

Diffusion of knowledge and urban legends: the case of internments due to sanitation conditions

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Abstract

The statement that in Brazil “68% of the internments are due to the lack of sanitation” is diffused on the Web pages. The weight of the diseases related with water in the internment is clearly overestimated. If one considers just the hydric transmission diseases, this proportion falls to 4.8%. 204 websites of environment defense organizations and institutions, professional associations, universities and research centers quoting this statement were found upon a search on the Internet. The transmission standards of false information characterize this as one additional urban legend among those that impair the establishment of priorities. As the public policies are established from an accumulation of knowledge, the transmission of information in reports, scientific papers and texts on the Internet may represent the longing of pressure groups to alter priorities of the sanitation area.

Keywords

internments; hydric transmission diseases; sanitation, risk reporting, health information

Introduction

“In Brazil, 68% of the internments are due to the lack of sanitation”. The phrase is being repeated in several institutional documents and scientific publications such as, for example, a report produced by Instituto Alberto Luiz Coimbra de Pós-graduação e Pesquisa em Engenharia (COPPE/UFRJ) on water management in Brazil (Mattar 2005). Certainly the assessment of the epidemiologic impact of sanitation was not the main object of the report that pointed out, among other con-

clusions, the great loss of water between its production and supply to population.

A great number of sites on Internet repeat the same statement, what raises the issue of quality of information available on Internet, its ways of disclosure and the discourse underlying the repetition of this sentence. In this sense, the Internet has been pointed out as an efficient means of data transmission, where much of this data is useless or false. In accordance with Jaime Breilh (1999) there is “a paradox in the capitalism of information, as, at

the same time they speed up the rhythm of data generation, the full knowledge decays and the critical thinking is broken; a process that we have been describing as a defeat of knowledge by information, characterized by an exhaustion of the categories and data of its critical content, by the fetishist construction of information and “decommunitarization” of knowledge”.

The objectives of this paper are to check the truth of this information and identify its disclosure manners. For this, there has been consulted the files of the internments recorded on the Hospital Data System (SIH), managed by the Computing Department of SUS (Datusus). Besides, there have been identified documents available on Internet that quote this estimate of proportion of internments due to lack of sanitation, as well as the flow of quotations among these documents.

Sizing sanitation in hospital internments

The weight of the sanitation conditions on the health system is clearly over estimated, considering that the main cause of internments in Brazil is, fortunately, the parturition. A consultation on Datusus’ website allows calculating that the causes associated to parturition and puerperium correspond to 23.1% of the reasons for internment, followed by diseases of the circulatory and respiratory systems in 2004. The infectious and parasitic diseases are in the fourth place in cause for internment, corresponding to 8.4% of that total. If the diseases classified as derived from hydric transmission are taken into account, this proportion falls to 4.8% (DATASUS 2005). Table 1 shows the total number of internments by the main causes in Brazil referring to 2005.

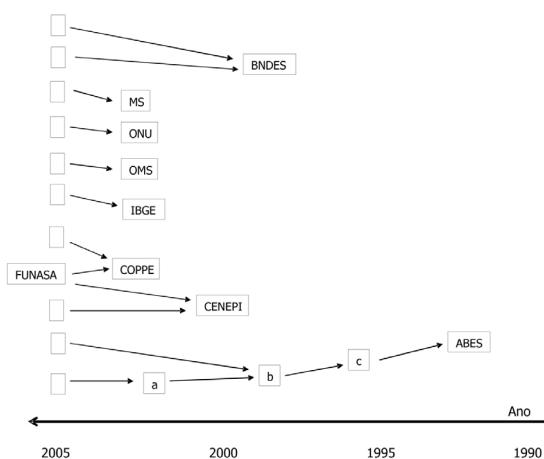
Table 1 – Number of internments pursuant to the Hospital Data System (SHI) per chapters of the International Classification of Diseases (CID-10) for 2005

	Number	Proportion
XV. Pregnancy – parturition and puerperium	2,645,411	23.0
X. Diseases of the respiratory system	1,713,996	14.9
IX. Diseases of the circulatory system	1,205,067	10.5
I. Some infectious and parasitic diseases	962,877	8.4
XI. Diseases of the digestive system	959,197	8.3
XIV. Diseases of the genitourinary system	773,215	6.7
XIX. Injuries, aging and some other consequences of external cause	754,254	6.6
II. Neoplasm (tumors)	585,552	5.1
V. Mental and behavioral disorders	294,730	2.6
IV. Nutritional and metabolic endocrine diseases	289,026	2.5
XIII. Diseases of the Musculoskeletal system and conjunctive tissue	254,075	2.2
XVI. Some affections that appear during the perinatal term	201,500	1.8
VI. Diseases of the nervous system	165,358	1.4
XII. Skin and subcutaneous tissue diseases	152,102	1.3
XVIII. Symptoms, signs and abnormal findings in clinical and laboratory exams	149,688	1.3
XXI. Contacts with health services	141,314	1.2
XVII. Cong malformations, deformities and chromosomal anomalies	89,824	0.8
III. Diseases of blood, hemat. Organs and disorders of the immune system	76,709	0.7
VII. Diseases of eyes and attachments	60,453	0.5
VIII. Diseases of ears and mastoid apophysis	16,963	0.1
XX. External causes of morbidity and mortality	1,572	0.0
Total	11,492,885	100.0

Flow of quotations and urban legend

The sentence on the huge weight of diseases associated with the lack of sanitation over internments appears repeatedly in newspaper articles, reports and even scientific publications. A search on Internet using the main portions of the sentence (“68% of internments” and “lack of sanitation”) shows 204 links to webpages of several institutions and organizations in a search performed in September, 2005. Other 472 webpages bring small alterations of the proportion amount of internments due to lack of sanitation (from 60% up to 90%) or changes in the health event used in indexes: obits, consultations and pediatric internment. In one of this webpages it is even stated that “about 85% of known diseases are hydro-transmitted”. The repetition of this sentence acquires features of an urban legend upon examining the data spread standard: its frightening content, the lack or inaccuracy of data sources, the lack of specification of local and reference term and its systematic reproduction (Urban Legends 2005).

Figure 1 shows the main quotations of the sentence involving the relation between internments and lack of sanitation.



- "In Brazil, 65% of hospital internments are due to diseases transmitted by water" (Tucci 2005).
- "60% of the cases of internment in pediatrics derived from lack of sanitation" (Mota 2000).
- Costa e Silva Jr., 1996 – reference not found

Figure 1: assumed flow of quotations among documents and institutions.

In fact, most part of the statements appear with no reference or a vague reference to the institution that produced the information, such as “WHO states...”, “data of the last census show...”, “data of the Health Ministry”, etc. Some standards can be highlighted from the flow of quotations and make reference to a document not found in BNDES, dated of 1998. Several other webpages quote institutions, and not documents, as source of information, such as Unicef, Health Ministry, IBGE,

or WHO. A third line of quotations return to previous documents, including chapters of published books and articles in specialized magazines(e.g., Mota 2000), with some amendments to their original content. A curious case of reference is Funasa, which reproduced a wrong information by means of news dated of June 14, 2004, a few months after disclosing Cenepe’s report, on January 9, 2004, providing a contrary information. None of the documents provides any information on the methodology used to calculate these amounts, just quoting some study that assumedly assessed the weight of the diseases associated to sanitation in the hospital internments.

It is clear that there is an intention in the unrestricted disclosure of the said sentence. Maurício Barreto (2004) emphasizes the role of the accumulation of scientific knowledge in the decision-taking, highlighting that this process occurs in a complex manner “being permeated by different constructions and valuations of the existent knowledge, in the same manner as every process of producing and disclosing knowledge is mediated by relations that are established inside the scientific community and of it with the several sectors and interests of society”. In the formation of this stock of knowledge, the urban legends can have an important role as catalysts of a social move or feeling. One of the cases that may be quoted in this sense is the prohibition to use cell phones while at gas stations, which was transformed into law due to the pressure exercised by exchange of messages on a series of explosions, which have never been confirmed, that occurred at these gas stations (Knobel 2003).

A strategy for understanding the ways the urban legends are developed is, thus, the specification of the context of the reported problems. It must be investigated, in this case, what is being called “lack of sanitation” and, on the other hand, which are the internments due to this problems, that is, to deepen the discussion on the role of the sanitation conditions and epidemiologic indexes that best represent them. It is at least contradictory that it is noticed in Brazil an increase of the coverage of the water supply services, which presently reaches 91.3% of the urban population, and sewage drainage, with 74.9% of the urban population with general sewage network or patent concrete cesspit, pursuant to the PNAD of 2004 (IBGE 2005), and that, at the same time, the water-transmitted diseases are so common.

In Brazil, most part of the urban population is acquiring access to water, through the expansion of supply networks, either by investments in sanitation companies, or by the individual efforts of connection to networks or even the creation of small non-official supply networks (Pontes & Schramm 2004). These investments in the distribution of water, on the other hand, are not followed by the removal and treatment of sewage, proper destination of waste and protection of water fountains. The contamination of surface and underground sources of water by waste or domestic or industrial sewage may pose a risk to the population served by supply networks. Some cases of diseases are being reported among populations served by these supply networks (Bahia-Oliveira et

al. 2003). In large Brazilian cities, such as Rio de Janeiro, the great majority of domiciles is connected to the general supply network, without this ensuring quality of water supply. (Barcellos et al. 1998). This set of factors makes sanitation a complex object that could hardly be summarized by a sole index.

On the other hand, the great group of the so-called diseases related to sanitation can be separated pursuant to the transmission mechanisms in which the water is involved (Heller 1997): the hydric transmission diseases, water based transmission diseases and diseases transmitted by insects. In the hydric transmission diseases, the pathogenic agent is present in water, that is, the water is the main form of exposition to agent. For the water-based diseases, the pathogenic agent develops part of its vital cycle in water through aquatic reservoirs and the water may be a form of contact of the agent with people. In the third case, the diseases transmitted by insects, the pathogenic agent does not have any direct relation with the water, but its life cycle depends on the insect, which is generated and feeds itself in water (Heller 1997). Within these groups, each of these diseases has virulence characteristics, incubation term, lethality and severity. Due to these differences, the injuries may be collected with greater or smaller efficiency by the health data systems. The possibility of some diseases, such as hepatitis, often presenting sub clinical manifestations makes many diseases be not perceived by the health system. More severe diseases may cause internments, which are recorded on their own data system. The lethality conditions the number of deaths that occurred and, therefore, the possibility of collection of data on the disease through the death certificate. Further, the same infectious agent may be transmitted by different exposition ways, presenting several clinical pictures, depending on the social and environmental context. A recent example was the outbreak of toxoplasmosis transmitted by water in Paraná (Bahia-Oliveira et al. 2003).

These diseases have different manners to be transmitted and it is essential to distinguish them in order to properly assess the risks to which the population is submitted. A desirable feature of an epidemiologic index is that it identifies the risks that may measure and over which one can intervene. The gathering of disease data under the great schedule of "sanitation-related diseases" does not contribute for the identification of problems and intervention on their determinants. It must be highlighted the growing role of the health data system in the development and improvement of the epidemiologic indexes. Some of these indexes were proposed for watching diseases associated with sanitation, based on the use of information on internment (Mendes et al. 2000).

Notes

The sanitation of cities and field remains a priority in Brazil. Sanitation is a citizenship's right, a convenience and a safety factor and assurance of health to population. To be complete, the installation of networks is not enough: there must be ensured the supply of water in sufficient

amounts and with sufficient quality for consumption. The development of proper epidemiologic indexes is critical to monitor this service and identify priorities.

Most of these websites that reproduce the urban legend on sanitation and internments pertain to NGOs (class entities or entities for environmental defense), sanitation services companies and education and research institutions associated to the engineering area. In order the fight for better sanitation conditions is not supported from a corporate logic of a professional category or category of companies, it is important to destroy myths. The accurate identification of current sanitation problems and their consequences on health is a critical task to allow acting on them.

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Christovam Barcellos is a geographer graduated by Universidade do Estado do Rio de Janeiro (University of the State of Rio de Janeiro) (1983), a Civil Engineer graduated by Universidade Federal do Rio de Janeiro (Federal University of Rio de Janeiro) (1985), with master degree in Biological Sciences (Biophysics) by Universidade Federal do Rio de Janeiro (Federal University of Rio de Janeiro) (1991) and doctor degree in Geosciences (Geochemistry) by Universidade Federal Fluminense (Federal University of the State of Rio de Janeiro) (1995). He worked as sanitarian in the State secretariats of Rio de Janeiro and Rio Grande do Sul. Presently, he is a full researcher of Laboratório de Informações em Saúde (Laboratory of Health Information) of Instituto de Comunicação e Informação Científica e Tecnológica em Saúde, of Fundação Oswaldo Cruz. He carries out activities in the research and teaching of Health Geography with emphasis on Health Watch, mainly in the following themes: geoprocessing, health watching, space analysis, health indexes and geographic data systems.