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MedEst|2026 | Vol.6: e543 | ISSN: 2789-7567 |RNPS: 2524| LETTER TO THE EDITOR

Toward the creation of a center specialized in health epigenetics

Hacia la creación de un centro especializado en salud epigenética

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Dear Director:

The timely publication in MedEst of a valuable editorial work entitled Family Medicine: An Essential and Growing Specialty, motivates the authors of this letter to present the results of an experience aimed at improving community health from a translational epigenetic approach. (1) Indeed, as Placeres Hernández and Estrada Rodríguez maintain, "the accelerated aging of the population, the increasing burden of chronic non-communicable diseases, and multimorbidity," among other challenges, reinforce the concept of priority lines of action, which include "translational research in Primary Health Care (PHC)." (1)

Previous studies report how physical activity, stress management, nutritional practices, and other factors influence the activation or silencing of genes associated with chronic non-communicable diseases such as cancer, diabetes mellitus, hypertension, and various neurological disorders and aging processes. (2-6) Hence the relevance of promoting epigenetic health from a community perspective.

Epigenetics is emerging as a key scientific discipline for understanding how sociocultural and environmental factors, without altering the DNA sequence, influence gene expression and impact individual and community health. Its interdisciplinary epistemology transcends the field of biomedical sciences to integrate categories that allow the study of human activity and living conditions linked to the integral development of personality as a bio-psycho-social unit. (7,8)

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Significant efforts are being made to introduce the scientific results identified in this field of research into community practice. A collaborative working group, led by researchers from the University of Medical Sciences of Matanzas (UCMM), is involved in this endeavor. They identify their academic work with the graphic image presented below (See Figure 1). This is a concentric spiral design that suggests a transition from simple forms of epigenetic knowledge to more complex forms that support the natural synchronization of epigenetic health.

Figure 1. Graphic representation of the collaborative working group on Epigenetics in Health
Source: Designed by Dr. Guillermo Lázaro Prado González

Among the actions carried out by the aforementioned group are the applied research project entitled "Integrated Model for the Evaluation and Microenvironmental Readaptation of Epigenetic Health Potential in Carcinogenic Expression," managed by UCMM (2020-2025); and the local development project: "Natural Synchronization of Epigenetic Health: A Translational Integration Approach to Science and Community Health," belonging to the Jovellanos Municipal Administration Council.

These projects have demonstrated positive results in several aspects, including the following:

1. Raising awareness in rural and urban communities about the influence of environmental factors and lifestyles on human well-being, introducing the concept of natural synchronization of epigenetic health.

2. Managing participatory workshops focused on developing healthy habits in nutrition, physical activity, and stress management, with measurable improvements in risk indicators.

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3. Developing the capacities of community leaders and professionals in the sector to optimize social communication on epigenetic health. Production of innovative educational materials (manuals, questionnaires, visual resources) that promote knowledge acquisition by children, youth, and adults.

4. Strengthening community participation in identifying health problems and developing collective solutions.

5. Promotion of successful training experiences in schools and community centers, impacting the reduction of risk factors.

However, these contributions faced limitations that highlight the need to institutionalize epigenetic health management in the community with specialized expertise. These limitations include:

1. Lack of a comprehensive and stable administrative structure to promote the sustainability of actions beyond the project period.

2. Absence of a formal academic space to facilitate the systematization of results and the ongoing training of epigenetic health promoters.

3. Dispersed efforts among different stakeholders, hindering the consolidation of a comprehensive and coordinated approach.

4. The absence of a specialized center limits the possibility of integrating research, teaching, and community outreach in a single space.

These background factors demonstrate that the achievements to date are valuable, but require a specialized center for epigenetic health with a strong community focus, guaranteeing sustainability, academic systematization, inter-institutional coordination, and applied research capacity.

In this regard, a multidisciplinary team of researchers, including the senders of this letter, are fulfilling the social responsibility of promoting the creation of a specialized center for epigenetic health. Its main purpose would be to contribute to the prevention and control of non-communicable diseases by integrating teaching, research, and community outreach in the field of epigenetics; promoting healthy and sustainable lifestyles that positively impact the health of the population. It also stands out for its high potential to:

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1. Collaboratively manage scientific knowledge contextualized in urban and rural realities.

2. To train epigenetic health promoters with a community-based and interdisciplinary approach.

3. To develop educational resources and cultural strategies for health education.

4. To generate scientific evidence to support health promotion policies and community programs.

5. To strengthen interinstitutional, interprofessional, and intersectoral alliances that guarantee a sustainable impact on epigenetic health.

Dear Director, the creation of a center of this type represents an essential contribution to the transformation process of Primary Health Care and has the potential to achieve two fundamental objectives outlined in the current Family Physician and Nurse Program:

1. To promote health actions that contribute to improving knowledge, skills, attitudes, and healthy practices in the population, emphasizing the active and intersectoral participation of the community in an organized manner.

2. To facilitate a common framework for the collaboration of social actors in promoting the well-being of the population from a social determinants of health perspective. [9]

Note, then, how the sustainable optimization of Family Medicine in Cuba is not solely dependent on the endogenous potential of this mega-specialty. It is a commitment from everyone: a collaborative undertaking brimming with human joy and well-being.

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CONFLICT OF INTEREST

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