

Epidemiology as a theoretical-methodological framework in the nurses' working process

A EPIDEMIOLOGIA COMO REFERENCIAL TEÓRICO-METODOLÓGICO NO PROCESSO DE TRABALHO DO ENFERMEIRO

LA EPIDEMIOLOGÍA COMO REFERENCIAL TEÓRICO-METODOLÓGICO EN EL PROCESO DE TRABAJO DEL ENFERMERO

Adeli Regina Przybicien de Medeiros¹, Liliana Müller Larocca², Marta Maria Nolasco Chaves³, Marineli Joaquim Meier⁴, Marilene Loewen Wall⁵

ABSTRACT

The objective of this reflection was to understand epidemiology as the theoretical-methodological framework for collective health nursing practice. This study is a bibliographic investigation which analyzed articles and books that point out the strengths and weaknesses of classic, social and critical epidemiology, with the purpose to examine their concepts in regards to nursing practice. The connections between the knowledge obtained from the above-mentioned views of epidemiology which allow the creation of nursing interventions to change health realities are discussed. Critical epidemiology is supported by the recognition of the protecting processes and wearing determinants of the health-disease process experienced by different social classes. Hence, nurses should plan health interventions aiming beyond the identified illness, proposing interventions committed to changing historical and social processes, taking into account the unique, particular or structural dimensions that eventually determine the health-disease process in individuals or groups.

DESCRIPTORS

Epidemiology
Public health
Health-disease process
Nursing care

RESUMO

Esta reflexão teve como objetivo compreender a Epidemiologia como referencial teórico-metodológico para a prática da Enfermagem em Saúde Coletiva. O método de pesquisa foi uma investigação bibliográfica, com a análise de artigos e livros de estudiosos que apontam as possibilidades e limites das Epidemiologias clássica, social e crítica, com intuito de aproximar suas concepções à prática do enfermeiro. Discute-se que a articulação dos conhecimentos advindos das supracitadas visões de Epidemiologia possibilita a construção de intervenções de Enfermagem para a transformação de realidades de saúde. A Epidemiologia Crítica ampara-se no reconhecimento dos processos protetores e de desgastes determinantes do processo saúde-doença vividos por grupos de classes sociais distintas. Assim, cabe ao enfermeiro planejar a intervenção em saúde para além do adoecimento identificado, propondo intervenções comprometidas com a mudança de processos históricos e sociais, nas dimensões singular, particular ou estrutural, que acabam por determinar o processo saúde-doença em indivíduos ou grupos.

DESCRITORES

Epidemiologia
Saúde pública
Processo-saúde-doença
Cuidados de enfermagem

RESUMEN

Reflexión que objetivó comprender la Epidemiología como referencial teórico-metodológico para la práctica de Enfermería en Salud Colectiva. Se realizó una investigación bibliográfica, con análisis de artículos y libros de expertos que sugieren las posibilidades y límites de las Epidemiologías clásica, social y crítica, con la intención de aproximar sus concepciones a la práctica del enfermero. Se discute que la articulación de los conocimientos devenidos de las citadas visiones de Epidemiología posibilita la construcción de intervenciones de Enfermería para la transformación de realidades de salud. La Epidemiología Crítica se ampara en el reconocimiento de procesos protectores y desgastes determinantes del proceso salud-enfermedad experimentados por grupos de distintos estratos sociales. Corresponde al enfermero planificar la intervención en salud más allá del padecimiento identificado, proponiendo intervenciones comprometidas con cambios de procesos históricos y sociales, en dimensiones singulares, particulares o estructurales, que lleven a determinar el proceso salud-enfermedad en individuos o grupos.

DESCRIPTORES

Epidemiología
Salud pública
Proceso-salud enfermedad
Atención de enfermería

¹RN. Specialist in Health Administration and Control of Hospital Infection. Master student, Graduate Program at the Federal University of Paraná. Nurse, Hospital das Clínicas, Federal University of Paraná. Member of the Health Policy, Management and Practice Research Group. Curitiba, PR, Brazil. adeli.medeiros@ufpr.br ²RN. PhD in Education. Associate Professor, Nursing Department, Federal University of Paraná. Deputy-leader of the Health Policy, Management and Practice Research Group. Curitiba, PR, Brazil. liliana@ufpr.br ³RN. PhD in Sciences. Associate Professor, Nursing Department, Federal University of Paraná. Curitiba, PR, Brazil. mnolasco@terra.com.br ⁴RN. PhD in Nursing. Associate Professor, Nursing Department, Federal University of Paraná. Leader of the Health Policy, Management and Practice Research Group. Curitiba, PR, Brazil. mmarineli@ufpr.br ⁵Obstetric Nurse. PhD in Nursing. Professor, Graduate and Undergraduate Nursing Programs, Federal University of Paraná. Member of the Study, Research and Extension Center in Human Care in Nursing. Curitiba, PR, Brazil. wall@ufpr.br

INTRODUCTION

Since the 1990s, with the passing of Law 8.080/90, Epidemiology has been acknowledged as an important theoretical framework to ground health actions that positively improve the health of the Brazilian population⁽¹⁾.

Traditionally defined as the science that studies the distribution of diseases and their respective causes in human populations, the knowledge base of epidemiology increased in the 20th century, when scientific knowledge was consolidated and largely supported public and collective health practices.

Its origin dates back to the ideas expressed by Hippocrates and other scholars of the ancient world. The distribution of diseases among populations, however, started to be measured beginning in the 19th century when investigations concerning transmissible diseases improved scientific knowledge⁽²⁾.

In mid 20th century, in London, cholera cases reached epidemic levels and the physician and researcher John Snow, after careful investigation applying scientific logic to observational research, concluded that the miasmatic hypothesis concerning epidemic origins should be refuted. At the same time, Florence Nightingale (1820-1910) studied mortality due to postoperative infection in soldiers during the Crimean war, confirming the clinical studies of Semelweiss on a larger scale; Semelweiss associated postpartum infection with the presence of microbes⁽³⁾.

In this 19th century context, Classical Epidemiology was strengthened as a discipline in Europe, notably with the objective to effectively control epidemic outbreaks and their impact on the European economy, at the time in full consolidation of the industrial revolution. The aspects of analyzed phenomena, with an emphasis on etiological causes and risk factors, stratified the population into categories, providing the State with minimal information with a causal and positivist view of health, which marked the quantificational nature of Classical Epidemiology⁽⁴⁾.

Historically, Epidemiology has not always targeted the collective as the object of its study⁽⁵⁾. The biologicist conception endured for a long period and influenced the constitution of epidemiology as a discipline, which contributed to reflection within epistemological treading different paths, without the necessary connection and interface with social sciences⁽⁶⁾.

Such a fact is evidence that epidemiological science is disconnected from the collective perspective as it conceives population as a mere sum of individuals and resorts to a single clinical discourse to seek acknowledgment and legitimacy⁽⁵⁾.

Some distinct models, focused on individual actions (vaccination, health education) and also directed to so-called risk groups, were conceived to overcome classical causality in an attempt to privilege the collective dimension of the health-disease phenomenon⁽⁷⁾.

Epidemiology, in contrast from Clinics, uses a predominantly inductive mode of reasoning: it departs from occurrences in populations and, after grouping and necessary analysis, results in inferences applicable to other populations exposed to the same conditions. In Clinics, however, the risk of becoming sick is applicable to the technical object, which does not have a collective nature and does not refer to populations (or only remotely does so) but to individuals⁽⁵⁾.

The causes of disease, however, most frequently go beyond the field of application in Clinics, and this is why there is a need for knowledge that goes beyond the identification of signs and symptoms to classifying illnesses. This understanding enables us to recognize the collective face of the health-disease continuum in the individual and contributes to a broadened, non-reductionist view of its determinants, because it seeks explanations for disease *out* of the individual morbid entity⁽⁵⁾.

From this perspective, Epidemiology, in its social and critical approaches, is an essential science to provide and interpret information that enables the analysis of phenomena in the political-economic-social context in a given historical time. The concretization of changes proposed, however, depends on the minds and hands of those involved, as well as the interaction of these with the remaining social processes⁽⁴⁾.

The different ways of thinking about health are organized in distinct practices: Public Health and Collective Health. Public Health⁽⁸⁾ is consolidated as the control of diseases in the society and is based on the conceptions of the Traditional Epidemiology and Multi Causality Theory, with empirical concepts of health and disease, reduced to the phenomenal plan and individualized to the biological cause. The methodology of intervention, in this context, is empirical-analytical, based on structural-functional positivism, whose guiding axis is the State's interests⁽⁹⁾.

Collective Health is consolidated as a field that produces knowledge through the interpretation of transformations, particularly those occurring in Latin-American society, in the search for explanations of diseases that affect low-income social classes. Its philosophical principle is Dialectical and Historical Materialism and is grounded on the Theory of Social Determination of Health and Disease. The methodology of intervention is based on Dialectical and Historical Materialism and on the understanding that objective reality is determined by its different dimensions: singular, particular and structural⁽¹⁰⁾.

Since the 1990s, with the passing of Law 8.080/90, Epidemiology has been acknowledged as an important theoretical framework to ground health actions that positively improve the health of the Brazilian population.

In this context, the human being is a social agent capable of transforming reality rather than a mere receptor of environmental influences⁽¹⁰⁾. Collective health⁽⁹⁾ should defend the interests of the population considering the urgent socio-sanitary situations of exploited peoples when choosing interventions.

The methodologies proposed by Social Epidemiology and Critical Epidemiology are further discussed as well as the possibilities of nurses intervening in health in the light of these conceptions.

UNDERSTANDING THE DIFFERENT CONCEPTIONS OF SOCIAL EPIDEMIOLOGY AND CRITICAL EPIDEMIOLOGY

The desire for better quality of life influenced the development of different conceptions concerning the health-disease continuum associated with disease causation, which contributed to the achievement of the right to health as a social right of citizens⁽¹¹⁾.

In acknowledging the social determinants of health and disease, Epidemiology presents itself as a social theory that explores the *structuring-destructuring-restructuring* of processes that generate the population's health needs in order to reorient health practices and heed such needs. This model contributed to evidence for the complexity of health problems identified in the collective, as well as the relationship of production and consumption processes to the set of health problems⁽¹²⁻¹³⁾.

Social Epidemiology⁽¹⁴⁾ is essential to complying with the principle of integrality established within the Brazilian Unified Health System (SUS) because it is able to connect the singular, particular and structural dimensions related to the objective reality of the individual and the collective, contributing to the understanding of phenomena and the planning of actions that enable the transformation of health contexts.

Critical Epidemiology, in turn, in addition to being organized around social determination and a dialectical view of the health-disease continuum, is focused on the resurgence of the concept *interculturality*, which refers to the integration of the individual with existing interpretative and social homogeneity from a dialectical and democratic perspective, aiming for an epidemiological action no longer centered on factors, uncultural individuals, and functionalist actions⁽¹⁵⁾.

Both approaches are philosophically grounded in Dialectical Historical Materialism. The first is a theoretical path that points to the dynamics of reality in society, while *dialectic* refers to a method of approaching reality seen as something in constant transformation⁽¹⁶⁾.

As a form of Nursing practice supported by Collective Health, grounded on the Dialectical Historical Materialism,

we highlight the Praxis Intervention Theory in Collective Health Nursing, which is a theoretical and methodological framework for nursing intervention in collective health⁽¹⁰⁾. This theory proposes understanding the objective reality of the health-disease continuum of a given collective, or expressed by an individual, through the identification of socially constructed historical processes in the singular, particular and structural processes. Hence, it seeks to understand the associated processes of protection and weariness, identifying contradictions between or within them. Such reflection promotes a critical understanding of processes expressed in objective reality and the planning of interventions that enable the transformation of reality and also contribute to structure policies in the health sector⁽¹⁴⁾.

The five stages proposed by the Praxis Intervention Theory in Collective Health Nursing for collective health intervention includes apprehension and interpretation of objective reality. Then a project, which should take into account the priorities listed according to the vulnerabilities found, is developed; intervention is then implemented to change the dialectic contradictions that were found in reality. Finally, objective reality is reinterpreted, that is, the new reality and its contradictions are assessed, to re-evaluate the previous stage in order to continue intervening and changing processes that determine such reality.

Nursing care is based on three principles of dialectic during the stages of identifying, interpreting and intervening, which are: law of the struggle of opposites; law of transformation of quantitative into qualitative changes; and law of the negation of the negation. The first law refers to the constant contraposition among the various dimensions, or within the dimension itself that composes each phenomenon. Reflecting on contradictions is intended to identify vulnerable points and evaluate the governability of the professional to change that reality. The second law, in turn, can be perceived in the intervention, when quantitative changes originate qualitative changes. And finally, the law of the negation of the negation is applied at the point when the professional perceives reality is qualitatively changed, thus, previous reality is then negated, giving place to a new reality, which even though it still presents marks of the previous reality, is now different⁽¹⁷⁾.

The process of identification should describe in detail the strengths and weak points of the health service—in this case, in the Collective Health field—in terms of its objectives, available work force, organization and infrastructure, existing programs, supervision, connection with other services, information systems, care tools, and description of the epidemiological profile, also including information concerning the work performed by the health staff. Previously standardized data collection methods are required⁽¹⁴⁾.

Hence, the process of identifying social determinants of health and disease and an individual's reality or that of a collective means going beyond the mere verification of

individuals' data or a characterization of the community/ population, in order to understand processes of protection and fatigue in historical and social contexts. Such processes are defined by the way people are included in social production-reproduction and work-consumption processes. Based on this understanding, the various ways of organizing groups according to the social class to which individuals belong are identified when exploring possibilities of social reproduction in society. In this reality, we consider that the whole is not merely the sum of individuals because there is a complex dynamic that shapes it, which is greater than the mere sum of parts. The latter is perceived in a deeper analysis as proposed by the Praxis Intervention Theory in Collective Health Nursing.

Social reproduction is the movement of production and consumption that takes place according to a given collective. Awareness and organization are constructed in this movement and contribute to the transformation of the relationship of the human being with nature. The economic dimension, culture, political organization and the relations of preservation and fatigue are implicit in this movement. These relations are represented in the epidemiological profile of a given collective; even though they are not directly perceived, they should be acknowledged when one reflects upon the processes that generate protection or fatigue for individuals or the population⁽¹⁵⁾.

The view of totality, one of the theoretical bases of Critical Epidemiologic, allows the proposition of a discussion concerning interculturality, which assumes that the relationships among the various cultures is supportive, without one absorbing the other, and enables the development of health interventions that breaking with the existent interpretative and social homogeneity, promoting advancement within a dialectic and democratic understanding that strengthen emancipatory health actions.

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FINAL CONSIDERATIONS

Reflecting on the history of Epidemiology as science is an important opportunity for nurses to acquire the tools of a theory of knowledge because it enables them to develop a different point of view that considers the process of organization of health policies.

Being included in the dynamic process that challenges collective health is currently a pressing need that requires an epistemological foundation concerning the science of Epidemiology—an essential theoretical foundation for the accurate interpretation of objective reality—as well as the proposition of professional practices in the face of political and health models, aiming to improve the use of Epidemiological science as a tool for the nurses' work process.

The development of Nursing knowledge needs to share validation of epidemiological knowledge so as to effectively contribute to consolidating the Brazilian Unified Health System and reducing social inequalities. By breaking with the view that reality is reduced to a single plan that we can observe directly, nurses will be able to understand generative processes, explore contradictions existing in the dimensions of that reality, and participate in a more decisive way, in the definition of policies in the health sector and regulations concerning their own practice.

Such a perspective can be effected through practice, whether in health intervention or during the nurses' education, which focuses on the identification of determinant processes that are generated in the different dimensions of reality, as opposed to the understanding that endorses reality as it appears to us, focused on the signs, symptoms and complaints presented by individuals.

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