
SOCIAL EPIDEMIOLOGY, EDUCATION, AND HEALTH PROMOTION

IN INFECTIOUS DISEASE

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ABSTRACT

This short communication discusses a project in Rio de Janeiro involving an attempt at imparting clinical and social epidemiology knowledge through educational initiatives. In small groups, social epidemiology was discussed in the context of a clinical/epidemiological project on various infectious diseases. Relevant knowledge was produced collaboratively by a multidisciplinary team of clinical research and project participants, comprising patients, relatives, friends, and health workers. An improvement in the learning capacity of participants was observed, fostering active appropriation of scientific knowledge. In dealing with infectious disease, social epidemiology contributes to the development of new strategies for collaborative research and disease prevention.

KEYWORDS: Health promotion; social epidemiology; infectious diseases.

RESUMO

Epidemiologia social, educação e promoção da saúde em doenças infecciosas

Esta comunicação discute um projeto desenvolvido no Rio de Janeiro, Brasil, que vincula epidemiologia clínica e epidemiologia social por meio de iniciativas educacionais. Abordagens da epidemiologia social foram utilizadas num projeto clínico-epidemiológico em doenças infecciosas, no qual a construção do conhecimento envolveu os próprios participantes (pacientes, familiares, amigos e trabalhadores da saúde) juntamente com a equipe multidisciplinar de pesquisas clínicas. Foi observada uma melhoria na capacidade de aprendizagem dos participantes que contribuiu para

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a apropriação ativa do conhecimento científico. Ao lidar com doenças infecciosas, a epidemiologia social favorece o desenvolvimento de novas estratégias de investigação colaborativa e de prevenção da doença.

DESCRITORES: Promoção da saúde; epidemiologia social; doenças infecciosas; educação e promoção da saúde em doenças infecciosas.

The main focus of social epidemiology is the way in which society and different social organizations influence the health and well-being of people and social groups. The discipline incorporates the evaluation of living conditions and experiences for a better understanding of how, where, and why health inequalities occur. A strong link to the social sciences is thereby encouraged (Barata, 2005; Kaplan, 2004; Krieger, 2001; Oakes & Kaufman, 2006).

Some epidemiologists claim that the prime contribution of social epidemiology, from the epistemological and methodological points of view, is its focus on investigating the social determinants of health, disease, and well-being in specific populations, rather than describing health and disease as determined by biological processes (Oakes & Kaufman, 2006). Social researchers contend that social epidemiology comprises different methodologies including eco-epidemiology, social capital theory, the life course perspective, social production of illness, eco-social theory, and phenomenological, pragmatist, and ethnographic approaches to patients' experiences (Marmot, 2001; Macleod & Davey-Smith, 2003; Avila-Pires, 2013). All of these theories link the biological and social processes which make up living organisms, each drawing on its own theoretical peculiarities to construct a systematic and integrated approach, capable of generating new hypotheses.

Regarding the investigation of disease in human beings, the biological realities of a given phenomenon are inextricable from its social context. Thus, epidemiology encompasses different social and biological processes and their interrelations. Even if the object of study is circumscribed by the methodology to be used (quantitative versus qualitative), one can argue that connections can be traced, either from biological to social processes or vice versa. This then becomes what one could call a hybrid approach to the study of the determinants of health, seeking to explore the relationships between the organic, behavioral, environmental, and social processes which make up human beings.

This short communication discusses a research project in Rio de Janeiro, Brazil, involving an attempt at imparting knowledge of clinical epidemiology and social epidemiology through educational initiatives. In this manuscript, we attempt to highlight the benefits of this approach and the ways in which social epidemiology can interact with clinical research on infectious disease.

The mission of the Evandro Chagas Clinical Research Institute (ECCRI) at the Oswaldo Cruz Foundation in Rio de Janeiro, Brazil, is the study of infectious disease through patient care programs. These programs are integrated,

with multidisciplinary research and teaching projects focused on recovering and promoting health and preventing diseases. Since 2002, ECCRI has developed a research project through its Research Laboratory of Epidemiology and Social Determination of Health, focused on the prevention of tuberculosis in patients infected with the human immunodeficiency virus (HIV) (Souza et al., 2009). In 2005, a preliminary study was conducted to determine whether patients in the follow-up phase of the tuberculosis prevention project would be interested in participating in a targeted study group and cooperating in its implementation. The idea emerged from a public health consultation during which the multidisciplinary patient-care team heard unique personal stories, mainly from patients with infectious and parasitic diseases including HIV, tuberculosis, Chagas disease and leishmaniasis. The patients' relatives and friends also recounted their experiences (Souza et al, 2008).

The team identified the education level of group members, and the interest shown by the vast majority in continuing their studies through formal teaching. Many expressed a desire to return one day to the classroom, simply to learn. The project was based on the assumption that learning about disease prevention, particularly defining the characteristics of various infectious diseases, should occur jointly with a diversity of public health educational activities. The experience of hearing the patients stories, combined with the epidemiological profile of the diseases in question, led to an initial research project entitled, "Health Education: Epidemiology and Prevention of Infectious and Parasitic Diseases." Based on this preliminary study and its encouraging results, the first study group was established, targeting ECCRI patients, along with their relatives and friends. This group was entitled the "1st Study Group in the Epidemiology and Prevention of Infectious and Parasitic Diseases". The objective of the group was to cover, examine, and discuss infectious diseases and their prevention. These were concepts that some of the participants were already familiar with from earlier studies. We planned to achieve the objective through dialogue, integrating the health team and the participants. This project was approved by ECCRI's Research Ethics Committee (number: 0031.0.009.000-06)(Souza et al, 2008).

Discussions were held in group format and included the healthcare team, patients, relatives, and friends. Sessions were recorded with the knowledge and authorization of all participants, with the sole objective of supporting questions and reflections about the diseases in question. The project coordinator was committed to ensuring the confidentiality and privacy of all participants in the teaching-learning process.

Thus far, six study groups have been conducted between 2005 and 2011, with approximately 120 participants. The first study group's impact led to interest and demand from patients of the tuberculosis prevention project and their relatives and friends. The second group was formed from workers in the various departments and services at ECCRI, including administrative personnel, laboratory staff, housekeeping and dispensary employees, among others, with the same educational

objectives. For the third study group, the participants were mixed, including patients, relatives and friends, as well as ECCRI staff. The groups' theoretical and practical activities were based on the contents of a book produced by the team at the suggestion of participants in the first study group. Topics include cell structure, microbiology, parasitology, epidemiology including diseases with compulsory notification, venomous bites and stings, human anatomy, pharmacological surveillance, hospital infection, and clinical research (Souza, 2009).

The topics covered in the book, despite traditional biomedical content, allowed discussion, fundamental to teaching practice, between the project team and its participants. After discussion, practical exercises motivated the class and raised new ideas regarding health, illness and health services (MS, 2008).

The influence of social determinants on illness assumes that health is a social and human phenomenon. Individuals are seen in the context of social and historical practices, including individual and collective relationships between people and with nature (Barbosa; Costa, 2013).

The social dimension of health in the perspective of a coordinated improvement in health policy points to ways in which health education can become sustainable for communities, groups and services), and encourage inter-sectoral policies. The lack of coherence between activities generates social exclusion and health inequalities (MS, 2008).

Within this context, the production of knowledge generated from the educational practices in study groups, was an enriching experience for everyone, providing scientific knowledge in an active way through hands-on activities such as the manipulation of anatomical models and the use of microscopes (smears of *Trypanosoma cruzi*, *Plasmodium falciparum*, *Giardia lamblia* and *Leishmania spp.*). Whenever we were able to integrate theoretical teaching with practical activities, we observed an improvement in participants' learning capacity. Visualization and active reading of images, in particular, emerged as major skills associated with enhancement of the learning process.

There is a consensus among many authors highlighting the fact that the images play an important role in the process of teaching and learning (Aumont, 2000; Belmiro, 2000; Carneiro, 1997 Comerlato 2011 among others).

Visual representations facilitate human understanding, contributing cognitive effects and favoring learning (Rocha Pereira Henriques, 2013). One must be careful when using images in science classes because it means not only the understanding or building of ideas with text or images, but may also displace the ways individuals relate to these symbolic objects (Silva et al, 2006).

In dealing with infectious disease, the contribution of social epidemiology mainly targets the development of new strategies for collective research and disease prevention. The latter includes educational actions aimed at improving the quality of life of a population, and consequently improving disease prevention and control. Teaching methods for scientific knowledge associated with the health-disease process

through participation in collaborative learning experiences should be considered an important strategic tool in social epidemiology. In the traditional hospital routine, health education experienced by patients, their relatives, and their friends is passive, tending towards a specialized monologue. This often fails to influence behaviors and expand the subjects' knowledge. This overlooks the need to establish interpersonal relations which guarantee active listening and freedom to question.

The educational approach behind these activities is based on the theoretical principles of Freire, which emphasize the dialogical conception of competence that recognizes and considers the history of people and societies in their processes of reproduction or knowledge and values transformation, which legitimize the attributes and the expected results in a given area of knowledge. This clarification allows a more open process of exploration of different concepts, interests, values and ideologies, which invariably govern and determine the intentionality of educational processes, but are not always discussed in a more participatory and democratic society (Freire, 1993).

The dialogical education is a basic condition for the production of knowledge in order to develop the autonomy and responsibility of individuals in health care, not by the imposition of technical knowledge, but the development, consideration and understanding of the situation from the living world (Freire, 1999)

When performing new practices in health education, adult education should be performed using the practices of Paulo Freire (1993), because education cannot be a practice of depositing content supported by a concept of men's minds being empty, but using the problems people experience. Therefore, the problem-based education adopted in this work, is based on the dialogical relationship between educator and student, which enables both to learn together through a process of emancipation.

Control of infectious disease generally results from progress made by therapeutic and ecological interventions, sanitation, and often disease-specific measures. Certain infectious diseases display a more complex ecosystem than others. AIDS involves social relationships, whereas ecological interrelations between the vector, parasite, and host are important in leishmaniasis, Chagas disease, malaria, dengue, filariasis, and sporotrichosis, among others (Grisotti, 2010; Silva et al., 2010; Dias et al., 2011). Education becomes a fundamental strategy for the control of such diseases, as a part of health promotion and primary disease prevention. The financial impact of these diseases is extremely high, and could be minimized through strategies involving the participation of the target population itself (Souza et al., 2008; Dreyer et al., 2006; Lenzi et al., 2004; Maeda & Gurgel-Gonçalves, 2012).

In light of the above, health education within the context of social epidemiology may offer a significant contribution, promoting knowledge and practices for dealing with various infectious diseases. This would be complementary to, rather than disruptive of clinical research on intervention programs. The

continuous and permanent interactions between health professionals and patients and their relatives are essential for achieving such objectives. This cooperation produces a greater impact through multidisciplinary and multiactor interventions.

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