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From Basic Mechanisms to Clinical Application: The Articles in Context

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Editorial Note

A B S T R A C T

As the Editor-in-Chief of the "Journal of Basic Research in Medical Sciences", I am pleased to present this diverse and impactful collection of accepted articles. The breadth of research featured in this issue reflects our commitment to publishing high-quality studies that span the translational spectrum- from molecular genetics and environmental toxicology to clinical epidemiology and public health. The journey from cellular mechanisms to population health is elegantly illustrated in the following order of articles. We begin with a foundational exploration of molecular biology, progress through genetic epidemiology and environmental health, move into clinical investigations of chronic and acute conditions, and conclude with an assessment of healthcare competencies and healthy aging.

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1. Circular RNAs Biogenesis and Applications

This comprehensive review **by Kheiry and Noori-Zadeh** serves as a perfect primer for our issue, detailing the fascinating world of circular RNAs (circRNAs). Once dismissed as splicing artifacts, these stable molecules are now understood to act as microRNA sponges, interact with proteins, and even code for peptides. Understanding this basic mechanism is crucial, as it sets the stage for understanding how molecular dysregulation can lead to disease, which is a theme explored in our next article(1).

2. Investigation of the Frequency of 167delT Mutations of Gap Junction Protein Beta 2 (GJB2) Gene in the Deaf Population of Non-Syndromic West of Iran

Building on the theme of molecular diagnostics, **Bakhshipour et al**. provide a genetic epidemiology study focusing on a specific mutation (167delT) in the GJB2 gene, a known cause of non-syndromic hearing loss. Their finding that this mutation accounts for 5.7% of cases in Kermanshah province underscores the importance of regional genetic screening, as mutation frequencies vary significantly across different populations in Iran(2).

3. Assessment of Heavy Metals and Estrogen Content in Liver of Chicken from Industrial Farms in Ilam, Iran

The environment interacts with our biology in profound ways. **Mennati et al**. conducted a crucial food safety study, revealing elevated levels of arsenic and estrogen in chicken liver from local industrial farms. With a Target Hazard Quotient for arsenic calculated at 1.33, this paper serves as a vital public health alert, linking environmental contamination to potential health risks for the population and complementing the genetic and molecular themes introduced earlier(3).

4. Frequency of Peripheral Blood Eosinophilia in Chronic Pulmonary Diseases with Obstructive Pattern in Spirometry

Moving from environmental exposure to clinical presentation, **Soltani et al**. investigate the prevalence of a specific inflammatory biomarker—blood eosinophilia—in patients with obstructive lung diseases. While their study did not find a significant association between eosinophil levels and lung function decline, it highlights the complexity of conditions like COPD and asthma and the ongoing search for reliable biomarkers to guide personalized therapy(4).

5. Evaluation of Prevalence and Severity and Risk Factors of Retinopathy Prematurity in Premature Infants in Ilam

Nourolahi et al. tackle a critical issue in neonatology: retinopathy of prematurity (ROP). Their study confirms that low birth weight, low gestational age, and comorbidities like sepsis and asphyxia are key risk factors. With a prevalence of 18.7%, this research reinforces the absolute necessity of rigorous screening protocols in neonatal intensive care units to prevent irreversible blindness in vulnerable infants(5).

6. The Relationship Between Physical Activity and Nutritional Knowledge with Body Mass Index and Motor Proficiency in Girls 10 to 14 Years Old During the COVID-19 Pandemic in Khanaqin

Hasan et al. provide a unique snapshot of a specific population during a global crisis. Their work demonstrates that during the COVID-19 lockdowns, physical activity was directly correlated with healthier BMI and better motor skills in adolescent girls, while nutritional knowledge alone was not. This finding has significant implications for designing public health interventions that prioritize activity, especially during periods of social restriction(6).

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7. Assessing the Relationship between Aging Perception and Ability to Perform Self-Care among the Elderly

Taghinejad et al. explore the psychological dimensions of physical health. Their study in Sanandaj reveals a counterintuitive but crucial finding: a higher (more positive) perception of aging was associated with lower self-care ability. This suggests that a positive mindset alone is insufficient without the practical knowledge, skills, and support systems necessary for effective self-care in the elderly, highlighting a critical area for nursing intervention(7).

8. A Bibliometric Analysis of Nursing Research Trends in Health Literacy (931.docx)

Concluding the issue, **Shamsikhani et al**. offer a meta-perspective on the field of health literacy itself. This bibliometric analysis maps the landscape of nursing research over the past 49 years, identifying leading countries, authors, journals, and emerging themes like mental health and e-health. This article not only summarizes where the field has been but provides a roadmap for future nursing research dedicated to empowering patients through better communication and education(8).

In Conclusion

Collectively, these eight articles weave a rich tapestry of medical research. They demonstrate that progress in health sciences is not linear but a continuous loop: from the basic science of a circular RNA to the clinical challenge of a premature infant's eyesight; from the genetic basis of deafness to the environmental toxins in our food; and from the behavior of adolescent girls during a pandemic to the self-care abilities of the aging population. It is my hope that this collection will inspire collaboration, inform practice, and stimulate further inquiry among our readers.

I extend my sincere gratitude to all the authors, reviewers, and editorial staff who contributed their time and expertise to make this issue possible. We invite you to delve into these pages and engage with the research that will shape the future of medical science

Sincerely,
Dr Ali Noori-Zadeh
Editor-in-Chief

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