

Contradictions of the Scientific Formation of Internal Medicina's Resident in Metabolic Syndrome

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ABSTRACT

Science and technology are aspects of discourse and social practice that are associated as processes of construction of the historical-cultural space of Internal Medicine; Therefore, a bibliographic review was carried out with the aim of explaining the social significance of the internist's scientific training during the medical care of patients with Metabolic Syndrome in the hospital context, and the social contradictions that generate the referred training process; In addition, it was evidenced that this complex disease represents a social problem with limitations in holistic medical care, which hinders professional performance parallel to the social, economic and political role of the nation.

Keywords: Internal Medicina's Resident; Scientific Formation; Metabolic Syndrome; Internal Medicine

Introduction

Studies related to professional training acquire greater relevance every day in a world dominated by scientific research and technological innovations; the same happens with the training dynamics of the health professional in complex diseases, which has acquired a relevant social and scientific impact; thus, it is important to emphasize the progressive improvement in the training of Internal Medicine specialists to guarantee professional quality. Authors such as García, et al. [1,2] recognize the higher qualitative leap in achieving professional transcendence during the training process; Therefore, the authors of this research consider Internal Medicine as a specialty that implements preventive and screening programs for the early diagnosis of diseases, even when they are asymptomatic. This specialty is in charge of the study of the affections of the internal systems of the adult individual; of

its prevention and treatment through personal and continuous attention, with a comprehensive conception of the individual as a biological, psychic, social and spiritual unit, to provide solutions to a large number of medical problems. In this regard Harrison, et al. [3-5] consider that this discipline is undergoing an important transformation at the present time and despite being considered one of the oldest, it is based on internism. That is born and is perfected with the clinic, the social sciences and anthropology.

Related to the above, the authors of this research reflect that Internal Medicine is an attitude, a way of working; It is the kind of practice typical of clinicians who were born and formed with medical science when it began to clarify the vision of the doctor, some 200 years ago. The way of acting gave way to the birth of education at work; defined by Ilizástigui as «the guiding principle

of Cuban Medical Education», which constitutes the master key of didactics to specify the teaching-learning of Medical Sciences. Ilizástigui, et al. [6-8,4] advocate education at work governed by the scientific method during the training of health professionals, they also centralize the interaction of teachers and students based on the Marti principle of linking man with life and educate him through work. The foregoing has been influenced by different programs and ministerial resolutions (Ministry of Higher Education) [9] that support the training of the specialist, the different didactic considerations of the postgraduate course as well as the solution of the specialty of Internal Medicine in the face of Metabolic Syndrome as a complex disease. Consecutively, the exceptional work ability of the Internal Medicine resident is constituted by the clinical-epidemiological method, which constantly grants the Internal Medicine specialist the greatest capacity for the follow-up and control of patients with comorbidities.

Authors such as Ilizástigui [6,4] conceive the repercussion of the cognitive, scientific, practical and social foundations in training, they also evaluated the orientation of the process through a logic that concerns the relationship of knowledge with practice. In this review, the Metabolic Syndrome typifies complex, plurimetabolic diseases; made up of high blood pressure, dyslipidemia, glucose intolerance, insulin resistance and visceral obesity, so they are risk factors that increase the probability of suffering from cardiovascular disease. Research by Noya [5] reflects what was previously explained. From the educational point of view, the medical-professional praxis of Internal Medicine residents influences prevention, health promotion, early diagnosis, timely treatment and rehabilitation of Metabolic Syndrome as a disease, which acquires a social connotation, in the present. In this regard, authors such as González, et al. [10-13] identified the association of these health problems with simultaneous or sequential appearance in the same individual caused by the combination of genetic and environmental factors associated with lifestyle. What postulates the integration of these risk factors during the professional training process of the Internal Medicine resident in the medical care of the patient with Metabolic Syndrome, currently determined by training rhythms that cannot be faced by traditional methods. Therefore, we feel motivated to carry out this research and reveal the dialectical contradictions of the aforementioned procedure.

Developing

The contemporary world envisions the techno-scientific development in such a way that we can consider current societies, configured on the basis of development and that is why university education since its inception has been developing impetuously in accordance with economic development, socio - political, biological, ecological, and spiritual of society, which institutes a process that responds to the improvement of human knowledge.

The aforementioned implies a deep action executed on the subject, tending to the transformation of his entire being, which simultaneously points to knowing-doing, knowing-acting and knowing how to think, hence the cognitive, affective and social. In such consideration León [14], and García [10], meant sustainable development from the Cuban Public Health. Likewise, Mainegra, et al. [14,12,1] assumed the training process of professionals as a social and intentional transformation, which takes place in time and space through the construction of meanings and senses between the participating subjects, those who, in addition to appropriating culture, recreate it, through the social relationships established between them, all of which fosters the development of their human condition. Contiguously, the educational course is fully linked to the medical care provided by the Internal Medicine resident as a health professional and is characterized by cognitive independence in learning, despite the tutoring nature.

The study plans and programs guarantee adequate guidance for the development of the teaching-educational process. The evaluation; essential component of the process, it allows to measure the quantitative and qualitative changes in the ways of acting of the residents; which regulates the pedagogical process and the future performance of the professional. For this reason Ilizástigui [6], proposes as a contribution to the theory, the model of pedagogical training of the medical professional from the care work, whose system of objectives and contents respond to the specialist model that our country needs. This specialty personifies the clinical-epidemiological method since its inception; currently, in the hospital context, it is carried out through education at work; therefore, it is a form of organization of the teaching assumed in the medical sciences in the very activity of health care for the population that requires it. Education at work has been generalized for all medical and paramedical training, and it has also become a principle since it constitutes a teaching method in itself; focused on the interaction of teachers and students with the object of study. In relation to the above, Alfonso [8] and Díaz [15], agreed from different sources that scientific training underlies that medicine is not learned through conferences or talks, hard and persistent teacher work is needed, pedagogically oriented and educationally in the process of education at work.

Likewise, Ilizástigui, et al. [6-8] and Corona [4], stated that students are educated, immersed educationally in practical activity. You learn to palpate, palpating; to auscultate, auscultating; to diagnose, diagnosing; to be ethical, having an ethical conduct; to be empathic, having empathetic behaviors, and so on. On the other hand, this type of education at work is always carried out alongside the patient, giving the opportunity for developer and investigative learning depending on the profession. The aforementioned demands the updating of the health professional in emerging diseases such as the Metabolic Syndrome. This syndrome presents

as a set of metabolic and medical disorders. Four of these (obesity, especially central obesity, impaired blood glucose control, high blood lipids, and high blood pressure) develop at the same time more often than chance can explain. The investigations of Harrison [3,16]. Gonzalez [10,12]. They reflect that the process of scientific training of Internal Medicine residents in the care of patients with Metabolic Syndrome in the hospital context has been evolving but maintains the intention of rescuing and systematizing the clinical-epidemiological method, the dialectical nature of the processes and phenomena, in addition to recognizing the contradictory nature of the relationships that occur, by establishing the source of their self-development and transformation.

However, the dialectical contradictions of the scientific training process of Internal Medicine residents in the care of patients with Metabolic Syndrome in the hospital context have not been a sufficiently exhausted topic.

Related to the aforementioned, it is necessary to highlight that these are revealed during the training process of the Internal Medicine residency, they develop parallel to society, they express a certain conception of the world, and they suffer the influence of the other spheres of spiritual culture. (Science, art, philosophy, religion and others), which depend on the economic and social conditions where the main contradictions that characterize a society are trapped.

Medical-Training Contradictions

These contradictions state that the process does not stop in space, they are expressed between the real state of the object, the desired changes and evolution. They occur because, from the pedagogical point of view, there is not enough bibliography that integrates the different components of the Metabolic Syndrome, together with the absence of integrative programs that cover this complex disease, for which the holistic vision of the student in the diagnosis of the diseases is hindered. different comorbidities. The Internal Medicine resident in his scientific training reveals limitations to analyze patients in their social context since in various situations he investigates it from the biological point of view; that is, it omits biopsychosocial integration and the spiritual aspect in the health-disease process. This demands the analysis of the patient with a broader vision where one factor may be the consequence of another; Framed in the fact that the Metabolic Syndrome can cause cerebrovascular and cardiovascular complications in the patient, different types of cancer, etc., researchers such as González [10-12], coincide with the above.

The poor application of the clinical-epidemiological method by the resident means that this training staff does not correctly evaluate the patient and makes it impossible to formulate an integrating hypothesis (holistic diagnosis) in this regard Ilizástigui, et al. [6-

8,4,2] issued criteria in accordance with what was previously expressed. In the hospital, continuity is offered to the different health programs that exist in primary care, so in this context the student must communicate with the patient, family members, other students and the rest of the work team, to teach them in relation to the disease, explain the importance of a proper diet, physical exercise, in addition to controlling diabetes mellitus and high blood pressure. It is important to know that the Metabolic Syndrome is a multimetabolic problem as a multifactorial complication, a cause of hospitalization in the population for a limited time. It may be that a person with an active working life, constitutes the sustenance of his family and as a complication of this process physical and mental limitations appear that prevent him from social, economic, scientific, professional performance. Consequently, the humane and preventive behavior of the doctor in training is required; together with medical surveillance in primary and secondary health care. In the process of scientific training of the Internal Medicine resident at the Dr. Juan Bruno Zayas Alfonso General Hospital, contradictions are observed during the teaching-learning process, which prevents the social and holistic vision of the patient with comorbidities, and at the same time economic, educational, existential limitations coexist that make it impossible for this process to transcend.

This condition constitutes a challenge because at the institutional level a specialist with sufficient scientific knowledge will be postulated, capable of satisfying the social order demanded by the Cuban health system, through practical clinical - formative activity that accesses the proportionate development of activities and basic skills for achieve creative independence, cognitive integrity, motivation, and empowerment. The clinical practice in this institution intends that the future professional considers that the Metabolic Syndrome is a social problem as a totalizing and complex process, because when it is analyzed as an isolated health problem; the situation is not transformed, but as a totalizing problem it is linked to the will of the individual, society and the level of spiritual development that the subject assumes, which makes him reflective of his responsibility in life, with himself and with others, as well as recognition towards oneself and towards others.

Cultural Contradictions

They are based on the appropriation of the general clinical culture category of the Internal Medicine professional, influenced by the individual knowledge of the person, the individual culture acquired in the family, in schools, in their social environment, the knowledge of the profession, etc. that are expressed through human behavior and in this case in professional conduct, González [10] proposes in his research healthy lifestyle habits for the control of the Metabolic Syndrome, an aspect that the professional in training must know; contradiction with the apprehension category of the clinical culture in context, expressed in the recognition by

the Internal Medicine resident of the multiplicity of diseases that coexist in the same individual, so that the need for comprehensive medical care of the factors is exhibited. plurimetabolic that make up the syndrome; which affect the holistic approach to the patient as a result of independent study, scientific research, literature review and training management.

Hence, the formative systematization of clinical judgment is used as a way with the intention of achieving the culture of medical clinical autonomy through the development of the capacities of this professional to diagnose the Metabolic Syndrome, an element that is widely debated by Bell [2]; this process responds to the holistic theory that the level of knowledge is given in levels of synthesis, and expresses the practice of theoretical knowledge in the context of the medicine room during medical-professional practice, for which they also stand out two cultural elements that stimulate this process, the culture of Internal Medicine and the culture of didactics.

Economic Contradictions

The development of Higher Education processes is supported by the conscious and transforming character of the subject in the construction of scientific knowledge and the interpretation of the human condition as a support in the study of the processes of nature, society and thought; In the achievement of the aforementioned, the economic aspect underlies that will allow, in the pedagogical aspect, the benefit of a didactic model of the professional-scientific dynamics of the holistic medical practice of the residents of Internal Medicine and in the assistance, the methodology for the training of the residents. in the care of patients with metabolic syndrome during the exercise of professional medical practice in the hospital context. Sarasa [17] made similar arguments related to pedagogy in medical sciences careers. What was shown above is associated with a change in methodology and institutional practice, that is, this transformation aims to prepare professional staff through methodological activities, workshops, courses, etc. In short, the Metabolic Syndrome constitutes an evident health problem, not only because of its high prevalence, but also because of its role as a risk factor for other diseases that imply great morbidity and mortality. It affects the working population, therefore, the diagnosis of this pathology and its complications requires the use of biochemical laboratory parameters and other advanced technology equipment such as: ultrasounds, electrocardiograms, simple and contrasted radiographs, nuclear magnetic resonance, tomography computerized axial, spirometers, cytology.

Environmental Contradictions

The deadly quintet is considered the pandemic of the 21st century. It is composed of several environmental and genetic risk factors that are represented by high blood pressure, type

2 diabetes, dyslipidemia, obesity, endothelial dysfunction and atherosclerosis, smoking is also currently considered a risk factor. The contradiction is manifested between the environment category and the pathophysiology of the plurimetabolic syndrome, so that preventive, curative and rehabilitative action modifies the genesis of the complex disease and has repercussions on the environment; This category influences the incidence, prevalence and mortality due to different diseases, authors such as Harrison [3,16] from different points of view addressed the above. When facing the problem of Metabolic Syndrome, the professional has to educate the community to avoid the disease, this demands the understanding of the characteristics of society, specifically of a community that cannot be taken in a neutral way. Díaz [15] relates in his research the considerations for the improvement of the teaching-learning process in Higher Medical Education based on communication and the professional's sensitivity in the health-disease process. The authors of this research consider that every society has different characteristics, conditioning its behavior; the health professional can transform this group of people, if he knows and interprets the determinants of social behavior, and abstractly explores the axes that transform and dynamize social relationships, which are therefore not static, so that they are provided and they transform with time; for this reason, if these relationships are found, the dynamics of this process are discovered.

Hence, the role of training concerns the community but also the autonomous, transcendent and innovative medical specialist. For these reasons, the transcendental of the scientific training of the Internal Medicine resident in the hospital will be given by the social impact in the health context of the province in secondary care, since the Internal Medicine professional will develop with a and a professional performance consistent with the social, economic and political mandate of the nation in addition to achieving a comprehensive labor didactics for the improvement of the teaching-learning process of Internal Medicine residents that is expressed in the projection of professional praxis in the holistic care for patients with complex diseases from the Scientific Conception of the Holistic Configurational; aspect addressed by authors such as García [1] who specifically emphasized the creation and implementation of strategic plans that favor the development of regional programs, for the solution and improvement of the methodological, didactic and formative insufficiencies of this formation process. The authors of this research consider that the problem of a disease is not solved only with drug therapy; since, it is necessary the commitment, cooperation and integration of society; therefore it is a problem that must be solved in a comprehensive way.

From this approach, the other aspects cannot be neglected; the biological, medical aspect is essential, the biomedical and bioethical aspects are present in an individual who is not

isolated from society, but rather lives in it and is the product of a phenomenon that has occurred in society and all the conditioning that it has had cognitive, axiological, praxiological, ethical to moral are evident in the social sphere. By interpreting the cost-benefit categories of this disease as a dialectical pair, it entails for society the change in life habits; This decision is complex, but essential for the non-pharmacological treatment of this plurimetabolic condition. Balanced diets and physical exercise prevent the onset of Diabetes Mellitus and lower lipid levels. Prevention is the main strategy to reduce cardiovascular morbidity and mortality and reduce healthcare costs. The objective of the drug treatment of this pathology is to comprehensively treat all the components of the condition and reduce complications, in addition to improving the quality of life. Referring to the aforementioned, Carnota, et al. [18-20] considered the importance of management in health organizations in the health sector, meaning the economic aspects from his point of view.

The preventive and educational challenge of complex diseases means transforming and modifying behaviors of society; González [10] proposes changes in styles such as smoking, inadequate diet, guarantee of an appropriate lifestyle from childhood, since this complex disease every day appears in younger people that includes adolescents and infants, it is also recommended to decrease the intake of sugary drinks and foods rich in fat, as well as the increase in physical activity, decrease in obesity, and control of the components of the Metabolic Syndrome.

Conclusion

The Metabolic Syndrome is a social disease with a high impact on the world population, so the identified contradictions contribute to the scientific training of the Internal Medicine resident. The medical-training, environmental, economic and cultural contradictions constitute the main social arguments that characterize this study, so it is necessary to rethink about them, to perfect the systematization of pedagogical management and transform the dynamics of the formation of this educational process.

Conflict of Interest

The authors declare no conflicts of interest.

Authors Contribution

- Dr. C. Josefa Bell Castillo: Conception of the idea and preparation of the article. Data collection as well as analysis and interpretation. Contribution with the design, Search and review of bibliography; review and approval of the final version of the manuscript.
- Dr. C. Wilberto George Carrión: Preparation of the article. Data collection as well as analysis and interpretation.

Contribution with the analysis and interpretation of the data; Search and review of bibliography.

- Dr María de Jesus George Bell: Preparation of the article. Data collection as well as analysis and interpretation. Contribution with the design, Search and review of bibliography; review and approval of the final version of the manuscript.
- Dr. José Enrique Vazquez Sarandeses: Data collection as well as analysis and interpretation. Contribution with the design, Search and review of bibliography; review and approval of the final version of the manuscript.

References

1. García Gascón A, Querts Méndez O (2015) Pedagogical strategy for professional training in biomedical sciences. *MEDISAN* 19(2).
2. Bell Castillo J (2018) Scientific-clinical training of the internal medicine resident in the holistic care of patients with metabolic syndrome (Doctoral thesis). (CD-ROOM) Manuel F Gran Study Center. Universidad de Oriente. Santiago de Cuba.
3. Harrison (2013) *Manual of Internal Medicine (18th Edn.)*, MEXICO.
4. Corona Martínez LA, Fonseca Hernández M (2015) The need for the clinical method and its teaching. *Electronic Med Rev* 54(3).
5. Noya Chaveco ME, Moya González N (2017) *Internal Medicine Topics (Volume I, II, III) (5^{ta} Edn.)*. Havana, Cuba: Medical Sciences.
6. Ilizástigui Dupuy F (2010) The training of students of careers and residences of health professionals. Proceedings of the Conference delivered at the ISCMSC, November 1996. Havana: SOCECS.
7. Fernandez Sacasas JA (2013) The guiding principle of Cuban Medical Education An acknowledgment of the pedagogical doctrine proposed by Professor Fidel Ilizástigui Dupuy. *Journal of Higher Medical Education* 27(2): 239-248.
8. Alfonso JA (2014) The clinical method against new technologies. *Electronic Medical Journal* 36(4).
9. (2019) Cuba Ministry of Higher Education. Resolution No.140/2019. Regulation of Postgraduate Education of the Republic of Cuba (Official Gazette No. 65, Ordinary of September 5, 2019).
10. González Rodríguez R, Cardente García J (2016) Healthy life habits in metabolic syndrome. *Magazine Medical Sciences of Havana* 22(1).
11. León Cabrera P, García Milian AJ, Castell-Florit Serrate P (2016) The Millennium Development Goals and Sustainable Development from Cuban Public Health. *Cuban Journal of Public Health* 42(4): 576-584.
12. Bell Castillo J, George Carrión W, García Céspedes ME, Delgado Bell E, George Bell MJ (2017) Identification of the metabolic syndrome in patients with diabetes mellitus and arterial hypertension. In *MEDISAM* 21(10).
13. Benet M (2017) Prevalence of metabolic syndrome in workers of the Faculty of Medical Sciences of Cienfuegos. *Medisur Medical Electronic Journal*.

14. Salas Perea RS, Salas Mainegra A (2017) Training model of the Cuban doctor. Theoretical and methodological bases. Havana: Editorial Medical Sciences; Cuba.
15. Diaz Quinones JA (2015) Considerations for the improvement of the teaching-learning process in Higher Medical Education. Medisur 13(5).
16. Vicente Pena E (2016) Internal Medicine. Diagnosis and treatment. (2nd Edn.), Havana: Editorial Medical Sciences.
17. Sarasa NL (2015) Pedagogy in medical science careers. Rev EDUMECENTRO 7(1): 193-213.
18. Carnota Lauzán O (2016) The emergence of management in public sector health organizations. Cuban Journal of Public Health. 42(4): 1.
19. Ortiz-Sanchez Y (2016) Pedagogical training model of the medical professional from the care work. (Doctoral Thesis). Center for Higher Education Studies "Manuel F. Gran", Santiago de Cuba, Cuba.
20. Rojas Baso A, Espinosa Rodríguez RC, Castro Bosch MN, Acosta Garrido A (2017) Ethical-humanistic training in the revitalization of teaching-learning content in initial medical training. Teacher and society magazine 14(2): 197-210.

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