

“Acidente de dupla espécie”: uma terceira espécie de acidente do trabalho e sua importância para a vigilância em saúde do trabalhador

“Dual causation accident”: a third type of work-related accident and its importance for occupational health surveillance

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Abstract *The scope of this study is to contribute to the improvement of Occupational Health Surveillance in the Unified Health System (UHS), through the recognition and inclusion of a third type of work-related accident in the current Brazilian legislation classification: the dual causation accident. This classification aims at facilitating the establishment of a causal connection, thus broadening the understanding of the relationship between work process and the production of diseases. It also aims at improving legal rules to protect the health of workers. This approach, besides enabling the identification of sentinel events (starting point of surveillance activities), might contribute not only to a decrease in underreporting of work-related accidents, but also to the uniformity of concepts and the implementation of integrated actions of the National Social Security Institute (NISS), the UHS, the Ministry of Labor (MLE) and the Judiciary for the protection of workers. To propose a third type of occupational accident, a study of occupational accidents and causes of underreporting was conducted, with reference to the Brazilian labor legislation in the context of the National Policy on Occupational Health and the UHS.*

Key words *Work-related accidents, Occupational diseases, Labor legislation, Occupational health surveillance*

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Introduction

The underreporting of occupational accidents hinders their management. What is not measured, cannot be managed.
[Unknown authorship]

Occupational accidents are complex phenomena and a great problem for public health throughout the world. In Brazil, they are responsible for the main health problems of workers, with steep social and economic costs¹⁻⁴. An occupational accident is classified in Brazil in two types: typical accident, that we call type one, and occupational disease, that we will convene to call type two. This classification has merely didactic effects, as in Brazilian legislation there is only a definition of the typical accident. The other modalities are conditions that are equivalent to it, such as diseases arising from labor and transportation accidents from going to and from work^{3,4}.

The emergence of a focus on Workers' Health, as a process in an institution, began to acquire greater visibility based on a multiplicity of experiences that convened health professionals and well as union militants, the academic world and other social players. The emergence of "new characters" in the Brazilian political scene at the end of the 1970's and beginning of the 1980's found fertile ground in the protests for health reform in the country. This was a time when the public nature of health policies was redeemed and a new health system was built (advocated in the 8th National Health Conference and subsequently materialized in the - Unified Health System, SUS).

It is during this period, with intense debates and struggles favoring the re-democratization of the country that the *Centro Brasileiro de Saúde - CEBES*, founded in 1976, defined as the three broad priorities for the period: Demographic Policies, Environmental and Occupational Health, and the National Health Policy. The following year, a group of unions and worker federations in Sao Paulo created the *Departamento Intersindical de Estudos e Pesquisas de Saúde e dos Ambientes de Trabalho - DIESAT* (Inter-Union Department for Studies and Research in Health and Labor Environments), with a decisive role in the construction of a new way of thinking and a new field practice in relations between health and labor⁵.

The 1980's was rich in experiences, characterized by the plurality of ideological currents and policies attempting to build and consolidate

projects that advocated for workers' health. Some of the protests made that period the "golden age" of consolidation of Worker's Health. As an alternative response to the visions and traditional practices linked to Occupational Medicine there were: debates organized at universities; exchanges between union members and Brazilian health professionals, the workers movement and Italian institutions; the creation of departments and consultancy in unions; implementation of Programs and Reference Centers; publication of texts, editions of books and translations referring to the matter; workers' health weeks (Semsats); the growth of articles on the issue in the union press, denouncing the precarious labor conditions, accidents and "the slow death in factories"⁵⁻⁷.

Based on the multiplicity of new players therefore, of institutional and alternative spaces, Workers' Health began to gain visibility. This approach will be debated and systematized by a group of professionals connected to Collective Health, in which, markedly, the work of Asa Cristina Laurell⁸⁻¹¹, Jaime Breilh^{12,13}, Ana Maria Cristina Laurell⁸⁻¹¹, Ana Maria Tambellini¹⁴ and Maria Cecília Donnangelo¹⁵, among others, appear as references. Based on these works, there will be a construction of a way of think and acting, when it comes to the ties between the health-disease process and ways the working classes live, produce and reproduce. The interfaces between health and work acquired, in this context, a public nature, materialized in several union and institutional projects that took away the tutelage from the working bodies from the exclusive and private spaces of Medical Services of Companies (SESMT).

The emergence of Reference Centers and Workers' Health Programs, incorporated to the public network that offered services and open to the participation of union movements, allowed for the construction of an alternative model, not only for the democratic management of public equipment and to fulfill the needs of workers, but also for interventions in plant floors. Assistance to workers through these programs made it possible to unravel an epidemic of occupational diseases that all knew existed, but that were locked up in the archives and drawers of the SESMT of companies. Deleting and hiding of accident records and of diseases by workers themselves, unions and public surveillance entities end up being an effective denial of the "Rule of Law", of "one's own property" — the basis for any political institutional building of bourgeois citizenship. The lack of reporting of such records - besides the denial of publicly relevant statistical data - oper-

ates an ideological procedure that seeks to erase the negative effects of the organization of work on people's lives. Upon freely listing some events and characters that marked the appearance and the construction of the focus on Workers' Health, we want to prove that this field was set up (and continues to be set up) in the midst of a territory of disputers among the various rationalities that seek to impose their concepts, their visions. Thus, standards and practices are set up to expand or to restrict, to unveil or to hide not only the connections between forms of production and the fabrication of accidents and diseases, but also which are the agents with the legal prerogative to act upon and give the final verdict in cases of litigation⁵⁻⁷.

Part of this outlook is the proposal for a new category of occupational accident, going beyond the mere classification aspect, with the purpose not only of establishing a connection between two events that are separate in time (the accident and the disease). This would reinforce surveillance practices -, but also become a counterpart to present-day legislation, that, by privileging the monetary approach and reparations almost exclusively, no longer grants priority to the defense of workers health, and the need to put in place actions that will be able to act upon their conditions and determinants. The creation of the SUS¹⁶, in 1988; its subsequent regulation through Act no. 8,080/1990¹⁷; the proposal of a new National Policy for Workers' Health through Inter-Ministerial Ordinance no. 153/2004¹⁸, and the Pact for Health, in 2006¹⁹, among other events, point to the preeminent need to harmonize standards and articulate promotion, protection and health rehabilitation of workers. The clear priority is prevention actions and the transformation of unhealthy working environments that clash against the logic of reparation and monetization of risks.

The contribution of this work is aligned to this. Therefore, the aim of this work is to contribute to broadening the definition of occupational accidents, to facilitate establishing that causal connection. It is designed to emphasize prevention and workers' health surveillance activities, in contrast to what prevails at present, notably in standards, in social security and labor legislation, in which the logic of reparation and monetization stands out, in detriment of the defense of workers health.

Methods

The methodology applied was a review of the Brazilian labor and social security legislation, with a focus on occupational accidents, seeking to identify the rationale and the technical-legal discourse present in institutions that attempt to appropriate themselves of the definition and its domain, in detriment of the defense of workers health. For this, we used analytical techniques comparing texts of these discourses, comparing texts referring to the issue and those that appear in the Brazilian legislation. The importance of each legal text was inferred, based on specific factors determined in each of them, relating to occupational accidents, such as the definition, type, equivalence, characterization and classification of the type of accident.

To facilitate the task, we proposed to seek answers to the three questions:

1. What is and which are the types of occupational accidents, based on Brazilian legislation?
2. Does this legal definition or classification of occupational accidents comply with our present day understanding, characterization, reporting, approval of all of the types of occupational accidents and, consequently, their prevention?
3. Does the inclusion of one more type of accident, the double type accident, help in workers' health surveillance for?

Results and discussion: Advocating for the Inclusion of a Third Type of Occupational Accident

According to Oliveira³, the difference between a typical accident and an occupational disease is that "the first is characterized by the occurrence of a sudden fact (what is highlighted is that it is instantaneous) and the second sets itself in insidiously." For Brandão²⁰, the accident is distinguished by a corporal or psychic lesion that results from a sudden action of an external cause, while a disease is characterized by a foreseen cause, with a lesion or disorder that sets in slowly. Along these lines, Cabral⁴ states that the typical accident has a well-defined date and time, while an occupational disease does not have a well-defined date and much less a time. However, in certain situations, an occupational disease (with no set time or date) can be caused by a type accident (with a defined date and time), as in the case of a healthcare worker with hepatitis B resulting from a lesion caused by a contaminated needle. In this

case, although the onset is slow, the occupational disease had as its cause a sudden event, an accident while exercising work, and here we observe a hybrid condition³. This denomination proposed – “double type accident” – would allow for a more precise analysis of occurrences that affect workers health, besides making it possible to harmonize and characterize occupational accidents, especially this type of hybrid accident modality. This would reduce the potential for incorrect conclusions, with consequent underreporting of legitimate occupational accidents. According to Cordeiro²¹, the implementation of policies and prevention and intervention measures, as regards occupational accidents, are made ever more difficult due to notification failures, which becomes more evident when dealing with workers in informal economy.

The underreporting of occupational accidents is a great problem in the public health context, and a current practice among companies, a fact that hinders surveillance actions as well as granting workers the labor and social security rights conquered. Furthermore, there is an ideological role, that of hiding the deleterious impacts of productive organization on the health of workers^{4,21,22}.

Various factors contribute to the underreporting of Occupational Accidents, beginning with those connected to the type of occurrence, the investigation methodology and the reporting per se, all the way to approval by the *Instituto Nacional de Seguridade Social* – INSS [National Social Security Institute]. Through this chain of events, some causal factors for underreporting stand out: wrong interpretation of the accident, as not being severe; accidents with minor lesions or disorders, or even without lesions or disorders, with no disabilities, as happens with biological accidents; and catastrophic occurrences^{4,22-27}.

As long as they are adequately organized and trained, the Reference Centers in Workers' Health (CEREST) contribute to reporting occupational accidents, especially the more serious ones. In a survey carried out about accident reporting in one of the CEREST, the conclusion was there is an increase in occupational accident reporting when the center has good structure and physical facilities, and the size and personal training are sufficient to meet the demand and disseminate the center through the media²⁸.

Among the examples of a double type accident, what stands out is Posttraumatic Stress Disorder - PTSD (ICD F43.1). This is a mental disorder with growing prevalence in Brazil, impacted

by the increase in social violence, by the incorporation of “hazardous technologies” and high risk manufacturing plants that escape the control of workers and society. Notwithstanding this, their rates are unknown. To diagnose this condition and its relation with work, it is indispensable to know the occurrence prior to the catastrophic occupational event, without which, both (diagnosis and causal connection) are hampered²⁹⁻³¹.

Therefore, the recognition of the two events (accidents type one and two) as being unique (double type accident) establishes that causal connection between the two and a more integral approach for surveillance systems, making them more visible for a retrospective reference, based on the date of occurrence of the catastrophic event, as a retrospective one, based on the PTSD.

This coming together is indispensable, considering that the two events (catastrophic event and diagnosis of PTSD) can be separated by long timeframes, therefore making it difficult to prove the connection. Consequently, in the diagnosis of PTSD, previous knowledge of the patient's exposure to a catastrophic event is as important as the clinical picture of the disease, and is decisive information to establish its relation with the work and its organization.

Formal registry and control of catastrophic accidents, through their recognition as being legitimate occupational accidents (type one accident), as well as the identification and follow-up of workers involved, will contribute to the prevention of PTSD (type two accident). We should consider that psychological attention is essential in the therapeutic process and at all stages of rehabilitation, both psychosocial and professional. Furthermore it will facilitate, going forward, establishing the causal connection and defining harmonious and integrated actions among the different institutional entities responsible for the prevention of these events, and treatment, repair and rehabilitation of workers³².

Chart 1 presents the legislation texts of Act no. 8213/91, selected and deemed pertinent for the discussion of the proposal for nomenclature “double type accident”, presented in this study³³. In terms of characterizing this as an occupational accident, NR 32 gains importance, since it makes it mandatory to issue the Communication of Occupational Accident (CAT) in occurrences with or without the worker having to cease work. We can define occupational accidents in two types, the typical accident and disease related to work³. Equivalence is set forth by Article 21, items I, II, III and IV. The technical characterization and

Chart 1. Fragments of the texts from Law 8213/91 referring to labor accidents, regarding their definition, classification and equalization or equivalence, 2013.

	Law 8213
Definition	<p>Article 19 - Definition Art. 19. A labor accident is what happens during the exercise of work, at the service of the company or through the exercise of work of those insured and referred to in Item VII of Art. 11 of this Act, causing a body lesion or a functional disorder that may cause death or the loss or reduction, permanent or temporary, of the ability to work.</p>
Classification	<p>Article 20 - Types: professional disease or occupational disease Item I I - a professional disease, thus understood is produced by or triggered by the exercise of specific work of a certain activity and that is part of the respective list drafted by the Labor and Social Security Ministry;</p> <p>Item II II - occupational disease, thus understood is acquired or triggered as a function of the special conditions in which the work is carried out and relates directly to that work, part of the list mentioned in Item I.</p>
Equalization or alignment	<p>Article 21 - Equalization relations in labor or occupational accidents</p> <p>Item I - The equalization of an occupational accident is. I - the accident linked to the work, which, albeit not having a sole cause, has contributed directly to the death of the person insured, to a reduction or loss of the ability to work, or produced a lesion which demands medical attention for its recovery;</p> <p>Item II - Is not deemed an occupation accident a) a degenerative disease; b) one inherent to an age bracket; c) one that did not produce disability to work; d) an endemic disease acquired by the person insured that inhabits a region in which it develops, unless there is proof that it results from exposure or specific direct contact due to the nature of the work.</p> <p>Item III - It is aligned to the occupational accident. III - a disease that comes from the accidental contamination of the employee in the function of his/her activity;</p> <p>Item IV - § 2º It is not aligned to the labor accident § 2º The lesion which results from an accident of another origin, is associated too overlaps the consequences of the previous one is not considered an aggravation or complication of the occupational accident.</p>

its approval are related to INSS qualification, and determined by Article 21-A of this same Act no. 8213/91, as well as by Decree no. 3048, Article 337 and Normative Instruction 31 of the INSS, Article 3. The classification of the type of occurrence (if initially a CAT, a reopened CAT and communication of death) is set forth by the Instruction Manual to fill in the Communication of an Occupational Accident – CAT from the INSS.

Based on an evaluation of this series of laws and standards, some factors were detected that make it difficult to establish that causal connection, because of a “fragmentation or spraying” of legislation on accidents, that is distributed through various legal texts, as seen in Charts 1, 2 and 3.

Parts of Act no. 8213, of July 24th, 1991 are highlighted. This law provides on the Social Se-

Chart 2. Main legal texts that refer to occupational accidents, in terms of their characterization.

	Law 8213	NR 32	Decree 3048	IN 31
Characterization	<p>Article 20 § 2º § 2º In exceptional cases, when it is verified that the disease not included in the list foreseen in items I and II of this Article resulted from special conditions in which the work is executed and that it relates directly to it, Social Security will have to consider it an occupational accident.</p> <p>Article 21-A Art. 21-A. Medical appraisal from the INSS will deem that the accidental nature of the disability has been characterized when it verifies in the occurrence a technical epidemiologic link between the work and the appeal. This results from the relationship between the company activity and the morbid entity causing the disability listed in the International Disease Classification - IDC, in accordance to provisions from the regulation. (Included by Law nº 11.430, from 2006)</p> <p>§ 1º Those that are not deemed occupational diseases:</p> <p>a) a degenerative disease; b) one inherent to an age bracket; c) one that does not produce inability to work; d) an endemic disease acquired by the insured person living in a region where it develops, unless it is proven that it results from the exposure or direct contact determined by the nature of the work.</p> <p>Art. 21-A § 1º § 1º Medical appraisal from the INSS will not enforce what is provided for in this Article when it is proven there is no link as regards the caput of this Article. (Included by Law nº 11.430, de 2006)</p>	<p>32.2.3.4</p> <p>32.2.3.5 In all occupational accident occurrences involving biological risks, with or without the worker having to leave work, there should be an Occupational Accident Report – CAT.</p>	<p>Article 337</p> <p>Art. 337. The accident dealt with in the previous Article will be technically characterized by medical appraisal from the National Social Security Institute, who will technically acknowledge the causal link between: I - the accident and the lesion; II - the disease and the work; and III - the cause of death or of the accident.</p>	<p>Article 3º</p> <p>Art. 3º The technical link from social security can be of a causal nature or not, and there are three types: I - a technical professional or labor link, based on the associations between pathologies and constant exposures to lists A and B of attachment II of Decree nº 3.048/99; II - a technical link for a disease equivalent to an occupational accident or an individual technical link, resulting from typical occupation accidents or accidents on the way to work; as well as special conditions in which is the work is carried out and relate directly to it, according to the terms of § 2º of Art. 20 of Law nº 8.213/91; III - a social security technical epidemiologic link, applicable when there is statistical significance between the International Disease Classification IDC - code and the National Classification of Economic Activity -CNAE, in the part inserted by Decree nº 6.042/07, in List B in attachment II of Decree nº 3.048/99.</p>

curity Benefit Plans and other measures¹⁹; Normative Instruction INSS/PRES no. 31, of September 10th, 2008 (IN no. 31), that disposes on procedures and routines that refer to the Technical Social Security Connection and other measures²⁰; Decree no. 3048, of May 6th, 1999, that approves the Social Security regulations and offers other provisions²¹ and the Instructions Man-

ual to fill in the Communication of an Occupational Accident – May 1999, drafted by the team from the Ministry of Social Security and Social Assistance – MPAS, the National Social Security Institute – INSS and the Ministry of Labor and Employment – MTE, aimed to offer guidance to correctly fill in the Communication of an Occupational Accident - CAT²².

Chart3. Main legal texts related to occupational accidents according to their Classification, 2013.

	Instruction Manual to fill in the Communication of Occupational Accident – CAT of the INSS
Classification	<p>1 - Communicating the accident</p> <p>1.1.1 - Using the form “Communication of Occupational Accident - CAT”, the following events must be communicated to the INSS:</p> <p>a) Initial CAT: occupational accident, typical or during travel to/from work, or professional or occupational disease;</p> <p>b) Reopening CAT: resuming treatment or leave due to worsening of occupational accident lesion or due to professional or occupational disease, which was previously communicated to the INSS;</p> <p>c) CAT - communication of death: death resulting from accident or professional or occupational disease, after the issuance of the initial CAT.</p>

Legal clashes or differences (representing conflicts in legislation, the temporary disassociation between those moments of diagnosis of a disease relating to work and the occurrence of the causal event) oftentimes result in underreporting of the occupational accident. This legal antinomy is a situation that can be seen in Chart 1, in the characterization of the occupational accident, in Article 21, paragraph 1, item c, which is not considered an occupational disease and producing incapacity to work.

Based only on this item, most of the biological accidents with sharps and needles, or even blood splashed in the eyes of healthcare professionals would not be deemed occupational accidents for not leading to disability. However, in the same Chart 1, NR 32, item 32.2.3.5, sets forth that in any accident occurrence involving biological risks, with or without the worker having to leave work, a CAT- Communication of Occupational Accident has to be issued, to resolve the situation. Similarly, in exposures to animal rabies, such as a dog bite or lick (generally also without the ability to generate labor incapacity, although a legitimate occupational accident) would also discard the causal connection with the job, as mentioned in Article 21, paragraph 1, item c, of Act no. 8213. In this situation, another article of the same law, Article 21, item I, determining that situations that “demand medical attention for their recovery” be considered occupational accidents, and this would legally protect the event as being an occupational accident.

Among the occupational accidents that could potentially generate a double type accident (biological accident, exposure to animal rabies, radioactive accident and catastrophic event), only

the catastrophic event does not present standardized procedures through an official protocol.

As a result, there is no systematic investigation of most of the catastrophic accidents and, consequently, underreporting of such events. As catastrophic events we can mention those occurring with individuals who were victims of or witnessed great disasters, serious accidents, situations with imminent danger in complex plant facilities, or who witnessed the violent death of other peers at work, suffered torture or lived through situations of terrorism, rape of others.

Although exposure to catastrophic events is not exclusive to a professional category, studies are scarce and restricted to small groups that are commonly described: bank employees being held up at arms point, subway train conductors after episodes when people are run down; workers who witnessed serious or fatal accidents. In a literature review study, it was observed that 10 to 18% of cases of violence at work develop symptoms that comply with the criteria for PTSD³¹. A similar study observed that 44% of workers who have been through an occupational accident comply with the criteria for PTSD. Furthermore, 28.9% of individuals who have been through this trauma present moderate and severe symptoms and 10.5% presented severe symptoms of PTSD³³.

Among causes for doing the diagnosis of PTSD, as well as for not establishing that causal connection are the distance between the catastrophic event and appearance of clinical symptoms characterizing this mental suffering. With the proposal of “double type accident”, not only will it be easier to establish the causal connection in the abovementioned situations, but also imple-

ment the surveillance actions geared to protecting health of workers, the environment and neighboring populations surrounding plant facilities with the potential to produce catastrophic events. We hope that the analysis of this proposal for the official recognition of double type accidents, making it possible to include them in the legal texts, such as Law 8213³⁴, the Manual to Fill-in the CAT³⁵ and Decree 3048³⁶, can trigger the creation of protocols to investigate the different catastrophic events that affect workers mental health^{37,38}. More specifically, we hope it will become mandatory to notify such cases, even if at first sight without “apparent” professional disability. This situation that can be circumvented with the use of the CID’s Y and Z (Z56.6: other physical and mental difficulties relating to work and Y96: circumstance referring to working conditions), besides implementing preventive measures for PTSD, especially the sheltering and follow-up of the person involved.

Final considerations

The bibliographic base presented in this study, with an analysis of the legal foundation in force in Brazil, makes it possible to highlight the relevance and pertinence of proposing the intro-

duction of this concept, the double type accident as a third type of occupational accident. Thus understood, it contributes to broadening and enhancing workers health surveillance systems, and bring together several of the institutions and social agents that act in this field, geared towards a harmonization of standards and laws that regulate this field. In fact, it is about prioritizing the defense of health and the life of workers, safety of labor spaces and their surroundings, the quality of the environment, in accordance to constitutional precepts and guidelines of the SUS - UNIFIED HEALTH SYSTEM, when faced with the reparatory and purely monetizing logic of the legislation in effect.

Collaborations

LAA Cabral, ZASG Soler e JC Lopes participated equally in all stages of preparation of the article.

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