UNITED RESEARCH FORUM
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Global Congress on Public Health 2025

July 23-24, 2025 | Paris, France

Venue: Van der Valk Hotel Paris CDG Airport
351 Av. du Bois de la Pie, 95700 Roissy-en-France

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Day 1

WEDNESDAY

Global Congress on Public Health 2025

July 23-24, 2025 | Paris, France

Registrations & Opening Remarks (08:00-09:00)

Keynote Forum (09:00 - 10:30)

09:00-09:30--------

Title: Cellular and Molecular Causes of Pre-Pregnancy Diabetes-Induced Birth Defects

Mary Loeken, Joslin Diabetes Center/Harvard Medical School, United States

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09:30-10:00--------

Title: Can cleaning processes based on ozone be used for high-touch surfaces in nursing homes in areas critical for infection control?

Anne Marcic, Public Health Department of the State Capital Kiel, Germany

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10:00-10:30--------

Title: Evaluating the Use of Neonatal Colonization Screening for Empiric Antibiotic Therapy of Sepsis and Pneumonia

Patrick Morhart, Department of Neonatology and Pediatric intensive care, Germany

REFRESHMENT BREAK & GROUP PHOTO (10:30 - 10:50)

Technical Session-I (10:50 - 13:00)

Plenary talk (10:50-11:20)--------

Title: Professional care in painful neuropathy: a pivotal role of the nurse practitioner

Margot-Geerts, Maastricht University, The Netherlands

11:20-11:45--------

Title: Digital Toxicology Teleconsultation for Adult Poisoning Cases in Saudi Hospitals: A Nationwide Study

Maram Al-Otaiby, The Saudi Ministry of Health, Riyadh, Saudi Arabia

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11:45-12:10--------

Title: Climate and Climatic Variations' Impact on Lymphoedema: Patient Perspective

Susan Witt, Flinders University/ Foldi clinic, Germany

12:10-12:35--------

Title: Safety Culture Assessment in Primary Care Settings in Greece

Ioannis Antonakos, Medical School of the University of Athens, Greece

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12:35-13:00--------

Title: Bibliometric Analysis of Postgraduate Experimental Theses on Pediatric Obesity in Nursing

Mukaddes Demir Acar, Tokat Gaziosmanpasa University, Turkey

Lunch @ Restaurant (13:00- 13:50)

Poster Presentation (13:50-14:00)

Poster I--------

Title: Clinical Case Report: Severe Neonatal Jaundice due to ABO Incompatibility

Maria Helena Pimentel, Polytechnic Institute of Bragança (IPB), Portugal

Day 1

WEDNESDAY

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Technical Session-II (14:00-18:30)

14:00-14:25--------	**Title: Early Mobilization of Patients in the Intensive Care Unit: A Quality Improvement-Evidence-Based Project** **Judith Ann Manning,** New York City Health and Hospitals Corporation/Jacobi Medical Center, USA
14:25-14:50--------	**Title: SISTER (system implementation of select transfers in emergency room) model to reduce ED boarding** **Alan Cherney,** Thomas Jefferson University Hospital, USA
14:50-15:15--------	**Title: Secular Trends in Cytomegalovirus (CMV) Risk and Outcomes: Results from a 10-Year Longitudinal Cohort Study in Adult Kidney Transplant Recipients** **Amy Perry,** Ralph H. Johnson Veterans Affairs Healthcare System, USA
15:15-15:40--------	**Title: Psychosocial problems and nursing management in patients with epilepsy** **Kubra Yeni,** Ondokuz Mayis University, Turkey
15:40-16:05--------	**Title: Cerebral vascular accident: Comparison of knowledge acquired by nursing students** **Celeste Antão,** Polytechnic Institute of Bragança (IPB), Portugal

Refreshment BREAK (16:05-16:25)

16:25-16:50--------	**Title: Latent profile analysis of the flourishing level among clinical nurses in tertiary hospitals** **Kong Yunlian,** Nanjing Medical University, China
16:50-17:15--------	**Title: Evaluation of a Chronic Care Management Model for Improving Efficiency and Fiscal Sustainability** **Margaret Kadree,** Virginia Department of Health(VDH), USA
17:15-17:40--------	**Title: The effect of intensive care unit nurses' mental readiness on stress and patient safety performance** **Nicki Marquardt & Freda-Marie Hartung,** Rhine-Waal University of Applied Sciences, Germany

17:40-18:05--------

Title: Improving Patient Outcomes Through Patient-Provider Symmetry

James Wallace, University of South Florida, USA

Day 1 Concludes

Panel discussions

Day 2

THURSDAY

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Virtual Presentations (CET Time Zone)

09:30-09:50--------	**Title: Taking Paediatrics Abroad: Working with low- and middle-income countries in a global pandemic** **Kathryn Currow,** Taking Paediatrics Abroad/Australian College of Neonatal Nurses, Australia
09:50-10:10--------	**Title: Development of international guidelines by Tuina practitioners for specific acupoints of paediatrics Tuina (2022 version)** **Changhe YU,** Beijing University of Chinese Medicine, China
10:10-10:30--------	**Title: Effect of maternal knowledge of asthma management on quality of life and asthma control among children with asthma: a cross-sectional study** **Ali Aldirawi,** Central South University, China
10:30-10:50--------	**Title: Influence of exercise intervention on gestational diabetes mellitus: a systematic review and meta-analysis** **Junyi Zheng,** Chongqing General Hospital, China
10:50-11:10--------	**Title: Systematic literature review on the effects of blended learning in nursing education** **Arumugam Raman,** Universiti Utara Malaysia, Malaysia
Keynote 11:10-11:40--------	**Title: Comparision in stress among working women and non working women** **Shashi Prakash,** Sarojini Naidu Medical College, India
11:40-12:00--------	**Title: Effect of Screen Time on Duration & Quality of Sleep in Children** **Trupti Amol Joshi,** Government Medical College, Aurangabad, Maharashtra, India
12:00-12:20--------	**Title: The Medical Librarian`s Roles and activities in Patient Education Process: A Scoping Review** **Parvaneh Khorasani,** Isfahan University of Medical Sciences, Iran

Day 2

THURSDAY

Global Congress on Public Health 2025

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E-Posters (12:20-14:00)

E-01--------

Title: Utilization of Atomic Force Microscopy to Examine Surface Ultrastructural Changes in Bone Tissue Following Pulsed Electromagnetic Field Therapy for Osteoporosis in Rats

Deng Xiao, The Affiliated Rehabilitation Hospital of Chongqing Medical University, China

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E-02--------

Title: Exploring the Therapeutic Value of Yiqi Huoxue Qiangxin Decoction in the Treatment of Chronic Pulmonary Heart Disease

Biao Li, Chongqing Liang Jiang New Area Traditional Chinese Medicine Hospital, China

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E-03--------

Title: Association between secondhand smoke exposure and osteoporosis risk in postmenopausal women: a cross-sectional analysis of NHANES data

Dan Wan, Chongqing Hospital of Traditional Chinese Medicine, China

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E-04--------

Title: The relationship between vaginal flora changes and spontaneous abortion in early pregnancy at advanced age

Chan Huang, Women and Children's Hospital of Chongqing Medical University, China

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E-05--------

Title: The mechanism by which MALAT1/CREG1 regulates premature rupture of fetal membrane through autophagy mediated differentiation of amniotic fibroblasts

Ting Huang, Women and Children's Hospital of Chongqing Medical University, China

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E-06--------

Title: An insertion-deletion polymorphism in angiotensin-converting enzyme is associated with a reduced risk of preeclampsia: an evidence-based meta-analysis from 44 studies

Yu Yan, Women and Children's Hospital of Chongqing Medical University, China

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E-07--------

Title: The Effect of Oxytocin Combined with Carboprost Tromethamine on Blood Coagulation Function and Hemodynamics in Patients with Postpartum Hemorrhage

Qingqing Yang, Chongqing Traditional Chinese Medicine Hospital, China

E-08----------

Title: Thiopurine-Induced Mutagenesis at Methylated CpG Sites Drives TP53 R248Q Hotspot Mutations in Relapsed ALL

Xiaomeng Li, Shanghai Children's Medical Center Affiliated to Shanghai Jiao Tong University School of Medicine, China

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E-09----------

Title: From Subjective to Objective: The Rise of Automated Language Analysis in Schizophrenia Detection

Zeng Zhen, Chongqing Mental Health Center, China

E-10----------

Title: Knowledge, Attitudes, and Practices of Paediatric Advanced Life Support (PALS) among doctors in Lady Ridgeway Hospital for children, Sri Lanka

Antony Jacintha Antonypillai, GH Mullaitivu, Sri Lanka

E-11----------

Title: Clinical Efficacy of Modified Gancao Ganjiang Decoction Combined with Vitamin B12 on Recurrent Oral Ulcer

Yannan Chen, Chongqing General Hospital, China

E-12----------

Title: Exploring the Surgical Efficacy of Percutaneous Full Endoscopic Spine Surgery for Highly Migrated Lumbar Disc Herniation

Yidong Zhang, 958 Hospital of PLA Army, China

14:00-14:20--------

Title: Impact of a video based educational intervention on the levels of knowledge and concerns about Covid - 19 Vaccination

Mostafa A Abolfotouhi, King Saud bin-Abdulaziz University, Saudi arabia

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14:20-14:40--------

Title: Reflective Journaling, diagnostic reasoning, evidence based physical examination together with Gut Feelings and Empathy -a way forward to improve nursing care

Bernard Klemenz, GP LOCUM/ Royal College of General Practitioners, UK

14:40-15:00--------

Title: Effectiveness of Concept Mapping in Enhancing Knowledge Regarding Dengue Among Health Profession Students: A Quasi-Experimental Study

Shashi Prakash, Sarojini Naidu Medical College, India

15:00-15:20--------

Title: Efficacy of scopolamine transdermal patch in children with sialorrhea in a pediatric tertiary care hospital

Hazza Al Otaibi, King Saud bin-Abdulaziz University, Saudi arabia

15:20-15:40--------	**Title: Factors associated with total cholesterol and blood glucose levels among Afghan people aged 18–69 years old: Evidence from a national survey** **Giti Azim,** World Health Organization Country Office, Afghanistan
15:40-16:00--------	**Title: An Innovative Approach to Patient Education in Gynaecology and Obstetrics; Spotify** **Tuğba Öz,** Istanbul Beykent University, Turkey
16:00-16:20--------	**Title: The National Swedish Guideline on Immediate and Uninterrupted Skin-to-Skin Contact and Mother-Newborn Couplet Care** **Stina Klemming,** Lund-MalmÃ¶ NIDCAP Training and Research Center, Skayne University Hospital, Sweden
16:20-16:40--------	**Title:** Pediatricians' and Nurses' views on child participation in health services: A case study from Turkey **Tugce Akyol,** Afyon Kocatepe University, Turkey
Keynote 16:40-17:10--------	**Title: Designing and Managing Intelligent and Ethical Transformed Health and Social Care Ecosystems** **Bernd Blobel,** University of Regensburg, Germany
17:10-17:30--------	**Title: Features of ECG registration and interpretation in patients with amputated limbs** **Alexander Plakida,** Odessa National Medical University, Ukraine
17:30-17:50--------	**Title: Cognitive Assessment of Executive Functions in Tunisian School-Aged Children** **Sleh Eddine Saddi,** Mental Health Service, Mohamed Tahar Maamouri Hospital, Tunisia
17:50-18:10--------	**Title: Impact of the COVID-19 pandemic on the health situation of the Brazilian population** **Celia Landmann Szwarcwald,** Oswaldo Cruz Foundation, Rio de Janeiro, Brazil
18:10-18:30--------	**Title: Clinical Utility of Chromosomal Microarray in Detecting Cryptic Abnormalities in Myeloid and Lymphoid Malignancies** **Shivani Golem,** Hebron University, United States

18:30-18:50--------	**Title: Namaste Care: Helps People with Advanced Dementia Live Not Just Exist** **Joyce Simard,** University of Minnesota, Ithaca College Founder Namaste Care International, USA
18:50-19:10--------	**Title: Lessons from Binge Eating Disorder Experts on Environment, Mental Health, Clinical Factors and Treatment Options that Impact Eating Disorder** **Brenna Bray,** NourishED Research Foundation; National University of Natural Medicine; Naropa University, United States

conference concludes

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Anne Marcic[1], Axel Matthiessen[2], Albert Nienhaus[3,4], Jürgen Gebel[4], Carola Ilschner[4], Britt Hornei[5], Axel Kramer[6]

[1]Public Health Department of the State Capital Kiel, Germany
[2]Institute of Hospital- and Environmental Hygiene, University Clinic Schleswig-Holstein, Kiel, Germany
[3]Institution for Statutory Accident Insurance and Prevention in the Health and Welfare Ser-vices (BGW), Hamburg, Germany
[4]Association for Applied Hygiene, c/o Institute for Hygiene and Public Health, University Hospital, Bonn, Germany
[5]Clinical Hygiene and Institute for Laboratory Medicine and Clinical Microbiology, Evangel-ical Hospital Oberhausen, Germany
[6]Institut of Hospital Hygiene and Environmental Medicine, University Medicine Greifswald, Germany

Can cleaning processes based on ozone be used for high-touch surfaces in nursing homes in areas critical for infection control?

Keywords: Ozone, cleaning processes and disinfection, areas critical for infection control, confirmed efficacy

Abstract

The transmission of infections in nursing homes is a serious risk factor and a major cause of morbidity and mortality [1, 2, 3, 4, 5, 6,7]. Disinfecting surface cleaning is part of an infection prevention bundle in nursing homes [8]. Targeted surface disinfection is indicated, e.g. routinely when preparing clean work surfaces or after contamination in the residents' environment as well as in the event of outbreaks. According to the recommendation of the Commission for Hospital Hygiene and Infection Prevention (KRINKO) at the Robert Koch Institute (RKI) Berlin on the hygiene requirements for cleaning and disinfection of surfaces and to the additional KRINKO-statement on the special requirements for disinfectants in areas critical for infection control, procedures should be used that have been certified by the Association of Applied Hygiene (VAH) for the necessary spectrum of efficacy - or are listed accordingly in the disinfectant list of the Robert Koch Institute [9, 10].

Different ozone-containing products for the decontamination of surfaces are offered on the market, generated in circulating water by special electrodes. These products, based on stabilized ozone-containing water, are neither an approved biocidal product nor certified and listed as disinfection procedures by VAH. They are not marketed as biocides or certified disinfectants, but instead described as sanitizing systems “with germ-reducing effect”.

If the indication for surface disinfection according to the KRINKO recommendation [9] exists, the application of a method can only be justified if the product is approved as a biocide or registered as a medical device and the efficacy has been confirmed and certified according to the requirements of the VAH or the EN requirements in two manufacturer-independent expert opinions. This has not yet been achieved for methods based on stabilized ozone-containing water.

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Biography

I am a specialist in hygiene and environmental medicine and have been working in the field of hygiene and infection control for 29 years. After completing my specialist training at the University of Kiel, I worked for 5 years in the field of hospital hygiene and afterwards longtime at state level in the Schleswig-Holstein Ministry of Health before moving to the base of the public health service at Kiel in 2022. As a representative of the public health service, I am a member of the Commission for Practical Hygiene and have guest status on the Disinfectant Commission of the Association for Applied Hygiene (VAH).

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Celia Landmann Szwarcwald, Wanessa da Silva Almeida, Paulo R. Borges de Souza-Júnior

Institute of Scientific and Technological Communication and Information in Health, Oswaldo Cruz Foundation, Rio de Janeiro, Brazil.

Impact of the COVID-19 pandemic on the health situation of the Brazilian population

Introduction

The analysis of COVID-19 mortality revealed that the Brazilian population was critically impacted by the pandemic. This study aims to examine COVID-19-related morbidity and lifestyle changes two years after the onset of the pandemic.

Methods

A survey was conducted using an electronic questionnaire between 2022 and 2023. The sampling method used was virtual Respondent Driven Sampling (RDS). The proportion of individuals who tested positive for COVID-19 was estimated. Among these cases, we analyzed self-reported health status, COVID-19-related sequelae lasting three months or more (Long COVID), sleep disorders, and depressive symptoms based on the PHQ-9 scale. Lifestyle changes were also assessed.

Results

The sample included 4,193 individuals. Prevalence of confirmed SARS-CoV-2 infection was 36.8%. Among those infected, 5.3% required hospitalization; 31.8% reported Long COVID; and 21.3% reported a COVID-19-related illness. Additionally, 33.7% were unable to perform their usual activities for one month or more. Long COVID was associated with worsening self-rated health, sleep disorders, and severe feelings of depression. Regarding unhealthy behaviors, 10.8% increased cigarette consumption and 10.1% increased alcohol intake, both of which persisted in the post-pandemic period. Over 20% reported consuming three or more processed foods the day before the interview, and 13.4% reported a decrease in physical activity along with an increase in sedentary behaviors, particularly screen time.

Conclusions

In terms of morbidity, the health situation in Brazil was greatly affected by the pandemic, with worsening health perception and persistence of some COVID-19-related health problems. Furthermore, the rise in unhealthy behaviors is of concern for the control of noncommunicable diseases, which are responsible for a substantial part of premature deaths, functional limitations, and loss of quality of life.

Keywords: COVID-19, survey, morbidity, self-rated health, Long COVID, Brazil.

Biography

Graduated in Mathematics at the Pontifical Catholic University of Rio de Janeiro, has a Master of Science in Statistics and Mathematics at the University of Rochester, USA, a PhD in Public Health at the National School of Public Health, Brazil, and post-doctoral training in statistical spatial analysis at the Southern Methodist University, USA. Her research is in the area of Public Health, with an emphasis on Epidemiology, working mainly on the following topics: HIV/AIDS, COVID-19, vital statistics, development of probabilistic and web surveys, and health inequality. She currently coordinates the trachoma elimination validation survey in Brazil. Celia has more than 300 published papers in scientific journals.

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Dr. Maram Al-Otaiby

The Saudi Ministry of Health, Riyadh, Saudi Arabia.

Digital Toxicology Teleconsultation for Adult Poisoning Cases in Saudi Hospitals: A Nationwide Study

Background

Poisoning represents a significant global public health challenge, particularly with its complex manifestations in adult populations. This nationwide study analyzes hospital-based toxicology teleconsultation data from the Toxicology Consultation Service-Saudi Medical Appointments and Referrals Center to characterize the epidemiological patterns, clinical features, and outcomes of adult poisoning cases across Saudi regions.

Methods

We conducted a retrospective cross-sectional analysis of 6427 adult poisoning cases where hospitals sought teleconsultation from the Saudi Toxicology Consultation Service from January to December 2023. Descriptive statistics were used to analyze poisoning rates by demographic characteristics, agents responsible for the poisoning, clinical presentations, and management decisions. Population-adjusted rates were calculated using the national census data. Associations between variables were analyzed using cross-tabulations and chi-square tests.

Results

Young adults aged 18-35 years constituted most cases (58.67%), with the highest population-adjusted rates observed among those aged 18-24 (5.15 per 10,000). Medicine-related poisonings were the most common across all regions (50.04%), followed by bites and stings (15.31%). Regional analysis indicated relatively uniform poisoning rates across Business Units (BUs) (2.02-2.74 per 10,000). Most cases (87.44%) were asymptomatic, with 91.71% exhibiting normal Glasgow Coma Scale scores, although substance abuse cases had higher rate of severe manifestations (24.34%). Significant seasonal variations were observed ($p < 0.001$), with peak incidents occurring in the summer (29.25%). Management decisions primarily involved hospital observation (40.27%) and admission (30.34%), with agent-specific variations in care requirements ($p < 0.001$).

Conclusions

This comprehensive analysis demonstrates the effectiveness of Saudi Arabia's digital infrastructure in capturing and managing nationwide poisoning data. Our findings inform evidence-based recommendations for targeted prevention strategies, particularly for young adults and medicine-related poisonings, while establishing a scalable model for digital health-enabled poisoning management.

Keywords: Saudi Arabia; Adult Poisoning; Digital Health; Public Health; Telemedicine; Toxic Epidemiology.

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doi.org/10.51219/URForum.2025.Maram-Al-Otaiby

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Biography

Dr. Maram Al-Otaiby is a distinguished healthcare leader and molecular genetics expert, currently serving as the CEO of Health Support Services Center at the Ministry of Health, and CEO Advisor at the Health Holding Company, renowned for establishing critical healthcare infrastructure, advancing genomic research, and driving transformative initiatives during the COVID-19 pandemic. She previously held several leadership positions at King Saud University including Associate Professor of Medicine and Consultant in Molecular Genetics. Dr. Al-Otaiby received her BSc in Genetics from the University of Arkansas, before receiving her MSc in Biotechnology and a Ph.D. in Molecular Genetics Oncology from Georgetown University.

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Giti Azim, Hosna Hamidi, Mohammad Shafi Azim, Bahara Rasoly, Mohammad Hasher Azim, Sultan Ahmad Halimi, Mohamed Mostafa Tahoun, Jamshed Tanoli

World Health Organization Country Office, Kabul, Afghanistan

Factors associated with total cholesterol and blood glucose levels among Afghan people aged 18–69 years old: Evidence from a national survey

The objective of this study was to determine the associated factors of total cholesterol (TC) and blood glucose (BG) levels in people aged 18-69 years in Afghanistan. This was an analytical cross-sectional study using data from the NCD-STEPs survey 2018 in Afghanistan. The total sample size in the original study was 3,972, and a multi-stage cluster sampling method was used. TC and BG were the outcome variables for this study; simple and multiple linear regression were performed to find the associated factors for the outcome variables using a designed-based modeling incorporating sampling techniques and weights. The result of univariate linear regression analysis indicates that age, marital status, hypertension, and BMI are positively associated with TC and BG levels while education, salt intake, and any type of physical activity are negatively associated with TC and BG levels (p-values<0.05). Each year of age increases TC by 0.42 mg/dl and BG by 0.48 mg/dl; ever-married individuals have higher TC (21.8 mg/dl) and BG (8.8 mg/dl) levels; hypertension increases TC by 16.8 mg/dl and BG by 14.5 mg/dl; and higher BMI is associated with increased TC (1.3 mg/dl) and BG (0.9 mg/dl). Moreover, multivariate analysis using multiple linear regression indicates the same result; however, the results of marital status and gender are not significant with BG level and results of education levels, salt intake and any type of physical activity are not significant with TC levels. The finding of this study shows that TC and BG increase in people of older age categories, married people, people with hypertension, overweight, and obesity; while decreases in people with higher education, people who always take salt, and people who do physical exercise.

Keywords: cholesterol, blood sugar, hypertension, body mass index, diabetes mellitus, physical activity

Biography

Ms. Giti Azim is an accomplished public health professional with a Master of Public Health from Kabul Medical University and an ongoing MSc in Epidemiology from the London School of Hygiene and Tropical Medicine. She currently serves as an Outbreak Response Officer at WHO, Afghanistan, and has extensive experience in epidemiology, disease surveillance, and health information systems. Ms. Azim has been recognized with multiple awards for her contributions to public health research, including studies on cholesterol, blood glucose, and COVID-19. She has published in reputable journals like PLOS and BMJ and actively participates in international conferences and training programs.

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Zhen Zeng

Department of Psychiatry, Chongqing Mental Health Center, Chongqing, 400036, China

From Subjective to Objective: The Rise of Automated Language Analysis in Schizophrenia Detection

Language and speech are essential data sources for diagnosing and treating mental disorders, as they provide valuable insights into the organization and content of thought. Traditional approaches to language analysis largely depend on expert opinions, clinical rating scales, and manual linguistic analyses. However, these methods often lack objectivity, are time-consuming, and may be influenced by individual biases, limiting their scalability and reliability in large-scale clinical practice.

In recent years, with the advancement of artificial intelligence and natural language processing (NLP) techniques, it has become possible to extract linguistic features more efficiently and objectively. Automated analysis of language (AAL) refers to the use of computer programs to process and analyze natural language, whether spoken or written. Unlike traditional human-based assessments, AAL offers high objectivity by minimizing human biases, enables rapid and large-scale analysis, and supports the extraction of multi-level language features. Moreover, it can be applied across different modalities and platforms, making it highly versatile.

The general process of AAL involves collecting language data through free conversations, structured interviews, or written materials. This data is then analyzed to extract semantic, syntactic, and emotional features. When combined with machine learning algorithms, AAL can significantly improve the automatic detection, classification, and monitoring of mental disorders. Such data-driven approaches shift the assessment paradigm from subjective interpretation to objective, evidence-based evaluation, providing a scalable pathway for early identification, subtype diagnosis, and treatment response tracking.

Current studies have examined various linguistic dimensions, including lexical features (e.g., word frequency, vocabulary richness, specific word categories), syntactic features (e.g., sentence length, syntactic complexity, part-of-speech tagging), and semantic features (e.g., semantic coherence, referential cohesion, poverty of content, and metaphorical language). Analytical techniques such as latent semantic analysis (LSA) and part-of-speech tagging analyses have demonstrated high accuracy in distinguishing individuals with schizophrenia from healthy controls, and in predicting outcomes in clinical high-risk (CHR) populations.

With the emergence of advanced language models like ChatGPT, there is increasing potential to develop AI prediction models that integrate multimodal features, including language, speech, facial expressions, and behavioral patterns. These multimodal AI systems are expected to enhance the early detection of schizophrenia, improve understanding of its underlying mechanisms, and facilitate comprehensive characterization of its pathological features. Ultimately, this progress will drive forward the field of digital mental health and support more personalized, precise, and proactive mental health care.

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Key words: Prodromal phase of schizophrenia, linguistic features, machine learning and natural language analysis, early identification and screening

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Xiaomeng Li

Department of Hematology and Oncology,Shanghai Children's Medical Center Affiliated to Shanghai Jiao Tong University School of Medicine

Thiopurine-Induced Mutagenesis at Methylated CpG Sites Drives TP53 R248Q Hotspot Mutations in Relapsed ALL

Background

Acute lymphoblastic leukemia (ALL), the most common childhood hematological malignancy, faces a critical challenge of chemoresistance driven by therapy-induced genomic instability. Thiopurines, cornerstone drugs in ALL maintenance therapy, promote this instability and relapse-associated mutations, especially in mismatch repair-deficient (dMMR) patients. Notably, TP53 hotspot mutations like R248Q are significantly enriched at relapse. However, the molecular mechanisms driving this specific enrichment during thiopurine treatment, particularly at methylated CpG sites, remain unclear.

Objective

This study aims to elucidate the mechanism underlying the enrichment of TP53 R248Q hotspot mutations in ALL relapse and to explore potential intervention strategies.

Result

Acute lymphoblastic leukemia (ALL) relapse is frequently driven by chemoresistance mutations. To clarify the basis of TP53 R248Q enrichment, we first confirmed its significant overrepresentation at relapse (4.5% at diagnosis vs. 21.2% at relapse, P=0.005). To identify the mutational processes driving this enrichment, multi-omics analysis of relapsed ALL cohorts revealed that thiopurine treatment synergizes with dMMR to generate a distinct mutational signature (thio-dMMR), characterized by preferential C>T mutations at methylated CpG sites—aligning with the methylated CpG focus in the background. To directly test whether DNA methylation contributes to this CpG-specific mutagenesis. Functional experiments demonstrated that: DNA methylation critically regulates mutagenesis: 5-Methylcytosine (5mC) at CpG sites promotes thiopurine-induced C>T mutations. Targeted demethylation or DNMT inhibition (e.g., Decitabine/DAC) significantly suppresses mutation burden ($P<2.2\times10^{-16}$ for methylated vs. unmethylated CpG sites).

Therapeutic intervention

Given that methylation drives mutagenesis, combining DAC with thiopurine reduces CpG methylation and inhibits the acquisition of R248Q-mediated multidrug resistance, providing a strategy to prevent relapse evolution.

Conclusion

This methylation-dependent mutagenesis mechanism elucidates the genomic basis of TP53 hotspot mutations in relapsed ALL and offers actionable targets to overcome therapy-induced resistance.

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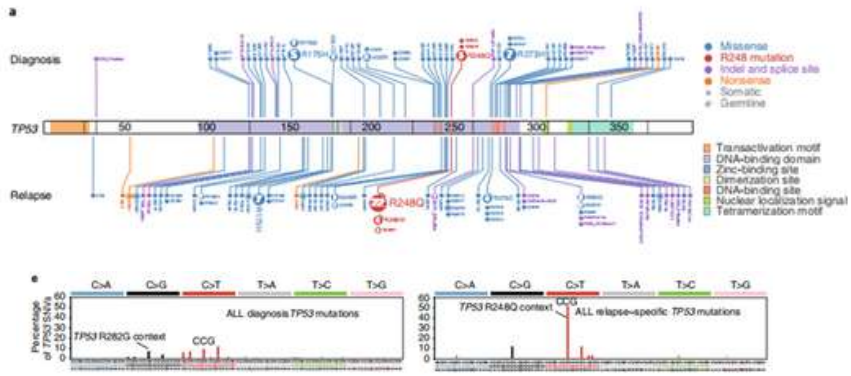
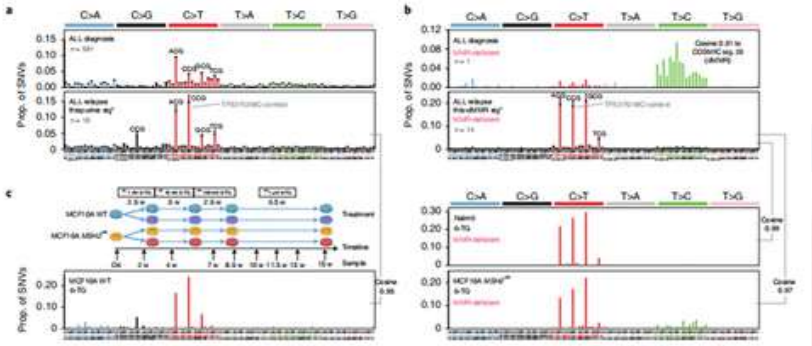
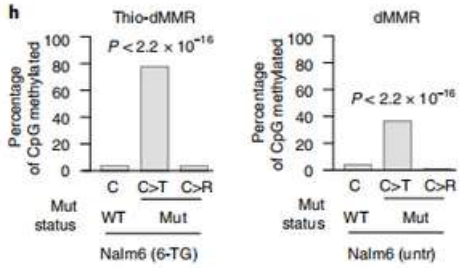
doi.org/10.51219/URForum.2025.Xiaomeng-Li

1. 强调TP53 R248Q在复发ALL中的富集（Fig 1a,e）

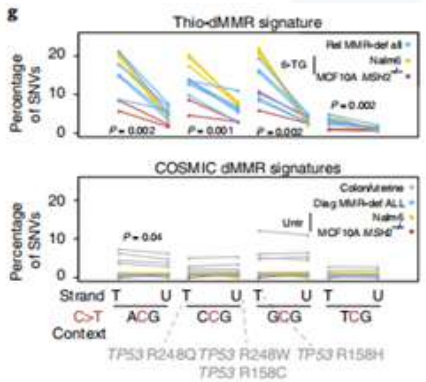


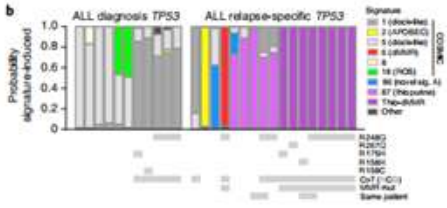
2. Thio-dMMR特征驱动甲基化CpG位点的C>T突变





3. DNA甲基化调控诱变：5mC促进突变，DAC抑制突变负担(2g,3h)





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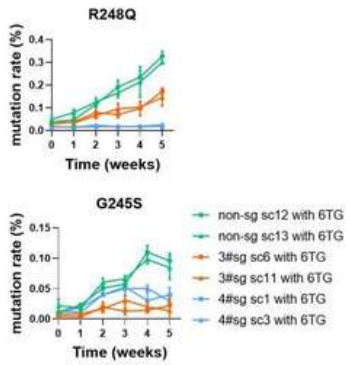
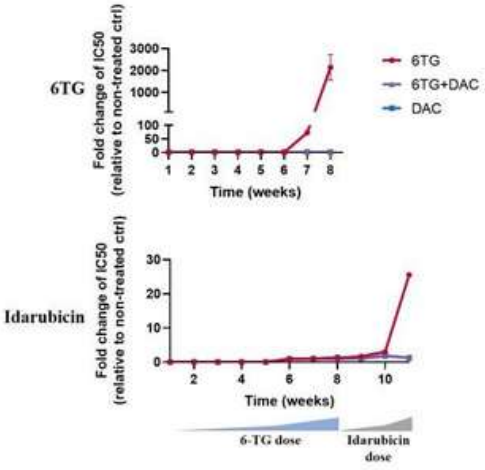
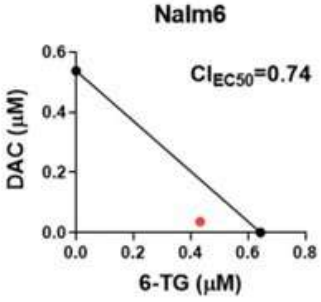
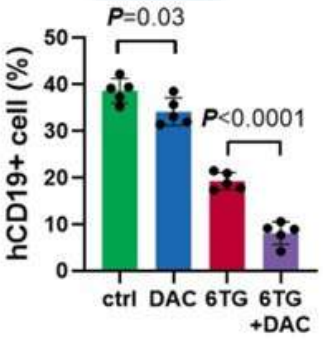


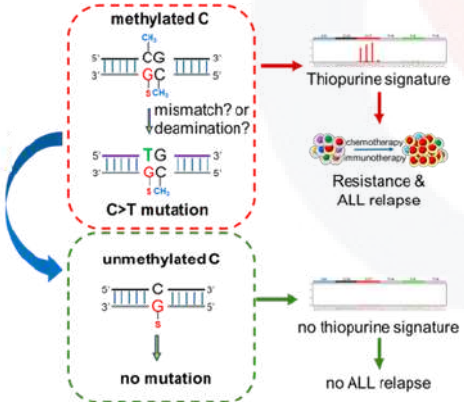
4. Therapeutic intervention







5. Conclusion



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Global Congress on Public Health 2025

July 23-24, 2025 | Paris, France

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The Effect of Oxytocin Combined with Carboprost Tromethamine on Blood Coagulation Function and Hemodynamics in Patients with Postpartum Hemorrhage

Objective

To study the effect of oxytocin combined with carboprost tromethamine on blood coagulation function and hemodynam- ics in patients with postpartum hemorrhage.

Methods

126 cases of postpartum hemorrhage admitted in our hospital from January 2014 to April 2017 were selected. The patients were divided into the control group (n=63) and the research group (n=63) according to random number table method, the control group was treated with oxytocin, the study group was treated with oxytocin combined with carboprost tromethamine. The conditions of postpartum hemorrhage, blood coagulation and hemodynamics of two groups were observed and compared, at the same time, at the same time, the quality of life and the incidence of adverse reactions were observed in the two groups of patients.

Results

The incidence of postpartum hemorrhage, the amount of postpartum 2 h bleeding and postpartum 24 h bleeding after postpartum in the research groupwere significantly lower than that in the control group ($P<0.05$). There was no significant difference in activated partial thromboplastin time(APTT), prothrombin time (PT), thrombin time (TT), fibrinogen (Fg)between the two groups ($P>0.05$). After treatment for 2 h, the heart rate (HR) of the two groups was higher than that before treatment, and the control group was higher than the research group, the systolic pressure (SBP) and diastolic pressure (DBP) were lower than those before treatment, and the control group was lower than the research group ($P<0.05$). The SBP in the research group after treatment for 24 h was higher than that of the control group ($P<0.05$). There was no significant difference in blood oxygen saturation (SPO2) between the two groups at different time ($P>0.05$). The scores of physical function, mental health, emotional function, social activities and social function in the research group were significantly higher than those in the control group ($P<0.05$). The incidence of adverse reactions in the control group was 7.94%, and there was no significant difference compared with the 6.35% in the research group ($P>0.05$).

Conclusion

Oxytocin combined with romethamine can effectively reduce the incidence of postpartum hemorrhage, maintain maternal hemodynamic stability, and have no influence on maternal coagulation function, high quality of life score, which is worthy of clinical promotion.

Keywords: Oxytocin; Carboprost Tromethamine; Postpartum hemorrhage; Coagulation function; Hemodynamics

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July 23-24, 2025 | Paris, France

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The relationship between vaginal flora changes and spontaneous abortion in early pregnancy at advanced age

Objective

To investigate the relationship between vaginal flora change and spontaneous abortion in pregnant women during early pregnancy at advanced maternal age.

Methods

Two hundred and fourteen pregnant women of advanced age in early pregnancy, 214 women of the same age group and 214 early pregnant women at age of ＜35 years were set as group A, group B and group C, respectively. The relative abundance, density and diversity of vaginal flora at genus level were detected. Follow-up was carried out till the end of pregnancy. The spontaneous abortion rates in the group A and group C were recorded. The influencing factors of spontaneous abortion in early pregnant women of advanced age was analyzed.

Results

Therelative abundances of Lactobacillus and Prevotella in thegroup A werelower (P＜0.001),while those of Mirabilis and Gardnerella were higher than those in the group B and group C, respectively (P＜0.001). The density of vaginal microflora grade I/IV, Chao index and Shannon-Wiener index in group A were higher than those in group B and group C, respectively (P＜0.05). The spontaneous abortion rate in the group A was 25.2%; the relative abundances of Mirabilis and Gardnerella were higher (P＜0.05), while those of Lactobacillus and Prevotella were lower than those in the non abortion group (P＜0.05), respectively, but the density I/IV, Chao index and Shannon-Wiener index were higher than those in the non-abortion group (P＜0.05). The relative abundances Mirabilis and Gardnerella of women with spontaneous abortionin group A were higher(P＜0.05),while those of Lactobacillus and Prevotella were lowerthan those in group C respectively (P＜0.05), but the density I/IV, Chao index and Shannon-Wiener index were higher than those in group C (P＜0.05), respectively. Multivariate logistic regression analysis showed that Lactobacillus, Prevotella, Mirabilis, Gardnerella, grade I/IV density, Chao index, Shannon-Wiener index, abortion history and self rating anxiety scale score ≥50 pointswere the influencingfactors of spontaneousabortion in earlypregnant women ofadvanced age (P＜0.05).

Conclusion

The amount of beneficial bacteria in the vagina of advanced pregnant women in the early stage decrease, and the density and diversity increase. The imbalance of vaginal flora may increase the risk of spontaneous abortion.

Keywords: Aged pregnant women; Early pregnancy; Vaginal flora; spontaneous abortion

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Global Congress on Public Health 2025

July 23-24, 2025 | Paris, France

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An insertion-deletion polymorphism in angiotensin-converting enzyme is associated with a reduced risk of preeclampsia: an evidence-based meta-analysis from 44 studies

Objective

An updated meta-analysis was performed to evaluate the relationship between an insertion/deletion (I/D) polymorphism in angiotensin-converting enzyme (ACE) and preeclampsia (PE) risk.

Methods

Pubmed, OVID and China National Knowledge Infrastructure databases were searched. Pooled odds ratios with 95% confidence intervals were calculated using fixed-effects or random effects model.

Results

ACE I/D polymorphism decreased the risk of PE in overall analysis. Subgroup analysis revealed a significantly lower risk of PE with ACE I/D polymorphism in Asians, Caucasians. The decreased risk was also found in severe PE and early-onset PE.

Conclusion

ACE I/D polymorphism may protect against the development of PE.

Keywords: Angiotensin-converting enzyme; polymorphism; preeclampsia; meta-analysis

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The mechanism by which MALAT1/CREG1 regulates premature rupture of fetal membrane through autophagy mediated differentiation of amniotic fibroblasts

Background

Premature rupture of fetal membrane (PROM) is one of the main causes of premature delivery. The amniotic membrane plays a major role in bearing weight, and amniotic fibroblasts play an important role. The purpose of this study was to explore the scientific problems associated with amniotic membrane repair by intervening with fibroblasts to provide evidence for the clinical treatment of PROM.

Methods

This research group conducted experiments on fetal membrane tissue via single-cell sequencing, Sirius staining, fluorescence staining and Raman spectroscopy to explore changes in fetal membrane structure and verified key targets and pathways in clinical tissues and primary fibroblasts through WB, PCR, RNA Pulldown, RIP and molecular docking experiments.

Results

The fetal membrane structure in the PROM group was obviously damaged, and the amniotic fibroblasts were activated and autophagy was activated, and the activated autophagy promoted the activation of fibroblasts. The expression of Metastasis-Associated Lung Adenocarcinoma Transcript 1 (MALAT1) was significantly increased in amniotic fibroblasts. RNA PULL DOWN and molecular docking results suggested that MALAT1 binds to human E1A promoter repressor 1 (CREG1) and promotes autophagy.

Conclusions

By interacting with CREG1, MALAT1 can increase the expression of CREG1, regulate the expression of autophagy-related molecules, mediate the differentiation of amniotic fibroblasts into myofibroblasts, partic ipate in amniotic repair, and promote the repair of PROM fetal membrane tissue.

Keywords: Premature rupture of fetal membrane; Metastasis-associated lung adenocarcinoma transcript 1; Autophagy Fibroblasts

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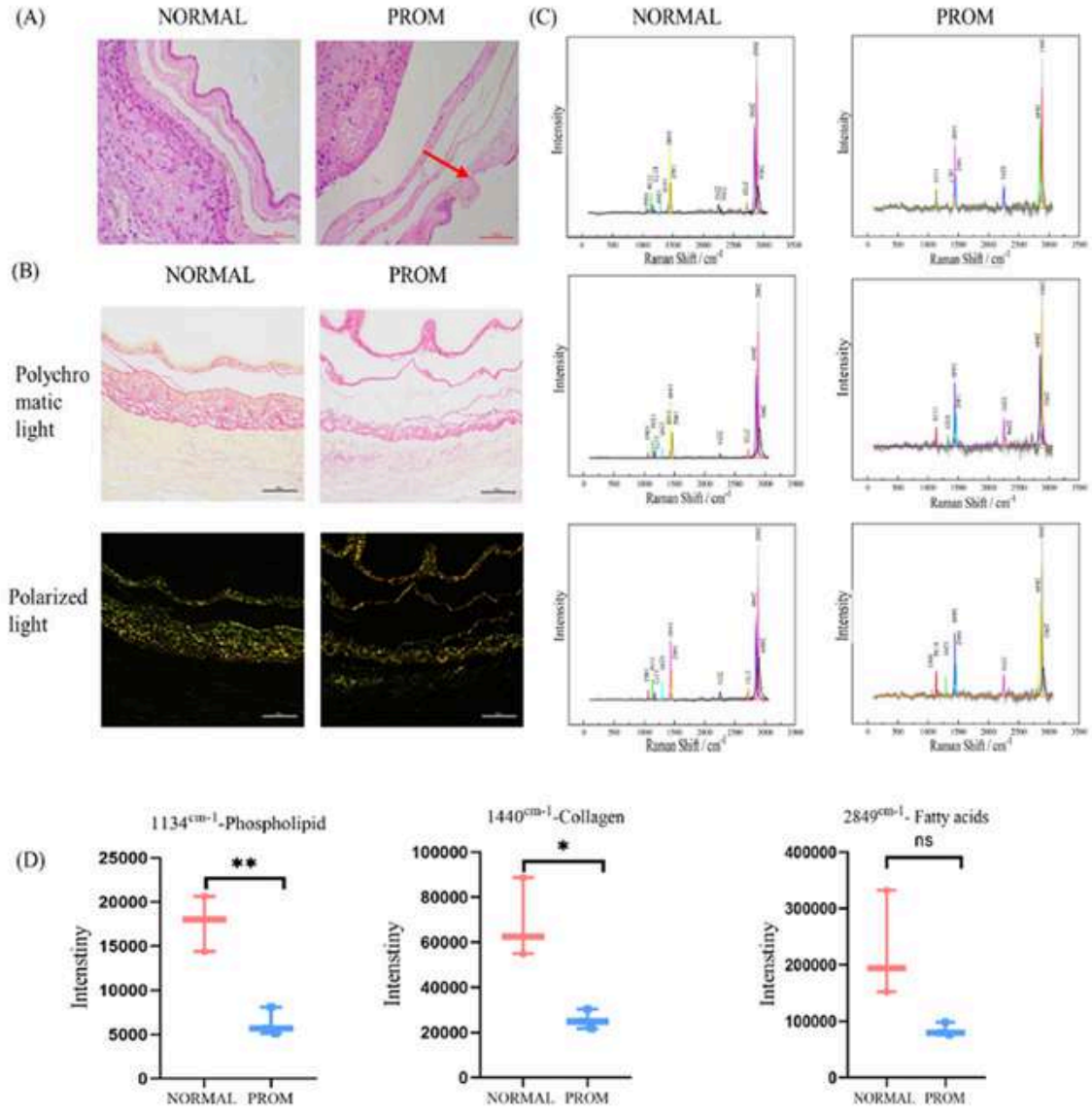

Fig. 1. Structural anomaly of premature rupture of membranes.
(A) Representative images of HE staining of fetal membrane tissue, and red arrows indicate defects, 20X. (B) Representative images of Sirius staining of fetal membrane tissue, 20X. (C) Raman spectrogram of amniotic tissue. (D) Statistical Raman spectra of amniotic tissue (phospholipids, collagen, and fatty acids).

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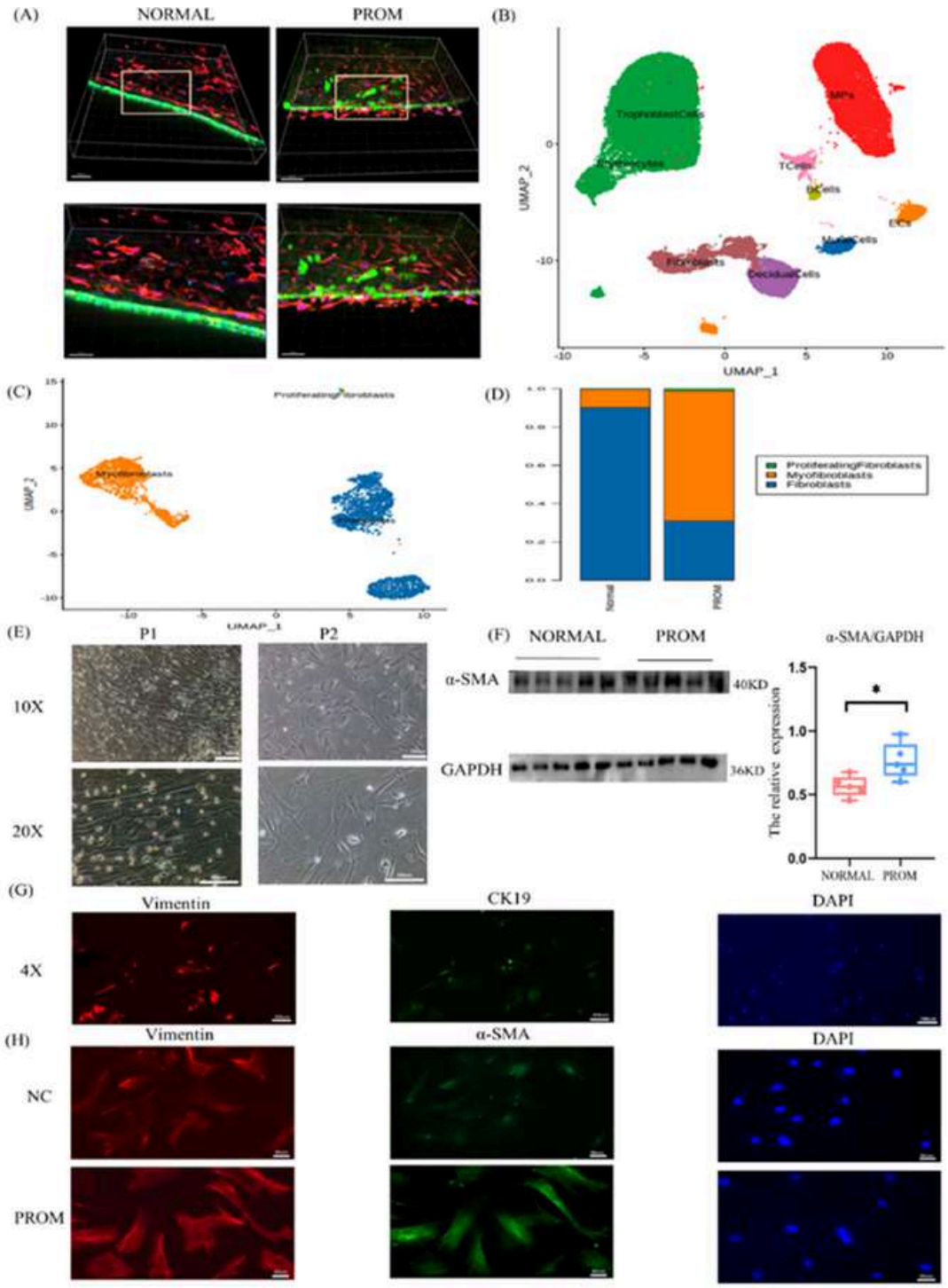

Fig. 2. Analysis and verification of single-cell RNA sequencing data.
(A) Representative images of fluorescent confocal 3D imaging of amniotic tissue showing structural abnormalities of amniotic cells in the PROM group. Green: CK19 (epithelial cell marker); red: vimentin (fibroblast marker); blue: DAPI. (B) Nine cell subtypes were obtained by cluster analysis of fetal membrane cells. (C) UMAP of fibroblast clusters from the NORMAL group and PROM group, 3 subpopulations with a total of 3023 cells were obtained by detection clustering. They are fibroblasts, myofibroblasts and proliferating fibroblasts. (D) The bar chart shows the proportion of fibroblast clusters in the NORMAL and PROM groups. (E) Representative images of the morphology of primary amniotic fibroblasts. (F) WB results showing the expression of the α-SMA in the NORMAL and PROM groups. (G) Representative images of cellular immunofluorescence, 4X. Red: vimentin; green: CK19; blue: DAPI. (H) Representative images of cellular immunofluorescence, 20X. Red: vimentin; green: α-SMA; blue: DAPI.

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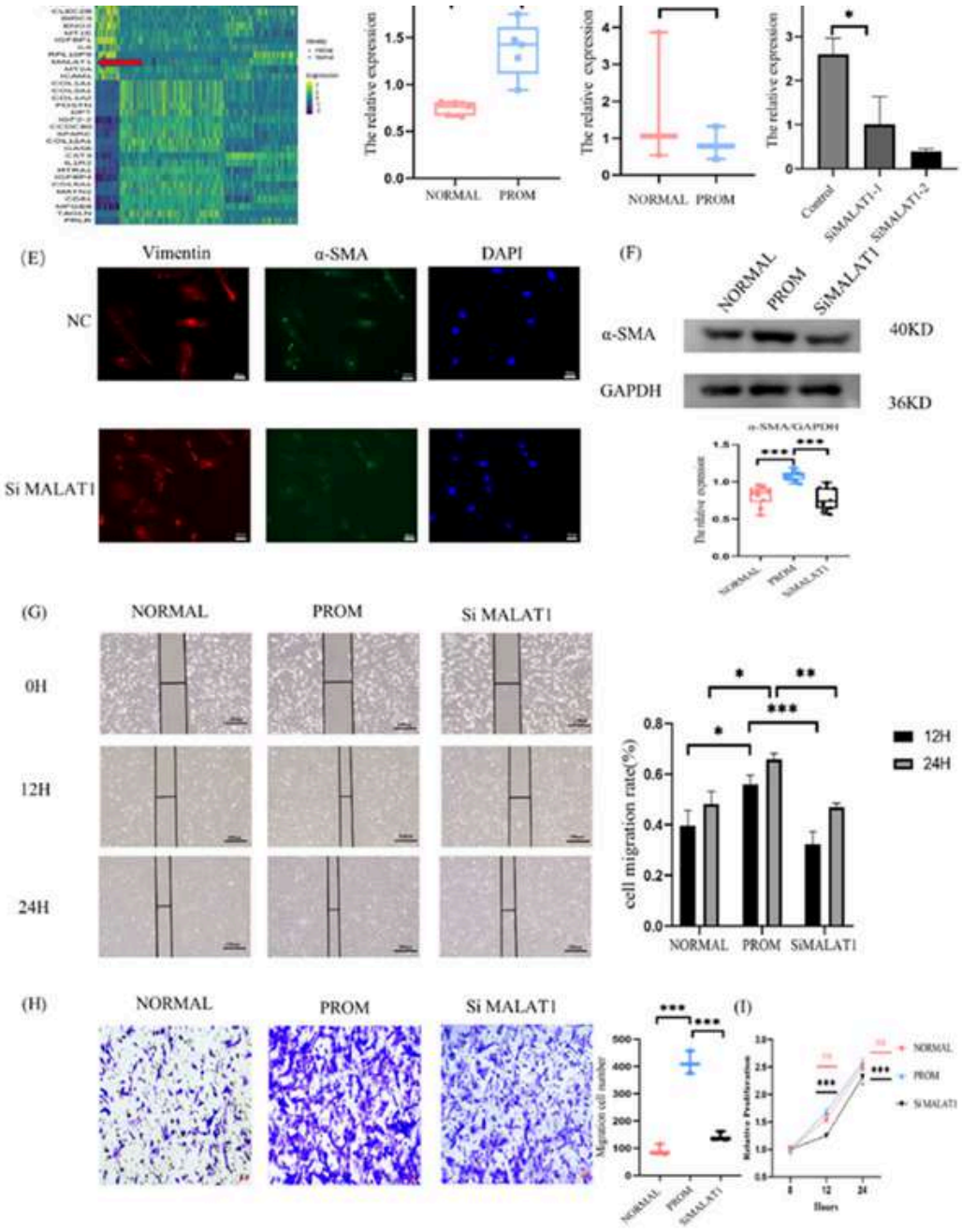

Fig. 3. MALAT1 promotes fibroblast transformation.
(A) Heat maps showed the top 20 up-regulated and down-regulated differentially expressed genes in NORMAL and PROM composed fibrocytes. (B) Q-PCR results indicating that the expression of MALAT1 in amniotic tissue was significantly increased, n = 5. (C) Q-PCR results indicating that there was no significant difference in the expression of MALAT1 in chorionic tissue, n = 3. (D) Q-PCR was used to detect the mRNA expression of cells after MALAT1 knockout, n = 3. (E) Representative

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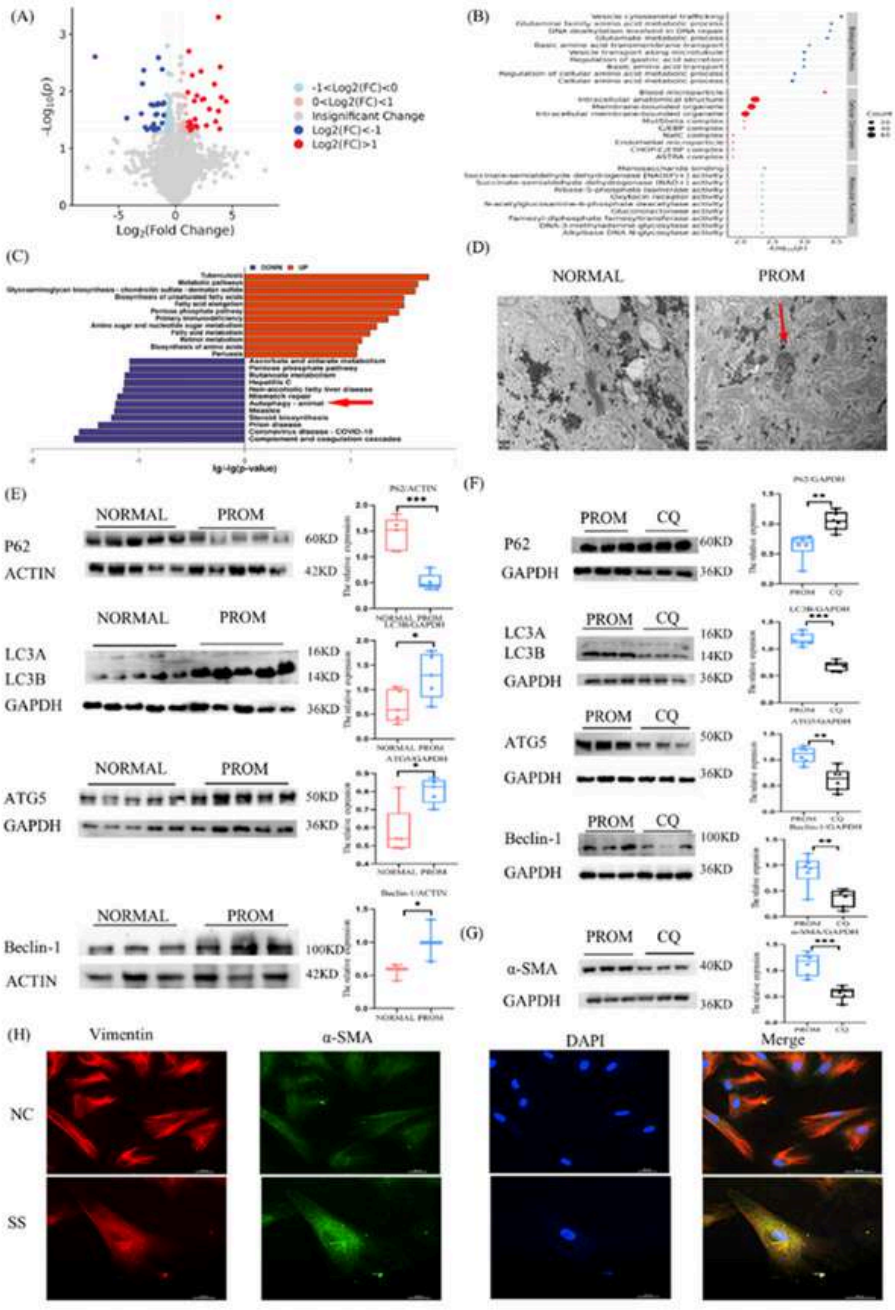

Fig. 4. Relationship between autophagy and fibroblast transformation.
(A) For the volcano map of the SiRNA vs NC group, the horizontal coordinate is the logarithmic transformation of FC, and the vertical coordinate is the negative logarithmic transformation of the p value. The red dots represent the significantly highly expressed proteins, and the darker the color is the higher the upregulation ratio. The blue dots represent significantly lower protein expression, and the darker the color is the greater the downregulation ratio. The gray dots represent non-differentially expressed proteins. (B) GO functional enrichment bubble diagram, showing the top 10 terms significantly enriched with differentially expressed under the three branches of BP, MF and CC. The horizontal coordinate is the negative logarithmic transformation of the enrichment significance p-value, and the vertical coordinate is the GO term. Each circle represents a term, and the size of the circle represents the count. (C) The KEGG pathway with the top 12 enrichment significance is represented by logarithmic (downregulated) and negative logarithmic (upregulated) transformation of p value at the horizontal coordinate, with blue columns representing downregulated protein enrichment pathways and red columns representing upregulated protein enrichment pathways (arrows indicating autophagy pathways). (D) Autophagosomes (arrow indicating autophagosomes) were observed in the TEM of amniotic tissue from patients with PROM. (E) WB results showing the expression of autophagy-related molecules P62, LC3B, ATG5 (n = 5) and Beclin-1 in amniotic tissue (n = 3). (F) WB results showing the expression of the autophagy-related molecules P62, LC3B, ATG5 and Beclin-1 in the PROM and CQ groups, n = 6. (G) WB results showing α-SMA expression in the PROM and CQ groups, n = 6. (H) Immunofluorescence staining of cells cultured in serum-free medium (SS), 40X. Red: vimentin; green: α-SMA; blue: DAPI.

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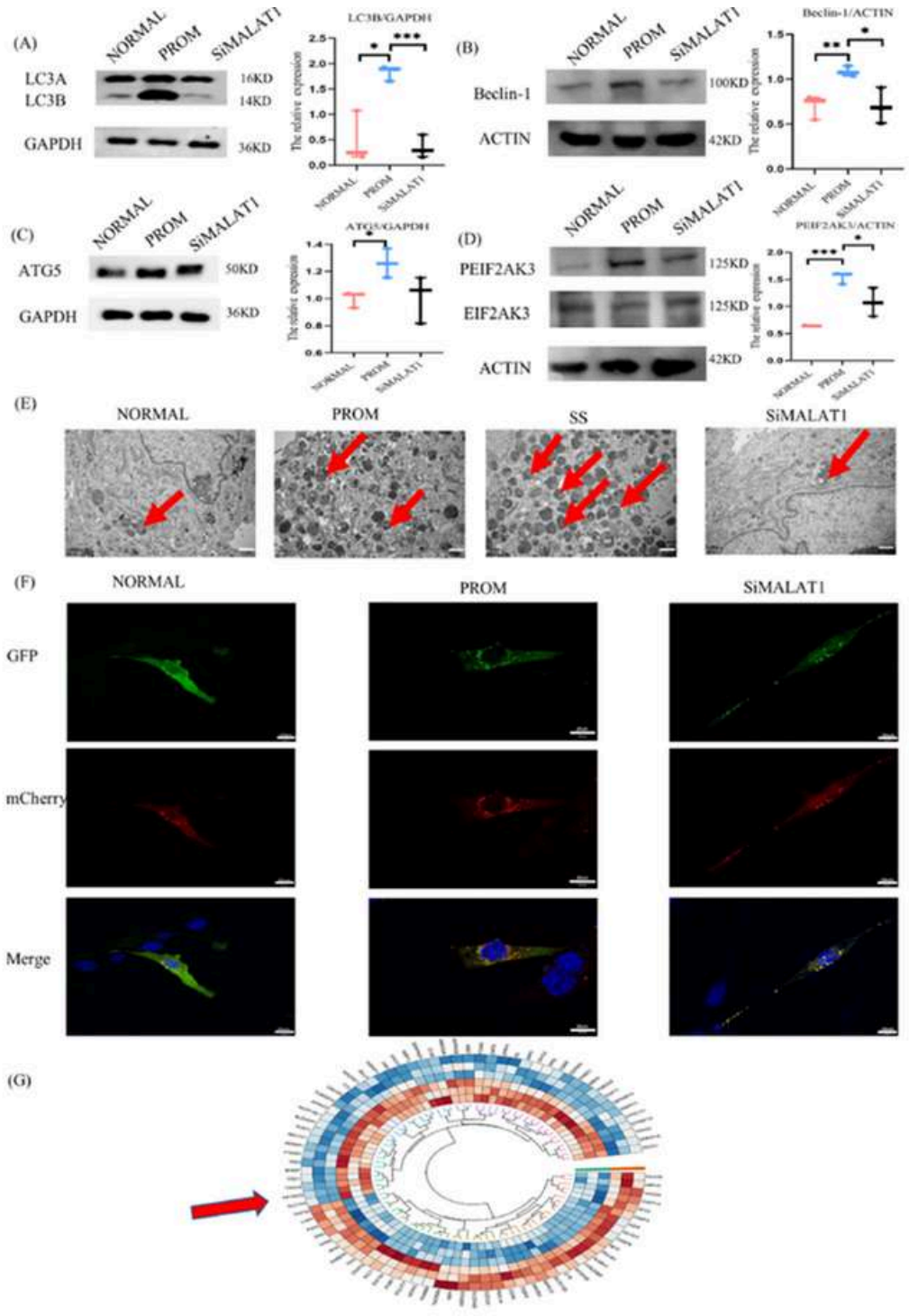

Fig. 5. Effect of MALAT1 on autophagy in amniotic fibroblasts
(A) WB results showing the expression of LC3 in cells,n = 3. (B) WB results showing the expression of Beclin-1 in cells, n = 3. (C) WB results showing the expression of ATG5 in cells, n = 3. (D) WB results showing the expression of PEIF2AK3 in cells, n = 3. (E) Representative TEM image of a fibroblast with arrows indicating autophagy lysosomes. (F) Detection of autophagy flow in the NORMAL, PROM and SiMALAT1 groups, 60X. (G) Circular clustering heatmap of differentially expressed proteins. Red indicates a relatively high relative expression level, blue indicates a relatively low relative expression level, and the red arrow indicates EIF2AK3.

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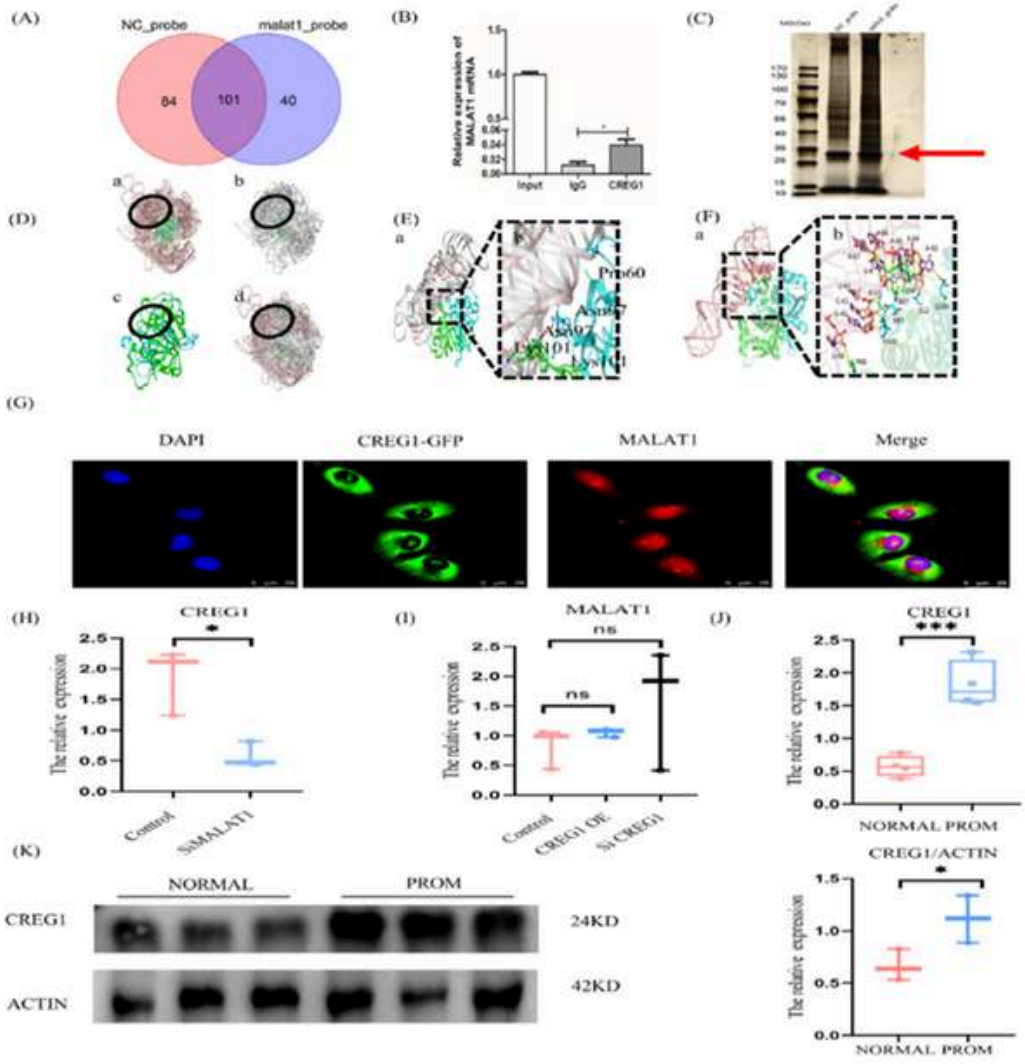

Fig. 6. Combination of MALAT1 and CREG1.
(A) Venn diagram of enriched proteins in the NC and MALAT1 probe groups. (B) The combination of MALAT1 and CREG1 was confirmed by a RIP assay. (C) RNA PULL DOWN protein silver stain map. (D) Location distribution of the docking results of the MALAT1 conformation and CREG1 dimer (a: MOE docking results; b: HDOCK docking results; c: CREG1 protein dimer; d: MOE, HDOCK docking results and CREG1 protein dimer). (E) The 7 conformations of the conformation concentration region (a: CREG1 protein dimer A and B chains are shown in green and blue, respectively. The conformation of the MOE docking results is light pink, and the HDOCK docking results are gray white. b: Local view of 5 interacting high frequency amino acids and 7 lncRNA conformations of the CREG1 protein dimer). (F) CREG1 and lncRNA interaction modes (a: In the overall view, the A and B chains of the CREG1 protein dimer are shown in green and blue cartoons respectively; LncRNAs are shown in light pink cartoons, amino acids and nucleotides are shown in stick patterns, carbon atoms are in the same color as in cartoon patterns, oxygen atoms are in red; and nitrogen atoms are in blue. Phosphorus atoms are orange. b: local view). (G) Images of MALAT1 and CREG1 fluorescence in situ hybridization. (H) The expression of CREG1 in cells after siMALAT1 was detected by qPCR, n = 3. (I) MALAT1 expression in CREG1-overexpressing and CREG1-knockdown cells was detected by qPCR, n = 3. (J) The expression of CREG1 in human amniotic tissue was detected by qPCR, n = 5. (K) WB results showing the expression of CREG1 in human amniotic tissue, n = 3.

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Association between secondhand smoke exposure and osteoporosis risk in postmenopausal women: a cross-sectional analysis of NHANES data

Background

This study aimed to investigate the association between smoke exposure and the risk of osteoporosis in postmenopausal women in the United States, using data from the National Health and Nutrition Examination Survey (NHANES).

Methods

A cross-sectional analysis was conducted using NHANES data from 2005 to 2010, 2013 to 2014, and 2017 to 2018. The study population consisted of postmenopausal women aged 18years and older. Their bone health status was assessed using self-reported osteoporosis and dual-energy X-ray absorptiometry (DXA) measurements, smoke exposure was evaluated through serum cotinine levels, and multivariate logistic regression models were used to examine the association between smoke exposure and osteoporosis risk, adjusting for sociodemographic factors, health behaviours, and comorbidities.

Results

The analysis comprised 4,140 postmenopausal women, and data analysis showed that active smoking was significantly associated with an increased risk of osteoporosis, with an adjusted odds ratio (OR) of 2.020 (95% confidence interval [CI]: 1.35–3.03), after adjusting for potential confounders. Additionally, age, race/ethnicity, socioeconomic status, marital status, and body mass index were identified as significant predictors of osteoporosis risk.

Conclusions

Smoke exposure, particularly active smoking, was associated with an elevated risk of osteoporosis among postmenopausal women in the United States. The findings underscore the need to address modifiable risk factors, such as smoking cessation, and implement targeted interventions to mitigate disparities in bone health.

Keywords: Osteoporosis; smoke exposure; postmenopausal women; NHANES; sociodemographic factors; bone health

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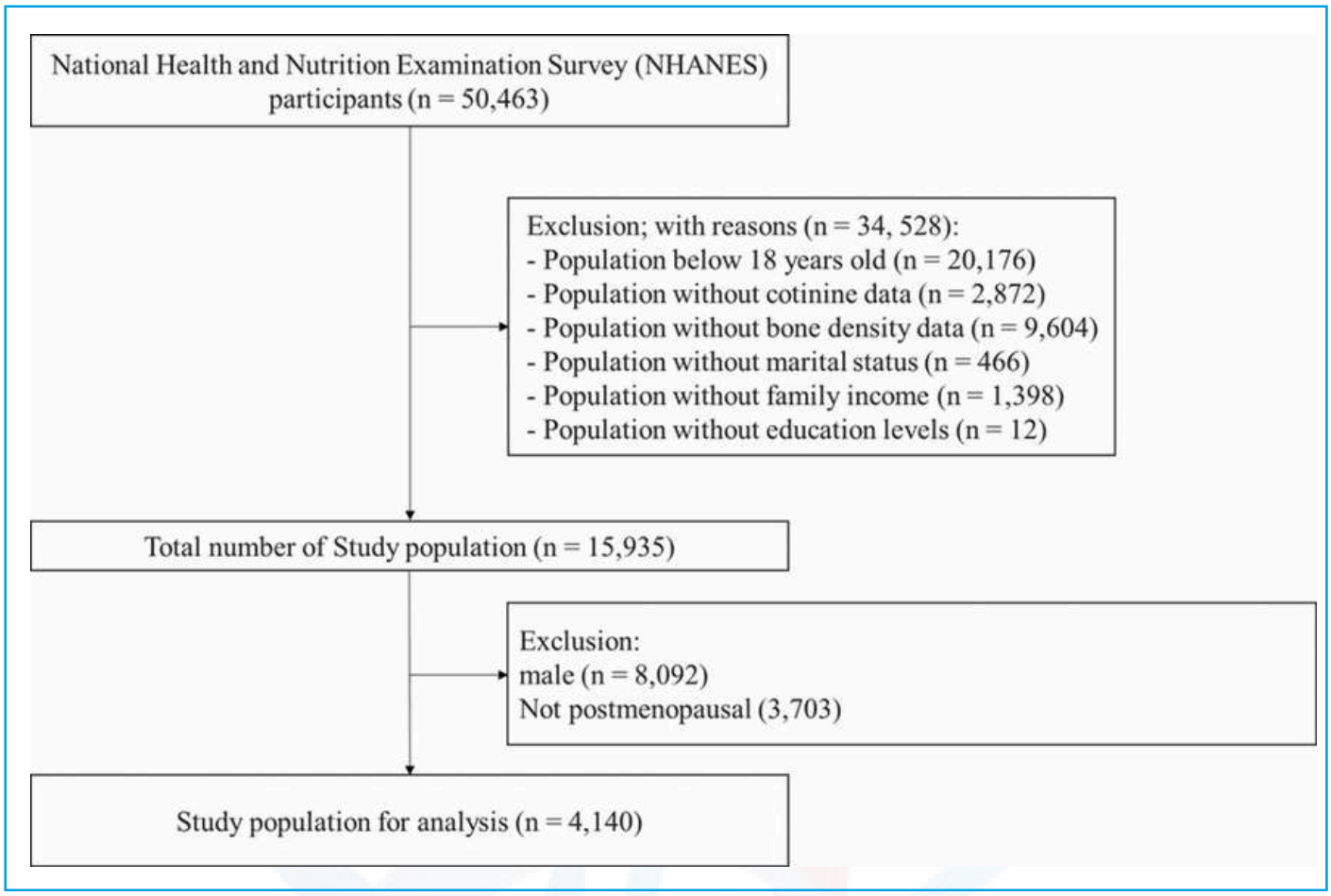

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Table 1. Baseline characteristics of participants stratified by bone health status in the National Health and Nutrition Examination Survey (NHANES).

	Overall (N=4140)		Osteoporosis (N=517)		Low bone mass (N=1539)		Normal (N=2084)			
Characteristics	%	SE	%	SE	%	SE	%	SE	P value	χ2
Smoke exposure									0.06	8.99
Normal	63.41	1.32	6.11	0.42	22.88	0.89	34.42	1.12		
Actively	17.99	0.89	2.39	0.27	6.33	0.51	9.26	0.67		
SHS	9.74	0.65	1.57	0.17	7.30	0.52	9.74	0.65		
Age									<.0001	19.01
18–45	4.62	0.50	0.16	0.09	0.74	0.16	3.72	0.46		
45–65	57.24	0.91	4.01	0.39	21.00	0.74	32.23	0.93		
65–75	24.39	0.87	3.07	0.34	9.19	0.42	12.14	0.70		
≥75	13.75	0.65	2.83	0.24	5.57	0.41	5.34	0.39		
Race and ethnicity									<.0001	64.90
Non-Hispanic white	30.78	2.04	3.00	0.43	11.24	0.86	16.54	1.27		
Non-Hispanic black	3.82	0.50	0.28	0.09	1.06	0.15	2.48	0.35		
Non-Hispanic Asian	2.08	0.30	0.52	0.12	1.01	0.14	0.55	0.10		
Mexican American, other Hispanic	4.12	0.46	0.59	0.08	1.90	0.28	1.63	0.22		
Multi-Racial	0.99	0.24	0.03	0.02	0.21	0.10	0.75	0.23		
Others	58.21	1.85	5.66	0.32	21.08	0.96	31.47	1.16		
Family income-to-poverty ratio									<.0001	50.09
< 130%	17.63	0.92	2.65	0.26	6.47	0.45	8.51	0.51		
130 to < 350%	36.35	1.03	4.47	0.38	13.64	0.58	18.24	0.76		
> 350%	46.02	1.31	2.95	0.37	16.39	0.80	26.68	1.02		
Education									0.00	20.03
High school or less	43.14	1.12	5.53	0.37	15.78	0.77	21.84	0.71		
Some college	31.66	1.08	2.45	0.28	11.00	0.54	18.20	0.91		
College Graduate	25.20	1.14	2.09	0.32	9.72	0.71	13.39	0.75		
Marital status									<.0001	38.02
Married	57.30	1.05	4.64	0.36	20.80	0.86	31.85	0.93		
Widowed	15.96	0.65	2.74	0.32	5.73	0.41	7.49	0.46		
Divorced	17.35	0.90	1.82	0.25	6.74	0.65	8.78	0.59		
Separated	2.00	0.24	0.13	0.04	0.84	0.14	1.02	0.16		
Never married	4.79	0.40	0.43	0.10	1.62	0.27	2.73	0.28		
Living with partner	2.61	0.31	0.30	0.11	0.77	0.21	1.55	0.26		
BMI, kg/m²									<.0001	233.05
Underweight	31.39	0.89	5.29	0.32	13.88	0.69	12.22	0.66		
Normal weight	32.03	0.99	3.62	0.34	12.68	0.67	15.72	0.68		
Overweight	21.12	0.79	0.94	0.16	6.28	0.55	13.91	0.69		
Obese	15.46	0.68	0.26	0.07	3.64	0.35	11.57	0.58		
Alcohol drinking status									0.76	0.56
No	83.17	2.18	9.05	1.25	29.19	2.25	44.93	3.25		
Yes	16.83	2.18	1.20	0.90	6.41	1.38	9.23	1.54		
Hypertension									0.04	6.36
No	35.79	0.96	3.78	0.39	14.15	0.65	17.86	0.77		
Yes	64.21	0.96	6.29	0.44	22.44	0.69	35.49	0.97		
CVD									0.57	1.14
No	88.52	0.73	8.94	0.44	32.03	0.82	47.55	1.03		
Yes	11.48	0.73	1.13	0.15	4.47	0.45	5.88	0.46		
Diabetes									<.0001	26.07
No	87.38	0.81	9.28	0.48	32.80	0.87	45.29	1.09		
Yes	12.62	0.81	0.78	0.14	3.70	0.37	8.14	0.56		
Other chronic diseases									0.86	0.30
No	37.67	1.04	3.93	0.34	13.77	0.64	19.97	0.82		
Yes	62.33	1.04	6.13	0.40	22.74	0.86	33.46	0.86		
Cancer									0.97	0.07
No	18.28	0.84	1.80	0.20	6.73	0.45	9.75	0.62		
Yes	81.72	0.84	8.29	0.45	29.78	0.89	43.65	0.99		

Abbreviations: CVD: cardiovascular disease; SE: standard error; BMI: body mass index.

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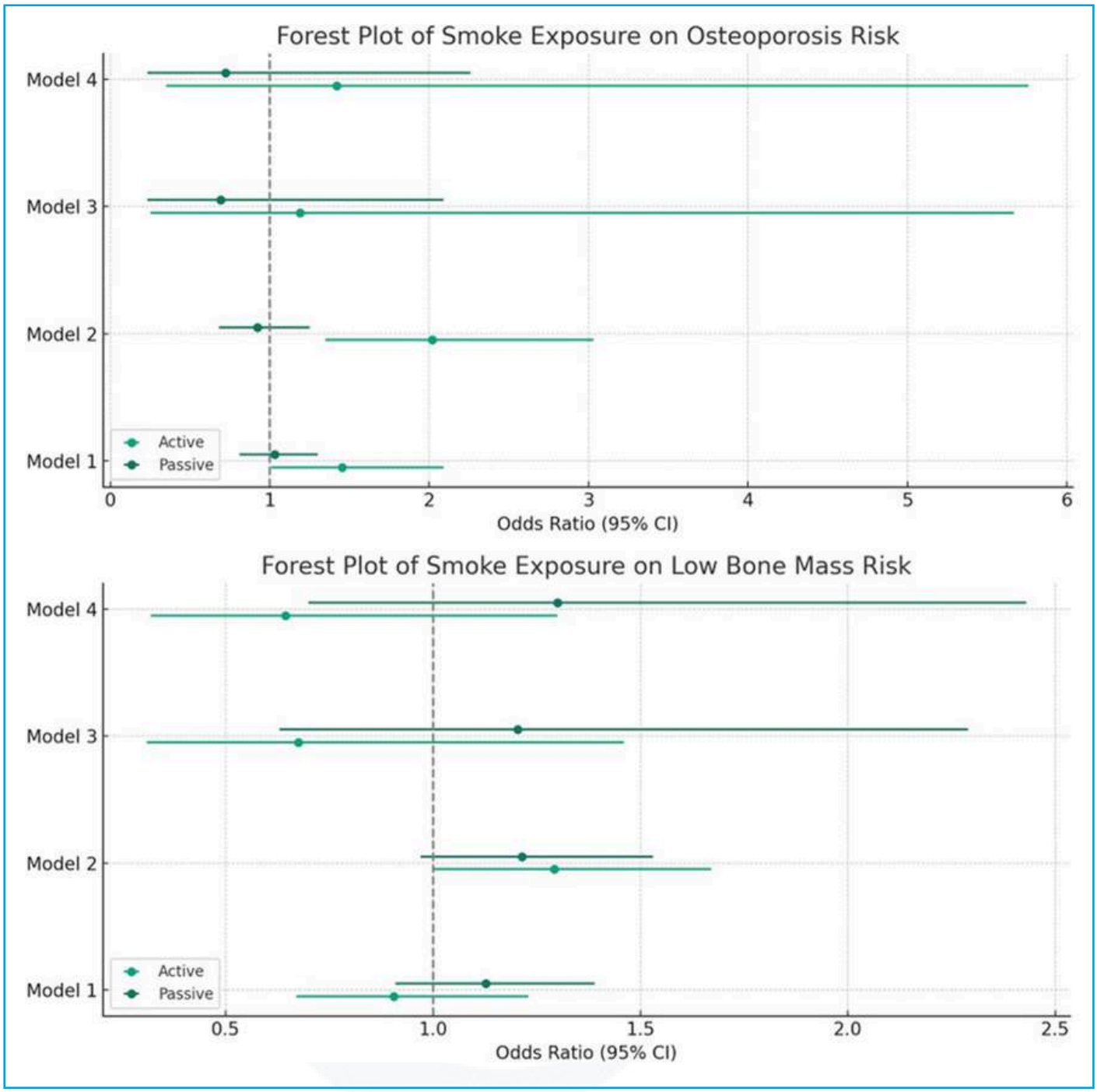

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Table 2. (A) Odds Ratios for bone mass according to risk factors in stratified populations by gender, age, race, education, poverty-income ratio (PIR), and marital status.

	Osteoporosis			
Variables	Model 1 OR (95% CI)	Model 2 OR (95% CI)	Model 3 OR (95% CI)	Model 4 OR (95% CI)
Smoke exposure				
Normal	Ref	Ref	Ref	Ref
Actively	1.453 (1.01–2.09)*	2.020 (1.35–3.03)*	1.188 (0.25–5.67)	1.420 (0.35–5.76)
SHS	1.029 (0.81–1.30)	0.922 (0.68–1.25)	0.690 (0.23–2.09)	0.721 (0.23–2.26)
Age				
18–45	Ref	Ref	Ref	Ref
45–65	2.892 (0.94–8.94)	3.467 (1.03–11.66)	–	–
65–75	5.881 (1.71–20.22)	7.144 (1.91–26.74)	1.451 (0.48–4.44)	1.760 (0.56–5.52)
≥75	12.347 (3.96–38.47)	14.560 (4.23–50.11)	1.479 (0.33–6.54)	2.462 (0.48–12.74)
Race				
Non-Hispanic white	Ref	Ref	Ref	Ref
Non-Hispanic black	1.008 (0.75–1.36)	0.914 (0.68–1.24)	0.234 (0.06–0.96)	0.244 (0.05–1.17)
Non-Hispanic Asian	0.617 (0.34–1.13)	0.486 (0.26–0.91)	2.533 (0.63–10.13)	3.081 (0.72–13.11)
Mexican American, other Hispanics	5.221 (3.25–8.39)	6.237 (3.60–10.82)	2.496 (1.00–6.22)	2.496 (0.96–6.53)
Multi-Racial	2.015 (1.46–2.78)	2.173 (1.52–3.11)	0.209 (0.02–2.56)	0.174 (0.01–2.96)
Other	0.237 (0.05–1.16)	0.202 (0.04–1.10)	–	–
Education				
High school or less	Ref	Ref	Ref	Ref
Some college	0.533 (0.38–0.75)	0.700 (0.49–1.00)	0.408 (0.13–1.24)	0.409 (0.14–1.16)
College graduates	0.617 (0.43–0.88)	0.969 (0.62–1.53)	1.029 (0.23–4.52)	0.881 (0.20–3.82)
Family income-to-poverty ratio				
< 130%	Ref	Ref	Ref	Ref
130 to < 350%	0.788 (0.58–1.07)	0.800 (0.58–1.11)	1.515 (0.58–3.98)	1.395 (0.46–4.28)
> 350%	0.356 (0.26–0.48)	0.497 (0.31–0.79)	0.628 (0.15–2.55)	0.563 (0.15–2.11)
Marital status				
Married	Ref	Ref	Ref	Ref
Widowed	2.515 (1.81–3.50)	1.211 (0.80–1.83)	1.955 (0.40–9.64)	2.045 (0.40–10.39)
Divorced	1.424 (0.97–2.09)	1.249 (0.82–1.90)	0.735 (0.20–2.64)	0.717 (0.19–2.70)
Separated	0.896 (0.46–1.73)	0.658 (0.35–1.26)	1.541 (0.25–9.67)	1.476 (0.22–9.76)
Never married	1.088 (0.62–1.91)	1.169 (0.64–2.14)	0.459 (0.07–2.86)	0.526 (0.08–3.34)
Living with partner	1.322 (0.55–3.20)	1.300 (0.53–3.20)	0.341 (0.03–4.45)	0.496 (0.03–7.67)

(B)

	Low bone mass			
Variables	Model 1 OR (95% CI)	Model 2 OR (95% CI)	Model 3 OR (95% CI)	Model 4 OR (95% CI)
Smoke exposure				
Normal	Ref	Ref	Ref	Ref
Actively	0.906 (0.67–1.23)	1.292 (1.00–1.67)	0.676 (0.31–1.46)	0.645 (0.32–1.30)
Passively	1.127 (0.91–1.39)	1.214 (0.97–1.53)	1.204 (0.63–2.29)	1.301 (0.70–2.43)
Age				
18–45	Ref	Ref	Ref	Ref
45–65	3.255 (1.92–5.53)	3.435 (2.05–5.74)	–	–
65–75	3.783 (2.24–6.40)	4.109 (2.51–6.74)	1.470 (0.73–2.97)	1.462 (0.77–2.77)
≥75	5.215 (2.93–9.29)	5.956 (3.50–10.15)	1.052 (0.47–2.38)	1.191 (0.49–2.92)
Race				
Non-Hispanic white	Ref	Ref	Ref	Ref
Non-Hispanic black	1.015 (0.84–1.23)	0.955 (0.79–1.15)	0.968 (0.61–1.54)	1.020 (0.62–1.68)
Non-Hispanic Asian	0.639 (0.49–0.84)	0.562 (0.43–0.73)	2.166 (0.67–7.05)	2.187 (0.73–6.58)
Mexican American, other Hispanic	2.757 (1.93–3.94)	2.696 (1.86–3.90)	1.834 (0.73–4.59)	1.814 (0.67–4.94)
Multi-Racial	1.733 (1.21–2.49)	1.720 (1.17–2.53)	0.581 (0.14–2.43)	0.663 (0.16–2.83)
Other	0.411 (0.13–1.29)	0.375 (0.11–1.25)	–	–
Education				
High school or less	Ref	Ref	Ref	Ref
Some college	0.836 (0.70–1.00)	0.917 (0.75–1.13)	0.467 (0.28–0.79)	0.452 (0.27–0.76)
College graduates	1.005 (0.81–1.26)	1.133 (0.86–1.49)	0.950 (0.49–1.86)	0.977 (0.49–1.94)
Family income-to-poverty ratio				
< 130%	Ref	Ref	Ref	Ref
130 to < 350%	0.984 (0.83–1.16)	0.967 (0.80–1.17)	1.779 (1.02–3.10)	1.719 (0.86–3.44)
> 350%	0.808 (0.68–0.96)	0.837 (0.67–1.05)	1.134 (0.63–2.05)	1.050 (0.59–1.86)
Marital status				
Married	Ref	Ref	Ref	Ref
Widowed	1.171 (0.91–1.50)	0.895 (0.68–1.17)	1.019 (0.47–2.20)	0.818 (0.43–1.57)
Divorced	1.176 (0.89–1.55)	1.135 (0.85–1.51)	1.409 (0.68–2.94)	1.442 (0.69–3.01)
Separated	1.258 (0.85–1.85)	1.254 (0.82–1.93)	1.114 (0.49–2.56)	1.142 (0.47–2.80)
Never married	0.909 (0.60–1.38)	1.007 (0.63–1.60)	0.756 (0.26–2.21)	0.772 (0.21–2.92)
Living with partner	0.760 (0.39–1.49)	0.807 (0.39–1.67)	0.506 (0.14–1.86)	0.549 (0.17–1.79)

Abbreviations: OR: odds ratio.
Model 1: Unadjusted.
Model 2: Adjusted for age, race, education, family poverty-income ratio, and marital status.
Model 3: Model 2 plus adjustments for body mass index (BMI), smoking status, and drinking status.
Model 4: Model 3 plus adjustments for hypertension, cardiovascular disease (CVD), cancer, and other chronic diseases.

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Influence of exercise intervention on gestational diabetes mellitus: a systematic review and meta-analysis

Aims

Exercise intervention might be a promising approach to prevent gestational diabetes mellitus. However, the results remained controversial. We conducted a systematic review and meta-analysis to explore the effect of exercise intervention on gestational diabetes mellitus.

Methods

PubMed, EMbase, Web of science, EBSCO, and Cochrane library databases were systematically searched. Randomized controlled trials (RCTs) assessing the effect of exercise intervention on gestational diabetes mellitus were included. Two investigators independently searched articles, extracted data, and assessed the quality of included studies. The primary outcome was the incidence of gestational diabetes mellitus, preterm birth, and gestational age at birth. Meta-analysis was performed using random-effect model.

Results

Five RCTs involving 1872 patients were included in the meta-analysis. Overall, compared with control intervention, exercise intervention was found to significantly reduce the risk of gestational diabetes mellitus (std. mean difference 0.62; 95% CI 0.43–0.89; P = 0.01), but demonstrated no influence on preterm birth (OR 0.93; 95% CI 0.44–1.99; P = 0.86), gestational age at birth (std. mean difference −0.03; 95% CI −0.12 to 0.07; P = 0.60), glucose 2-h post-OGTT (std. mean difference −1.02; 95% CI −2.75 to 0.71; P = 0.25), birth weight (std. mean difference −0.10; 95% CI −0.25 to 0.04; P = 0.16), Apgar score less than 7 (OR 0.78; 95% CI 0.21–2.91; P = 0.71), and preeclampsia (OR 1.05; 95% CI 0.53–2.07; P = 0.88).

Conclusions

Compared to control intervention, exercise intervention was found to significantly reduce the incidence of gestational diabetes mellitus, but had no significant influence on preterm birth, gestational age at birth, glucose 2-h post-OGTT, birth weight, Apgar score less than 7, and preeclampsia.

Key words: Exercise intervention Gestational diabetes mellitus Randomized controlled trials (RCTs) Meta analysis Systematic review

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Utilization of Atomic Force Microscopy to Examine Surface Ultrastructural Changes in Bone Tissue Following Pulsed Electromagnetic Field Therapy for Osteoporosis in Rats

Objective

To investigate the changes in the surface ultrastructure of the femoral neck in an experimental rat model of osteoporosis and to evaluate the feasibility of using atomic force microscopy (AFM) for these observations.

Methods

Sixty female SD rats (3 months old, weighing 200±20 g) were randomly divided into four groups: control group (Sham group), ovariectomy group (OVX group), alendronate treatment group (ALN group), and pulsed electromagnetic field treatment group (PEMFs group), with 15 rats in each group. Bilateral ovariectomy was performed on the OVX and PEMFs groups. On the 30th day after modeling, different interventions were applied to each group. The ALN group received alendronate by gavage,while the PEMFs group underwent pulsed electromagnetic field treatment. The Sham and OVX groups were maintained on a normal diet post-surgery without additional treatment. After 30 days of treatment, the rats were sacrificed under anesthesia, and femoral head slices were collected for analysis. The surface ultrastructure of the femoral neck was then examined using atomic force microscopy (AFM).

Results

In the Sham group, AFM scanning revealed the presence of bone lacunae, bone canaliculi, and calcium-phosphorus crystal deposition on the surface of the bone tissue, with a measured surface roughness of 2.59±0.645 μm. In the OVX group, alterations in the size of bone lacunae and a disordered arrangement of calcium-phosphorus crystals were observed. The surface roughness of bone tissue in the OVX group was significantly higher compared to the control group ($P<0.01$), confirming the successful establishment of the osteoporosis model. The surface roughness in the ALN group was significantly lower than that in the OVX group ($P<0.05$). Similarly, the surface roughness in the PEMFs group was markedly reduced compared to the OVX group, with a statistically significant difference ($P<0.05$). However, no significant difference in surface roughness was observed between the PEMFs group and the ALN group ($P>0.05$).

Conclusion

Atomic force microscopy effectively demonstrated alterations in the surface ultrastructure of bone tissue following pulsed electromagnetic field treatment for osteoporosis in a rat model. The therapeutic efficacy of this intervention was found to be comparable to that of alendronate, providing a solid theoretical foundation for the application of pulsed electromagnetic fields in osteoporosis treatment.

Key words: Atomic Force Microscopy, Pulsed Electromagnetic Field, Osteoporosis, Ultrastructure

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图1

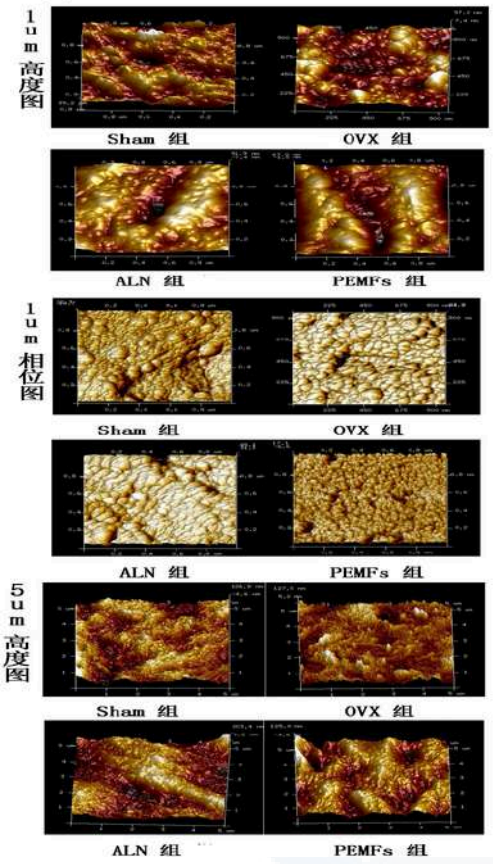
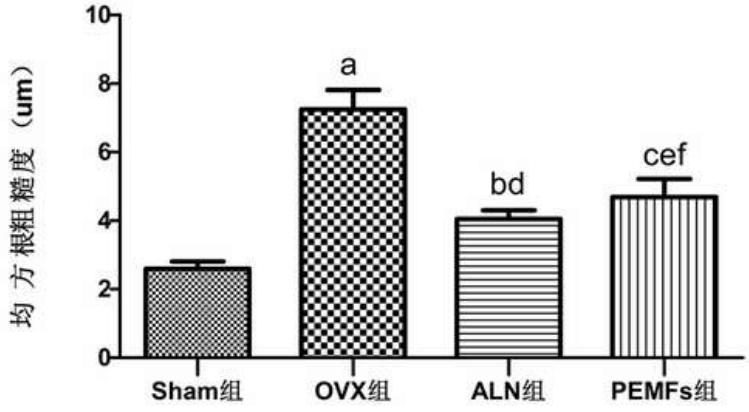


图2



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Clinical Efficacy of Modified Gancao Ganjiang Decoction Combined with Vitamin B_{12} on Recurrent Oral Ulcer

Objective

To explore the clinical efficacy of modified Gancao Ganjiang Decoction combined with Vitamin B_{12}(VB_{12})on recurrent oral ulceration(ROU) .

Methods

A total of 124 ROU patients admitted to Chongqing General Hospital from August 2016 to August 2018 were selected as the research objects and were divided into an observation group and a control group, with 62 cases in each group,according to random number table.The control group was administrated orally with VB_{12},while the observation group was treated with Jiawei Gancao Ganjiang Decoction plus VB_{12}.All patients were treated for 14 days.The clinical efficacy and safety between the 2 groups were compared.

Results

The overall effective rate of the observation group reached 96.8% (60 /62),much higher than 85.5% (53/62) of the control group($P<0.05$).Compared with those before treatment,the pain index,ulcer area and average ulcer period were significantly improved in the 2 groups after treatment($P<0. 05$),peripheral blood $CD3^+$,$CD4^+$ levels,$CD4^+/CD8^+$ ratio,and the number of streptococcus and veillonella in saliva increased significantly($P<0.05$),peripheral blood $CD8^+$ level decreased significantly($P<0.05$) ;and the observation group improved more significantly than the control group in indicators($P<0.05$).There were no obvious side effects in both groups.Follow-up for 6 months,the recurrence rate of the observation group was 11.3% (7/62) significantly lower than that of the control group [25.8% (16/62)] ($P<0.05$).

Conclusion

The overall curative effect of Jiawei Gancaoganjiang Decoction combined with VB_{12} in the treatment of ROU is definite and may be related to its significantly correction of the immune imbalance of peripheral blood T lymphocyte subsets and maintaining the homeostasis of the oral microenvironment.

Key words: Recurrent oral ulceration,Modified Gancao Ganjiang Decoction,Vitamin B12,T-lymphocyte subsets,Oral microenvironment,Recurrence risk,Mechanism of action,Safety

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表1　2组患者临床疗效比较

组别	显效(例)	有效(例)	无效(例)	治疗有效率(%)
观察组($n=62$)	39	21	2	96.8*
对照组($n=62$)	30	23	9	85.5

注：与对照组比较，* $P<0.05$

表2　2组患者疼痛指数、溃疡面积、平均溃疡期比较($\bar{x}\pm s$)

组别	疼痛指数(分)	溃疡面积(mm^2)	平均溃疡期(d)
观察组($n=62$)			
治疗前	7.14±1.29	14.73±3.25	7.35±1.69
治疗后	0.71±0.15*△	3.07±0.60*△	1.56±0.44*△
对照组($n=62$)			
治疗前	6.83±1.08	15.64±3.52	7.02±1.78
治疗后	1.58±0.37*	5.21±1.08*	2.74±0.53*

注：与治疗前比较，* $P<0.05$；与对照组治疗后比较，△$P<0.05$

表3　2组患者T淋巴细胞亚群水平比较($\bar{x}\pm s$)

组别	CD3+(%)	CD4+(%)	CD8+(%)	CD4+/CD8+
观察组($n=62$)				
治疗前	62.57±9.42	28.65±5.98	30.73±6.09	0.95±0.19
治疗后	69.50±6.31*△	34.52±4.87*△	25.94±4.58*△	1.30±0.21*△
对照组($n=62$)				
治疗前	63.85±8.79	29.74±6.11	29.84±6.30	0.98±0.17
治疗后	66.77±7.46*	32.19±5.36*	27.72±5.17*	1.15±0.22*

注：与治疗前比较，* $P<0.05$；与对照组治疗后比较，△$P<0.05$

表4　2组患者口腔微环境参数比较($\bar{x}\pm s$, lg copies/mL)

组别	链球菌	韦荣氏菌
观察组($n=62$)		
治疗前	7.13±0.94	8.16±0.92
治疗后	7.84±0.72*△	8.92±0.72*△
对照组($n=62$)		
治疗前	6.89±1.05	8.25±1.08
治疗后	7.47±0.80*	8.61±0.85*

注：与治疗前比较，* $P<0.05$；与对照组治疗后比较，△$P<0.05$

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Analysis of the Surgical Efficacy of Percutaneous Full-Endoscopic Spinal Surgery for Highly Migrated Lumbar Disc Herniation

Purpose

To analyze the surgical efficacy of percutaneous full-endoscopic spinal surgery for the treatment of highly migrated lumbar disc herniation.

Methods

Fifty patients with highly migrated lumbar disc herniation treated with percutaneous full-endoscopic spinal surgery at our hospital were enrolled as subjects. They were randomly divided into a control group and an intervention group based on surgical technique. The control group underwent traditional open surgery (posterior decompression with internal fixation), while the intervention group received percutaneous full-endoscopic spinal surgery. Surgical duration, hospitalization time, and patient satisfaction were compared between the two groups. Patient satisfaction was assessed using a 10-point questionnaire, categorized as "very satisfied" (8–10), "satisfied" (5–7), or "dissatisfied" (0–4).

Results

Satisfaction rates: The intervention group reported significantly higher satisfaction (92%) than the control group (68%) ($P < 0.05$). Specifically, 36% (9/25) were "very satisfied" and 56% (14/25) "satisfied" in the intervention group versus 12% (3/25) "very satisfied" and 56% (14/25) "satisfied" in the control group ($\chi^2 = 18.001$, $P = 0.001$).

Surgical duration: The intervention group had significantly shorter operative times (42.7 ± 8.2 minutes) compared to the control group (127 ± 10.3 minutes) ($P < 0.05$).

Hospitalization time: The intervention group required shorter hospital stays (3.4 ± 1.3 days) than the control group (7.2 ± 1.6 days) ($P < 0.05$).

Conclusion

Percutaneous full-endoscopic spinal surgery achieves favorable outcomes for highly migrated lumbar disc herniation. It significantly reduces surgical/hospitalization times while improving patient satisfaction, demonstrating high clinical value.

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Discussion on the Value of Yiqi Huoxue Qiangxin Decoction in Treating Chronic Cor Pulmonale

Background

Chronic cor pulmonale (CCP) is a serious condition, especially in the elderly, marked by a long, subtle course and severe cardiopulmonary dysfunction during acute flares. Traditional Chinese Medicine (TCM) attributes CCP to dysfunction of the lung, spleen, kidney, and heart, causing phlegm-turbidity obstruction and qi stagnation, leading to heart failure. Yiqi Huoxue Qiangxin Decoction (YHQD) is formulated to tonify qi, activate blood circulation, and strengthen the heart.

Objective

To evaluate the clinical efficacy of YHQD combined with conventional therapy versus conventional therapy alone in CCP patients.

Methods

Sixty-seven CCP patients were divided into:Control Group (n=33): Received conventional symptomatic treatment (cardiotonics, diuretics, bronchodilators, expectorants, vasodilators, antibiotics, respiratory stimulants as needed) for 1 month.Study Group (n=34): Received conventional treatment plus YHQD for 1 month. YHQD contained core herbs like Astragalus, Codonopsis, Poria, Safflower, Pinellia, Red Peony, Peach Kernel, Chuanxiong, Perilla Fruit, and Licorice, with dosage adjustments and additional herbs based on symptoms. Taken twice daily. Efficacy was assessed using TCM syndrome scores, serum BNP levels, arterial blood gases (PaO_2, $PaCO_2$), and 6-minute walking distance (6MWD). SPSS 22.0 was used for statistical analysis.

Results

Efficacy Rate: Study group (97.06%) significantly higher than control (78.79%) ($P<0.05$). BNP: Significantly greater decrease in study group (385.49±46.28 ng/L) vs. control (467.91±45.82 ng/L) ($P<0.001$). PaO_2: Significantly greater increase in study group (78.94±2.68 mmHg) vs. control (71.63±3.47 mmHg) ($P<0.001$). $PaCO_2$: Significantly greater decrease in study group (32.65±2.58 mmHg) vs. control (36.94±1.27 mmHg) ($P<0.001$). 6MWD: Significantly greater increase in study group (352.16±23.54 m) vs. Control (312.58±21.65 m) ($P<0.001$).

Conclusion

The addition of Yiqi Huoxue Qiangxin Decoction (YHQD) to conventional therapy significantly improved clinical efficacy (97.06% vs. 78.79%, $P<0.05$), cardiac function (reduced BNP), oxygenation (increased PaO_2, decreased $PaCO_2$), and exercise tolerance (longer 6MWD) in chronic cor pulmonale patients versus conventional therapy alone ($P<0.001$). YHQD demonstrates valuable therapeutic benefits worthy of clinical adoption.

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