Mortality; Prognostic models; Pulmonary tuberculosis; Systematic review; Tuberculosis

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Mobile Application: An Approach with the Analytical Hierarchy Process (AHP) for the Allocation and Generation of Dietary Plans



Authors: Pairazaman, L., Quispe, A., Wong, L.

Abstract: Obesity prevalence rates rise every year around the globe. This has become an alarming issue, due to the distress caused by the high probability of developing obesity in childhood which continues into adulthood, creating great health problems and even mortality. As a result, emerging technologies such as mobile applications have had a direct impact on the world of health, these rely on various specialized algorithms. This study seeks to propose an approach based on the Analytical Hierarchy Process (AHP), to assign and generate dietetic plans which will be used by nutritionists and patients. This approach consists of five phases: (1) anthropometric data definition, (2) macronutrients selection, (3) dietary meals dataset definition, (4) AHP definition (in order to obtain the best macronutrient and dietary meal) and (5) mobile application design. Two different experiments were conducted in a private medical entity, involving eight nutritionists and eight patients, who considered the following metrics: the “creation time of dietetic plans”, the “number of monthly revisions”, the “precision level” and the “satisfaction levels”. The results showed that mobile application users achieved significantly better outcomes in the assignation and generation of dietetic plans than those who used the traditional method.

Keywords: Measurement, Obesity, Technological innovation, Pediatrics, Analytic hierarchy process, Mobile applications, Resource management

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Deep Learning Algorithms in Chest Images for Pneumonia Detection



Authors: Porras, F.T., Rodriguez, C., Rodriguez, D., Lezama, P., Inquilla, R., Pomachagua, Y.

Abstract: Pneumonia has become the respiratory disease that continuously causes deaths in the world; as a response to this serious problem, a literature review is performed to identify Deep Learning classification models for pneumonia detection with an accuracy higher than 95%. For the identification of the models, different architectures such as InceptionV3, MobileNet, MobileNetV2 Xception, VGG16, VGG19, DenseNet201, NasnetMobile, CNN, and LSTM were evaluated. Although they all show very acceptable accuracy indicators, which justifies their evaluation for model identification, the datasets were evaluated with chest X-ray images in different categories. As a result, it was determined that ResNet152V2 achieved an accuracy of 99.22%, which is considered one of the best models for pneumonia detection.

Keywords: Deep learning, Training, Measurement, Computer languages, Pulmonary diseases, Bibliographies, Graphics processing units

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Telehealth Outpatient Monitoring of a SARS-CoV-2 Familial Cluster Infection in Peru: Adapting to a Healthcare Crisis



Authors: Arriola-Montenegro, J., Arriola-Montenegro, L., Beas, R., Díaz-Pardavé, C.

Abstract: The coronavirus disease 2019 (COVID-19) epidemic is evolving in Latin America despite implementation of government measures. We report a familial cluster in Lima, Peru, with confirmed severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection. Two young and two middle-aged adults with a wide range of COVID-19 manifestations experienced successful management under telehealth outpatient monitoring. Telehealth monitoring was scheduled as suggested by Peruvian Ministry of Health Guidelines and was performed by a designated physician who assessed the patients and prescribed treatment.

On May 14, 2020, a 25-year-old male, who worked treating COVID-19 patients, reported constitutional symptoms and tested positive for SARS-CoV-2. Clinical improvement was achieved with azithromycin and ivermectin therapy. He had been in contact with his parents (Cases 2 and 3) and his sister (Case 4). Cases 2 and 3 developed moderate pulmonary compromise requiring oxygen supplementation and pharmacological therapy, including corticosteroids and anticoagulation, under home medical assessment and telehealth monitoring. Case 4 developed mild symptoms and periorbital rash, an atypical dermatological finding.

To our knowledge this represents the first report of a familial cluster with COVID-19 that was successfully managed under scheduled telehealth outpatient monitoring in Latin America.

Keywords: SARS-CoV-2, COVID-19, case report, telemedicine, telehealth, teleconsultation, telehealth monitoring

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Asociation between nutritional status and depressive symptoms in a Peruvian adult population: A population-based study in Peru



Authors: Escalante-Ramírez, D., Bonilla, K., Maguiña, J.L.

Abstract: Introduction. Among the Peruvian population, the prevalence of overweight and obesity has increased, making it one of the main public health problems. There is also conflicting evidence on the association between increased BMI and depressive symptoms in the adult population.

Objective. To determine the association between nutritional status (NS) and depressive symptoms (DS) in the Peruvian population.

Method. We conducted a secondary data analysis of the Peruvian Demographic and Family Health Survey (ENDES). We assessed the NS according to body mass index (BMI), grouped into normal weight (BMI = 18.50 - 24.99), overweight (BMI = 25.00 - 29.99), 1A obesity (BMI = 30.00 - 32.49), and 1B obesity (BMI \geq 32.50). DS were assessed using the Patient Health Questionnaire (PHQ-9) instrument. A generalized linear model stratified by sex was constructed to calculate crude (cPRc) and adjusted (aPR) prevalence ratios.

Results. A total of 26,463 records of people aged 18-60 years were assessed, yielding a 6.3% prevalence of DS (\geq 10 points). Females had a higher frequency of DS than males, which increased depending on their NS: normal weight 7.8%,



Asociation between nutritional status and depressive symptoms in a Peruvian adult population: A population-based study in Peru



overweight 8.2%, 1A obesity 9.0%, and 1B obesity 12.0%. Likewise, in the multivariate analysis, women with 1B obesity reported a higher frequency of DS (aPR = 1.30; 95% CI = [1.03, 1.63]).

Discussion and conclusion. There is a strong association between nutritional status and depressive symptoms in Peruvian women, with obese women being more likely to have depressive symptoms.

Keywords: Nutritional status; depression; depressive symptoms; Peru

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Squamous Cell Carcinoma Arising from Chronic Osteomyelitis in the Extremities: Treatment Approach and Oncological Outcomes - A Systematic Review of the Literature



Authors: Bryce-Alberti, M., Gonzalez, M.R., Quevedo-Ramirez, A., Pretell-Mazzini, J.

Abstract: Aims. In chronic osteomyelitis-derived squamous cell carcinoma, what are the demographic and clinical variables, risk factors associated with worse outcomes, and results of treatment modalities used? Methods. A systematic review was performed using PubMed and EMBASE. Articles were evaluated for inclusion and exclusion criteria, and for quality analysis. PRISMA guidelines were applied. Demographic and clinical data and therapeutic approaches were presented narratively and in descriptive statistics registered at PROSPERO. Results. Most patients were male (40/49), trauma was the most common etiology (27/36), and about half of all SCC were in the tibia (25/48). Amputation was the main definitive treatment (42/47). Adjuvant treatments were not analyzed. Well-differentiated SCC accounted for 58.3% (21/36) of all tumors. Bone invasion was described in 82.8% (24/29); recurrence, in 7.7% (3/39); and metastasis, in 7.7% (3/39). Recurrence and metastasis occurred more frequently when bone invasion was present ($p=0.578$ and $p=0.646$, respectively). SCC with lymph node involvement showed a higher tendency to metastasize ($p=0.377$). Compared with limb salvage, am-



Squamous Cell Carcinoma Arising from Chronic Osteomyelitis in the Extremities: Treatment Approach and Oncological Outcomes - A Systematic Review of the Literature



putation was associated with a tendency for less recurrence ($p=0.312$) and longer survival ($p=0.219$). Conclusions. COM-derived SCC mostly occurs after trauma and is usually located in the tibia. Bone invasion is common, and patients predominantly undergo amputation. This treatment is associated with a trend toward higher survival, compared to limb salvage.

Keywords: Adult; aged; amputation; bone metastasis; cancer recurrence; cancer survival; chronic osteomyelitis; clinical article; clinical outcome; disarticulation; excision; female; finger amputation; foot amputation; hemipelvectomy; human; limb; limb salvage; lymph node; male; Preferred Reporting Items for Systematic Reviews and Meta-Analyses; Review; risk factor; squamous cell carcinoma; systematic review.

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Time-series analysis of seasonal patterns for pneumonia deaths in Peru, 2003-2017 period



Authors: Sánchez, C.A., Davila, C., Laura, W., Maguiña, C.

Abstract: Introduction. It is generally accepted that respiratory infections are seasonal, but high-frequency periods are rarely identified at the local level in a country with diverse climates. Anticipating the pneumonia season locally can provide a better use of critical resources. Objective. The aim of the study was to examine seasonal variability in monthly deaths due to pneumonia in Peru. Methods. Observational retrospective study using time series analysis to identify periods of high pneumonia mortality in seven cities in Peru. We reviewed administrative reports from the Ministry of Health for pneumonia deaths during 2003-2017. Descriptive statistics were calculated and a time series analysis at a monthly scale was performed on the frequency of deaths due to pneumonia, cumulative rainfall, and maximum and minimum environmental temperatures. Results: 94.4% of pneumonia deaths (N = 166,844) were reported as pneumonia due to “unspecified organism”, and 75.6% were adults older than 65 years. In the cities of Tarma, Arequipa and Cusco, minimum ambient temperature is negatively correlated to pneumonia deaths in all age groups and at least one risk group. In Iquitos, minimum temperature is positively correlated with deaths among children under 5 years of age. The cities of Pucallpa and Cajamarca reported no statistically significant correlation. The climate in Lima is a peculiar case. The distribution of pneumonia deaths throughout the year suggests a north-south sequence, while the climate space-time analysis suggests a south-north pattern. Conclusion: Results show different seasonal patterns for pneumonia deaths in different cities and risk groups.

Keywords: Pneumonia, Mortality, Climate, Seasons, Peru

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Convolutional Neural Networks on Assembling Classification Models to Detect Melanoma Skin Cancer



Authors: Vega-Huerta, H., Villanueva-Alarcón, R., Mauricio, D., Gamarra-Moreno, J., Calderon-Vilca, H.D., Rodriguez, D., Rodriguez, C.

Abstract: In 2020, there were more than 1.2 million new skin cancer diagnoses, and melanoma was the most recurrent type of cancer. On the other hand, melanoma is the least common but most serious form of skin cancer affecting both men and women. This work aims to assemble classification models to detect a case of melanoma with high accuracy based on a Convolutional Neural Networks system. The methodology considers training 21 models for image classification, with the best assembly performance of EfficientNet and VGG-19 architectures, the data augmentation technique was used to the images to improve its performance. The results show 92.85% of accuracy, 71.50% of sensitivity, and 94.89% of specificity, with an improvement of 0.06% in accuracy and specificity. The assembly of the classification models achieved higher accuracy in melanoma skin cancer image classification.

Keywords: Melanoma, skin cancer, convolutional neural networks, classification model, deep learning
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Technological Solution to Optimize the Monitoring of CoViD-19 Symptoms in Seniors Patients in Lima



Authors: Haro-Hoyo, S., Inga-Quillas, E., Ugarte, W.

Abstract: The aim of the article is to present the implementation of a technological solution based on the use of wearable that allows optimizing the monitoring process of elderly patients with CoViD19. This is a current big problem since the pandemic has make a lot of issues emerge for elderly patients. For instance, since elder people are more vulnerable for CoViD19, they require to avoid social contact or follow more strict rules for lockdowns. This work addresses and applies aspects from the use of IoT for the monitoring of elderly patients, application of technological models in real time, and the supervision of symptoms of CoViD19. Our results show the feasibility of our approach.

Keywords: CoViD19, Technological Solution, IoT, Monitoring, Patients.

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Factors Associated with Drug Consumption Without Scientific Evidence in Patients with Mild COVID-19 in Peru



Authors: Soriano-Moreno, D.R., Fernandez-Guzman, D., Sangster-Carrasco, L., Quispe-Vicuña, C., Grados-Espinoza, P., Ccami-Bernal, F., Morocho-Alburqueque, N., Coba-Villan, N., Velasquez-Fernandez, R., Nieto-Gutierrez, W.

Abstract: Objective: This study aimed to evaluate the factors associated with the consumption of drugs without scientific evidence in patients with mild COVID-19 infection in Peru.

Methods: An analytical cross-sectional study was carried out including 372 adult patients with a history of mild COVID-19 disease. Factors associated with drug consumption were evaluated by Poisson regressions with robust variance adjustment using the bootstrapping resampling method.

Results: Seventy-two percent consumed some medication without scientific evidence, with antibiotics (71%) and ivermectin for human use (68%) being the most commonly used. Factors associated with the consumption of drugs to treat mild COVID-19 infection were thinking that the drugs are not effective (adjusted prevalence ratio, 0.55; 95% confidence interval, 0.41-0.74) and not being informed about the efficacy of the drugs (adjusted prevalence ratio, 0.48; 95% confidence interval, 0.36-0.65).

Conclusions: Education of the population seems to be the main factor that increases the consumption of drugs without scientific evidence in the Peruvian population to treat mild COVID-19.

Keywords: Antibiotic; associated factors (source: MESH); COVID-19; drug therapy; ivermectin; SARS-CoV-2.

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Spatial distribution, determinants and trends of full vaccination coverage in children aged 12-59 months in Peru: A subanalysis of the Peruvian Demographic and Health Survey



Authors: Al-Kassab-Córdova, A., Silva-Perez, C., Maguiña, J.L.

Abstract: Objective To assess the spatial distribution, trends and determinants of crude full vaccination coverage (FVC) in children aged 12–59 months between 2010 and 2019 in Peru.

Design, setting and analysis A cross-sectional study based on the secondary data analysis of the 2010 and 2019 Peruvian Demographic and Health Surveys (DHSs) was conducted. Logit based multivariate decomposition analysis was employed to identify factors contributing to differences in FVC between 2010 and 2019. The spatial distribution of FVC in 2019 was evaluated through spatial autocorrelation (Global Moran's I), ordinary kriging interpolation (Gaussian process regression) and Bernoulli-based purely spatial scan statistic.

Outcome measure FVC, as crude coverage, was defined as having completely received BCG; three doses of diphtheria, pertussis, and tetanus, and polio vaccines; and measles vaccine by 12 months of age.

Participants A total of 5 751 and 14 144 children aged 12–59 months from 2010 and 2019 DHSs, respectively, were included. Results FVC increased from 53.62% (95% CI 51.75% to 55.49%) in 2010 to 75.86% (95% CI 74.84% to 76.85%) in 2019. Most of the increase (70.39%) was attributable to differences in coefficients effects. Family size, visit of health workers in



Spatial distribution, determinants and trends of full vaccination coverage in children aged 12-59 months in Peru: A subanalysis of the Peruvian Demographic and Health Survey



the last 12 months, age of the mother at first delivery, place of delivery and antenatal care follow-up were all significantly associated with the increase. The trend of FVC was non-linear and increased by 2.22% annually between 2010 and 2019. FVC distribution was heterogeneous at intradepartmental and interdepartmental level. Seven high-risk clusters of incomplete coverage were identified.

Conclusions Although FVC has increased in Peru, it still remains below the recommended threshold. The increase of FVC was mainly attributed to the change in the effects of the characteristics of the population. There was high heterogeneity across Peruvian regions with the presence of high-risk clusters. Interventions must be redirected to reduce these geographical disparities.

Keywords: Community child health; Epidemiology; Geographical mapping; Paediatric infectious disease & immunisation; Public health

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Evidence-Based Malaria Control and Elimination in the Amazon: Input from the International Center of Excellence in Malaria Research Network in Peru and Brazil



Authors: Ferreira, M.U., Gamboa, D., Torres, K., Rodriguez-Ferrucci, H., Soto-Calle, VeronicaE., Pardo, K., Fontoura, P.S., Tomko, S.S., Gazzinelli, R.T., Conn, J.E., Castro, M.C., Llanos-Cuentas, A., Vinetz, J.M.

Abstract: Malaria remains endemic in 17 countries in the Americas, where 723,000 cases were reported in 2019. The majority (>90%) of the regional malaria burden is found within the Amazon Basin, which includes nine countries and territories in South America. Locally generated evidence is critical to provide information to public health decision makers upon which the design of efficient and regionally directed malaria control and elimination programs can be built. *Plasmodium vivax* is the predominant malaria parasite in the Amazon Basin. This parasite species appears to be more resilient to malaria control strategies worldwide. Asymptomatic *Plasmodium* infections constitute a potentially infectious reservoir that is typically missed by routine microscopy-based surveillance and often remains untreated. The primary Amazonian malaria vector, *Nyssorhynchus* (formerly *Anopheles*) *darlingi*, has changed its behavior to feed and rest predominantly outdoors, reducing the efficiency of core vector control measures such as indoor residual spraying and distribution



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of long-lasting insecticide-treated bed nets. We review public health implications of recent field-based research carried out by the Amazonia International Center of Excellence in Malaria Research in Peru and Brazil. We discuss the relative role of traditional and novel tools and strategies for better malaria control and elimination across the Amazon, including improved diagnostic methods, new anti-relapse medicines, and biological larvicides, and emphasize the need to integrate research and public health policymaking.

Keywords: Animals; Anopheles; Brazil; Humans; Malaria; Mosquito Vectors; Peru

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