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SCIENCE TEACHING AND DISEASES PREVENTION OF HISTORICAL INTER-ETHNIC CONTACT: THE SCHOOLING OF THE ENAWENE NAWE, JUINA, MATO GROSSO

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Abstract: This article aims to disseminate the partial results of the research developed in the Post-graduate studies *Stricto Sensu* in Education, State University of Mato Grosso do Sul (UEMS), along with Enawene Nawe students enrolled in the Education Center for Youth and Adults (Alternative CEJA) of Juina, in Mato Grosso. The research aims to investigate the teaching of science, with emphasis on diseases prevention known as diseases resulting from the historical inter-ethnic caught from *others* - mainly Sexually Transmitted Diseases and AIDS - in the process of formal education of 27 students Enawene Nawe, given the increasing interaction between different indigenous ethnic groups and non-indigenous society. The data present a review of literature and documents, as well as a curriculum analysis and the academic records of the above mentioned Centre as lesson plans, class diaries, or students' individual and/or collective written production in questions and interviews with the school professionals involved in the training of these students. Partial results point to the need for the school to give conditions for the carrying-out of an educational process linked to knowledge, rites of passage and the cultural codes in order to develop Preventive Education actions of Sexually Transmitted Diseases and AIDS. Thus, one of the possibilities for implementing these actions are science classes that meet the language, the way of life and the cultural codes of ethnicities.

Key-words: *Science Teaching; Enawene Nawe; Indigenous Health; STD/AIDS; Prevention.*

Resumo: Este artigo tem por objetivo divulgar os resultados parciais da pesquisa desenvolvida no Programa de Pós-Graduação *Stricto Sensu* em Educação, da Universidade Estadual de Mato Grosso do

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Sul (UEMS), junto aos alunos Enawene Nawe, matriculados no Centro de Educação de Jovens e Adultos (Ceja Alternativo) de Juina, em Mato Grosso. A pesquisa visa investigar o Ensino de Ciências, com ênfase na prevenção das doenças conhecidas como doenças do histórico contato interétnico advindas do *Outro* — sobretudo as Doenças Sexualmente Transmissíveis e a Aids — no processo de escolarização formal dos 27 alunos Enawene Nawe, dada a crescente interação entre as diferentes etnias indígenas e a sociedade não indígena. Os dados apresentam uma revisão bibliográfica e documental, bem como uma análise do currículo e dos registros acadêmicos do referido Centro: como planos de ensino, diários de classe, ou produções escritas individuais e/ou coletivas dos estudantes em questão e entrevistas com os profissionais da escola envolvidos no processo de formação desses alunos. Os resultados parciais apontam para a necessidade de a escola oportunizar condições para a realização de um processo educativo articulado aos saberes, aos rituais de passagem e aos códigos culturais da comunidade escolar indígena, a fim de desenvolver ações de Educação Preventiva das Doenças Sexualmente Transmissíveis e a AIDS. Dessa forma, uma das possibilidades para a implementação dessas ações são aulas de Ciências que respeitem a língua, o modo de vida e os códigos culturais das etnias.
Palavras-chave: *Ensino de Ciências; Enawene Nawe; Saúde Indígena; DST/Aids; Prevenção.*

1. INTRODUCTION

This article presents the partial results of a study conducted by the Enawene Nawe indigenous students enrolled in the Center for Youth and Adults (Ceja Alternate) Juina, Mato Grosso. The study is being developed in the Post-graduate studies *Stricto Sensu* in Education, State University of Mato Grosso do Sul (UEMS). The aim is to investigate how science teaching has been delivered, with emphasis on prevention of diseases known as diseases of historical interethnic contact, especially Sexually Transmitted Diseases and AIDS, in the process of formal schooling of these indigenous students.

To achieve the objectives of the research the curriculum as well as lesson plans, class diaries, written productions individual and / or collective of indigenous students CEJA Alternative are being analyzed, in order to describe the approach to science teaching dispensed in this educational institution.

The research is justified by the growing interaction that occurs between the community Enawene Nawe and non-indigenous society, becoming therefore necessary to guide this ethnic group on the

possibility of infection with diseases from the Other and its consequences for the preservation and survival of this ethnicity.

Therefore, it is important to note that studies by Langdon (2007) show that indigenous groups in Brazil,

> [...] Are in various states of contact: at one extreme, few remain isolated or semi-isolated and suffer the impact of violence and disease contact. At the other extreme, which is the situation for most, the Indians are in frequent and continuous contact with the society. This latter situation characterizes most regions outside of Amazon. In the South and in the Northeast, the Indians face a situation similar to the health of the poor in general: high prevalence of malnutrition, tuberculosis, dental problems, intestinal parasites, alcoholism, high infant mortality, low life expectancy, etc. Although there are no statistics available, AIDS seems to be able to become the new epidemic threatening the survival of indigenous peoples (LANGDON, 2007, p. 7).

Therefore, the Center Alternative school responsible for the formal education of students Enawene Nawe, has the commitment to guide them in relation to the prevention of interethnic contact diseases, especially STD / AIDS. In this perspective studies by Maria Clara Vieira Weiss (1988) indicate that in the period 1977-1997, the main diseases associated with deaths among Enawene Nawe were: flu, fever and abdominal pain, stillbirth, infanticide, fever and joint pain, intestinal paralysis in newborns, vomiting, malaria and pneumonia.

However, when we visited this village in July 2012, we found with Indigenous Health nurses, that today the diseases that affect this population are respiratory diseases and parasitic diseases - including Candidiasis - with no cases of HIV and hepatitis, although it has been diagnosed a case of HPV, which was not confirmed[4].

Thus, the Enawene Nawe live a time when they need to receive guidance on how to prevent disease and interethnic contact, this can be done by school, through the science classes, including content on health, as indicated by the thematic area "human and Health ", recommended by the National Curriculum Natural Sciences (1998).

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[4] This finding highlights the need to conduct a detailed survey and detailed analysis of official records.

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2. SCIENCE TEACHING AND HEALTH CARE

The discipline of Science in Elementary Education in Brazil, is a relatively recent practice. According to the parameters of the National Curriculum of Natural Sciences (BRAZIL / NCP, 1998), it was only from 1971, with the Law 5692 that this subject started to be compulsory in the school curriculum, having as one of its main objectives: "to understand the personal, social and environmental health as individual and collective goods that should be promoted by the action of different agents" (BRAZIL / NCP, 1998, p. 33).

The document provides for the first and second cycles the topics: "Life and Environment" and "Human and Health". On the second axis orients "the design of the human body as a whole, an integrated other systems interacting with the environment and reflects the history of the person's life" (BRAZIL / NCP, 1998, p. 45). Also according to the document, are important issues for understanding and development of the body:

> The characteristics of the stages of life in its cycle, energy obtaining, transport and transformation of water and other materials, the defense systems of the body as well as the relationships between these processes with each other and with the environment. A constant in addressing these issues is the maintenance of health. The development of the topic of work linked to sexuality and reproduction is important every cycle, for it is a subject of great interest and relevance to social, going deep in different contents in connection to Sexual Orientation (BRAZIL / NCP, 1998, p. 45-46).

The relationship between the diseases and the economic, political, social and historical facts are discussed in Theme Cross Health and enable discussions on human responsibilities focused on the common welfare, the conditions and health goals, which are not limited only to Science education.

Historically indigenous communities - from the period of colonization of Brazil - the diseases from contact with Europeans, who came here, were responsible for the decimation of many ethnicities, given the absence of any kind of specialized medical care given to these people. Only in the early twentieth century, with the establishment of the Office for Protection of Indians (SPI), a program indigenous health was formalized, but less efficient, as demonstrated in the next section three (3) of this article.

Given these considerations it is necessary to interact with other subjects, with diverse approaches, for media forces different consumption habits by conveying advertisements, so that citizens consume foods and drugs. However, "the school's role is to graduate students with insights and capabilities that make them able to discriminate information, identify aggregated values to this information and make choices" (BRAZIL / NCP, 1998, p. 46-47), since it could avoid the spread of diseases that affect communities, because they lack knowledge and information in this area.

3. INDIGENOUS HEALTH IN BRAZIL

To understand indigenous health, we seek the words of Darcy Ribeiro, in his book *The Indians and civilization: integration of indigenous peoples in* Modern *Brazil* (1996): "The diseases have always represented the first factor of the decline of indigenous peoples" (RIBEIRO, 1996, p. 230). This author also points out that:

> In the more acculturated groups, which lost their ecological adaptation system, due to the adoption of new techniques and different eating habits, were manifested deficiency diseases that do not appear to occur in the tribes that still maintain their traditional way of life. Indeed, it is a general occurrence in all the tribes, the decline in physical vigor, as they abandon their traditional habits and begin to adopt the procedures of the civilized. This drop in strength and consequent population decline relates both to biological factors as well as social and psychological (RIBEIRO, 1996, p. 231).

As the author demonstrates the interethnic also interfered in their culture, economy and social organization. Indigenous peoples were compelled to live as 'whites', abdicating their languages and customs. Their territories were disputed and wealth and their descendants enslaved. If still not enough, there was the problem of poor patient care (RIBEIRO, 1996).

Another author who investigates the health of indigenous peoples is the anthropologist Esther Langdon (2007), who notes that were missionaries who provided some sort of health care to indigenous people. However, in 1910 was created the Service for Protection of Indians (SPI), which assumed responsibility for indigenous health in Brazil. This author also states that during this period these health services "were small in number, sporadic and disorganized" (LANGDON, 2007, p. 7-8).

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With the extinction of the SPI in 1967 was created the National Indian Foundation (FUNAI), which took over the responsibilities of the SPI and service to Indians was organized in this way:

> Health clinics for the provision of primary care were established within Indigenous Lands - IT. One health attendant, who had their activities complemented by health team visitors usually attended the Tour. Difficult cases that required treatment or diagnosis were met by sophisticated local hospitals, rural health services, INAMPS, and State Departments of Health, who kept covenants with FUNAI (LANGDON, 2007, p. 8).

Furthermore, the author also highlights that services were limited to the distribution of medicine, mainly because outside of Indigenous Lands, the Indians were discriminated against in local hospitals, as noted Roque de Barros Laraia on ethnocentric attitudes, which are common, although they need to be overcome. To the author:

> The fact that man sees the world through their culture has as a consequence the propensity to consider their way of life as the more accurate and more natural. This trend called ethnocentrism is responsible in its extreme cases by the occurrence of numerous social conflicts (Laraia, 1999, p. 75).

With regard to discrimination and problems in care, only in 1986 was organized the First National Conference for the Protection of Indigenous Health, to evaluate these issues and create an effective policy for the municipalization of health. This occurred through the reform of the health system in Brazil, which led the establishment of the Unified Health System (SUS), delegating more responsibility and power to municipalities (LANGDON, 2007).

Thus, the indigenous movement aspired to health services were organized within the principles of the Health System, "which include universal access, human health services and social control" (Langdon, 2007, p. 08). It was then that the Federal Constitution of 1988 established in its Article 198, the general rules of the NHS, where care for the rights of indigenous health became Federal competence with the direct management of the Ministry of Health.

The National Health Foundation (FUNASA) and the National Indian Foundation (FUNAI) were responsible for indigenous health services; however, there were serious problems of lack of funding and care organization for indigenous groups in Brazil. As a result, in 1999, it was launched the Indigenous

Health Subsystem which established 34 (thirty four) Special Indigenous Health Districts (DSEI), getting FUNASA full responsible to manage this subsystem (LANGDON, 2007).

To highlight the structural organization of DSEI, we will use the information provided in FUNASA Newsletter, April 2009, in its 8th issue, in the story *A milestone in the recovery of human dignity*.

> The structure of Funasa for indigenous health consists of 34 DSEIs located throughout the country, except in the states of Piauí and Rio Grande do Norte. In the states of Rio de Janeiro, Rio Grande do Sul, São Paulo and Espírito Santo are the Indigenous consultants who fulfill the same role of the DSEI. Besides DSEIs, Funasa manages 337 Polos-based distributed in 460 municipalities and 751 health units, of which 674 are located on indigenous lands, 55 in rural and 22 in urban areas. The other type of system are the 60 houses of the Indian Health Support (Couples), located in the municipalities of reference DSEIs (BRAZIL / NEWSLETTER FUNASA, 2009, p. 03-04).

According to this bulletin, the story The legal basis of indigenous health, the DSEIs have a strategy of structuring a differentiated model of care, in order to guarantee indigenous peoples' "right to universal and comprehensive health care, meeting the needs perceived by communities and involving indigenous people in the planning, implementation and evaluation of actions" (BRAZIL / NEWSLETTER FUNASA, 2009, p. 05).

However, when it comes to special attention, it is assumed recognition of ethnic and cultural specificities of the indigenous community. Langdon (2007) points out in his study that FUNASA failed to develop policies that will assist in effectively health teams, as efforts to provide special attention, were isolated, thereby tending to the "'essentialism' notions of culture and tradition, which became the center of the power struggle between communities and health teams" (LANGDON, 2007, p. 09).

Given the above, when one denies the contributions and stories of certain groups, they open the way for discrimination, intolerance and lack of ethics, without considering that there is no difference regarding social interaction, even in the education field and mainly in the health field.

Currently, health system for the indigenous population is administered by the Special Indigenous Health (SESA), regulated by Decrees. 7,335 and 7,336, of 19/10/2010. The structure of the Secretariat is in three areas: Management Department for Indigenous Health, Department of Care for Indigenous health and Special Indigenous Sanitary Districts. Thus, the Ministry of Health began to directly manage

the health care of the natives, taking into account the cultural, ethnic and epidemiological of 225 (two hundred and twenty five) peoples living in the country.

To answer a historical claim of the Indians, the DSEIs became autonomous, functioning as decentralized management units, responsible for the health care and sanitation in each indigenous territory. This autonomy has enabled decentralization and the attending for these populations have been integrated and articulated in the Unified Health System (SUS).

Another aspect to be considered is the statistical differences, with respect to the registration of the indigenous population in Brazil, between Funasa and IBGE data. At present, the FUNASA's[5] survey disclosed in the Management Report 2010, claims that there are 600,518 indigenous records registered in the Information System of the Indigenous Healthcare (SIASI), distributed in 4,774 villages, divided into 281 ethnic groups, scattered in 615 indigenous lands.

However, the Brazilian Institute of Geography and Statistics (IBGE) published in the 2010 Census, Brazil's indigenous population comprises a total of 896 900 indigenous, 36.2% living in urban areas and 63.8% in rural areas . This divergence is evidenced by the withdrawal of the mentioned Census, in which:

> [...] The total includes 817,900 indigenous declared in the item color or race of the Census as well as the 78 900 people living in indigenous lands and claimed themselves as of another color or race (mostly mixed race, 67.5 %), but considered themselves as "indigenous" according to aspects such as traditions, customs, culture and ancestors (BRAZIL / IBGE, 2010, p. 01).

In this perspective, nearly one million indigenous descent were massacred by non-indigenous society since the beginning of the Brazil colonization, being subtly led to believe that their cultures and ways of life were lower than those of "white", leading them to a life style that required them to contact with non-Indians, resulting in the loss of their identity, the absence of governmental policies for health care, education and the preservation of their traditional territories.

Not only with the absence of government actions, but also the interethnic history contact culminated in the transmission of diseases to which the indigenous population has a physical, psychological and cultural immunodeficiency, for health care through the traditional medicine in the

[5] http://www.funasa.gov.br

treatment of infectious diseases is ineffective. Many indigenous groups - disoriented and sick - were decimating it and / or being decimated, leading, in the 1950s, some anthropologists, including Darcy Ribeiro, to predict the complete disappearance of the indigenous groups in Brazil.

Fortunately, this prediction did not materialize, because from the 1970s, as highlighted by Maher (2006), indigenous peoples have organized movements demanding their rights and reaffirming their identities. These movements resulted in benefits in education and Indigenous Health, guaranteed by the Brazilian Constitution of 1988, for example, the right to differentiated education through their own processes of learning and the creation of new health and the struggle for the preservation of their territories.

4. PARTIAL CONSIDERATIONS

Currently Brazilian society has accompanied a growing and continuous population growth of most indigenous peoples, among them the Enawene Nawe village Halataikiwa in Juina, Mato Grosso. It is possible that in the XXI century we can be witnesses of the permanent increase in these populations and the diseases are no longer factors in many deaths among the different indigenous groups.

Although advances in institutions that serve the various ethnic groups is significant, indigenous health in Brazil still lacks a closer look by the Brazilian government, considering the increasing number of cases of Sexually Transmitted Diseases and AIDS among indigenous communities . Thus, it is necessary to develop Preventive education on health among these populations.

Maciel highlights that "the school is generally the scenario chosen by the Ministry of Education and the Ministry of Health to disseminate preventive campaigns and educational care for the body and health among Brazilian youth" (Maciel, 2009, p. 47) . In this perspective, with the spread of AIDS among indigenous youth prevention campaigns on health should be organized in schools, such as is the case Ceja Alternative Juina that besides offering comprehensive training to Enawene Nawe, also meets other ethnic groups in this central region of the country.

Thus, it is important that schools make it feasible for the realization of an educational process to articulate knowledge, the rites of passage and the cultural codes of the indigenous community school to develop Preventive Education actions for Sexually Transmitted Diseases and AIDS. Thus, one of the possibilities for the implementation of these actions are the science classes, along with the workshops, which are at key points to address pathogens, prevention methods, as well as the significance of the use

of condoms - male and female - for those peoples with culture highly distinguished from the non-indigenous culture.

Given the above, it is necessary that the teaching of science in schools located in developed areas respect indigenous language, way of life and the cultural codes of ethnicities, using Preventive Education activities - not only for STDs and AIDS, but also for other diseases - learning materials written in native languages that show the culture of each group.

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