

Brazilian legislation and recommendations related to occupational health and safety of health workers

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ABSTRACT

This study aimed to identify and analyze Brazilian recommendations and legislation related to biological risk among health workers. This is a documentary research that researched the legislation and recommendations published from June 1978 to December 2015, by consultation of digital documents of the Ministry of Labor and Employment, Ministry of Health/National Agency of Sanitary Vigilance and "riscobiologico.org". There were 37 rules and laws, of which 25 published by the Ministry of Health, 10 by the Ministry of Labor and Employment and two by the Chief of Staff. The analyzed documents cover the various areas of health services and have specific provisions into their scope for worker's protection. The evolution of legislation and recommendations show important contributions to the protection of workers' health and has added new determinations from scientific and technological advances, subsidized by epidemiological information.

Descriptors: Health Personnel; Accidents, Occupational; Occupational Risks; Legislation as Topic; Education, Nursing.

INTRODUCTION

Workers' health was effectively considered from the Constitution of the Federative Republic of Brazil in 1988⁽¹⁾, and since then, it has been

sought to jointly create, among Ministries of Health and Labor and Social Security, public policies on measures for the worker's protection.

In the context of health workers there was a concern with occupational health, and the world literature

gave greater prominence to exposure to biological material because it represents an immediate risk to workers.

In this period, the cases of occupational accidents involving biological material with imminent risk of contamination and the possibility of seroconversion became part of the attention of researchers worldwide⁽²⁻³⁾. In Brazil, the rates of these accidents among health workers ranged from 17.0%⁽⁴⁾; 58.4%⁽⁵⁾ and up to 80.4%⁽⁶⁾. Epidemiological data highlight the importance of having legislation and recommendations that guide health services and professionals in health care.

In the world, international organizations, such as the Centers for Disease Control and Prevention (CDC), have developed *guidelines*, for the guidance of managers and health workers (HW) on pre- and post-exposure measures in cases of occupational accidents with biological material, also guiding the proper notification of cases⁽⁷⁾.

The number of reported cases of HIV, Hepatitis B and C, post-exposure percutaneous involving biological material, culminated in some important advances for worker's health, mainly since 2000, such as the use of safety devices in sharp material. The USA pioneered the publication of a Law on November 6, 2000, which has made it mandatory for sharp materials to have safety features. The use of these devices associated with the involvement of workers and the health institution in safer work practices reduced from 66% to 88% accidents involving needles. In France, the use of these safety devices showed a reduction in the number of accidents between 83% and 89%⁽⁸⁻¹⁰⁾.

Similar to other countries, Brazil has recommendations and legislation related to workers' health. Despite major advances in legislation, there is a gap between the law and its application, due to several intervening factors. Knowing the legislation is a prerequisite for identifying existing advances related to occupational safety and identifying gaps that may exist.

Considering the epidemiological and social relevance of the biological risk, and the consequent accidents with exposure to biological material, the comprehensiveness and scope of Brazilian recommendations and legislation on this subject is questioned.

This study aimed to identify and analyze Brazilian recommendations and legislation related to biological risk and accidents with exposure to biological material among health workers.

METHOD

This is a documentary research based on a survey of Brazilian recommendations and legislation published from June 1978 to December 2015, related to accidents with biological material among health workers.

The Ministry of Labor and Social Security elaborated and supervised the legislation regarding workers' health. Employees are governed by the Consolidation of Labor Laws following the regulatory rules (RR) by the employer and employee⁽¹¹⁾.

The Ministry of Health also has as one of its functions to present legislation and recommendations that

must be followed in all areas of its scope. Legislation and Ordinances are published, and the National Health Surveillance Agency (ANVISA), which is an agency of the Ministry of Health, publishes Resolutions of the Board of Directors (RDC, in Portuguese), which should be followed when there are products and services for the control of risks to the population's health⁽¹²⁾.

The search occurred through access to the electronic addresses of the Ministry of Labor and Social Security, of the Ministry of Health/National Health Surveillance Agency and "riscobiologico.org". To settle possible omissions an electronic consultation was carried out with the technicians of the National Health Surveillance Agency/Ministry of Health regarding the existing Collegiate Board of Directors.

The inclusion criteria were: 1) national laws, recommendations, resolutions, regulations, decrees and manuals on accidents with biological material, specifically, or also those that address biosafety and biological risk measures in health services environments, among health workers; 2) National laws, recommendations, Ordinances, resolutions, regulations, decrees and manuals with no date of publication limit. Exclusion criteria: 1) legislation and recommendations of limited scope to the States and Municipalities.

Data collection was performed in two stages. In the first moment, the search and the reading of the recommendations and found legislations were carried out by three experts in the subject of accidents with biological material, independently. In a second moment, researchers carried out the reading and the analysis of the documents, and organized the presentation of the laws, recommendations, Ordinances, resolutions, regulations, decrees and manuals identified.

The results were organized in two tables to facilitate the synthesis of legislation, its standardizations, updates and advances. Firstly, the Federal Constitution, the organic law of health and worker's health; then the standardizations of the Ministry of Labor and Social Security and the Ministry of Health. Each document was identified with the abbreviation doc, followed by the numbering according to the year of its publication in ascending order.

RESULTS

Of the 37 recommendations and legislation identified, 10 were published by the Ministry of Labor and Social Security, 25 by the Ministry of Health and two by the Chief of Staff.

The Chief of Staff has published two legislation that are considered landmarks for the health area: the Federal Constitution of 1988, in which it presents the attributions of the Unified Health System and Law nº 8080/90, which contemplates the conditions for the health recovery, promotion and protection, the organization and operation of the corresponding services.

Table 1 presents the Brazilian recommendations and legislation related to health and occupational safety of health workers, focusing on biological risk, published by the Ministry of Labor and Social Security.

Table 2 presents the Brazilian recommendations and legislation by the Ministry of Health, related to health and occupational safety of health workers, focusing on biological risk.

Table 1: Brazilian recommendations and legislation related to health and occupational safety of health workers, focusing on biological risk, published by the Ministry of Labor and Social Security.

Title	Provisions	Last update	Progress achieved with updates
Ordinance n. 3.214 of June 8, 1978. http://www.mte.gov.br/images/Documentos/SST/NR/NR4.pdf (Doc 1)	NR-4 Specialized Services in Safety Engineering and Occupational Health (SESMT, in Portuguese). Compulsory maintenance by private and public companies that have workers governed by the Consolidation of Labor Laws (CLT), of SESMT, to promote and protect the worker's health and integrity in his/her workplace.	Ordinance MTE n. 128, of December 11, 2009. http://www.mte.gov.br/images/Documentos/SST/NR/NR4.pdf	Fourteen Ordinances bring updates/changes. All articles were updated, considering the need for RR adequacy to the evolution of methods and the advancement of technology.
Ordinance n. 3.214 of June 8, 1978. http://www.guiatrabalhista.com.br/legislacao/nr/nr5.htm (Doc 2)	NR-5 Internal Commission for the Prevention of Accidents at Work (CIPA, in Portuguese). It aims to prevent accidents and diseases from work, to preserve life and to promote workers' health.	Ordinance MTE n. 247, of June 12, 2009. http://www.normaslegais.com.br/legislacao/portariasit247_2011.htm	Nine Ordinances bring updates/changes. Most articles were updated, mainly by the Ordinance MTE n. 247 of June 12, 2011, in which it explained how the electoral process of the CIPA members should take place.
Ordinance n. 3.214 of June 8, 1978. http://www.guiatrabalhista.com.br/legislacao/nr/nr6.htm (Doc 3)	NR-6 Personal Protective Equipment (PPE). Determinations on PPE, which can only be sold or used with the indication of the Certificate of Authorization, of the Ministry of Labor and Employment (MTE).	Ordinance MTE n. 194, of December 7, 2010. http://www.udop.com.br/download/legislacao/trabalhista/institucional_site_juridico/port_194_competencia_cipa.pdf	Eighteen Ordinances bring updates/changes. Most articles were updated by Ordinance SIT n. 194/07/10, comprehending more the responsibilities of the employer, employee, manufacturer and importer of PPEs. Ordinance MTE n. 505/16/15 made several changes and additions to the PPE list, in order to increase worker's protection.
Ordinance n. 3.214 June 8th 1978. http://www.guiatrabalhista.com.br/legislacao/nr/nr6.htm (Doc 4)	NR-7 Medical Control Program in Occupational Health (PCMSO, in Portuguese). "Compulsory development and implementation by all employers and institutions that admit workers as employees of the PCMSO, with the objective of promoting and preserving all workers' health."	Ordinance MTE n. 1.892, of December 9, 2013. http://viaseg.com.br/noticia/14556-alteracao_norma_regulamentadora_n_7_portaria_n_1892_de_09_de_dezembro_de_2013.html	Eight Ordinances bring updates/changes. Ordinance SSST n. 08/05/96 had updates on articles such as the employer must pay the employee all the procedures related to the PCMSO without charge. Ordinance SSST nº 12/24/94, approved the parameters for biological control of occupational exposure to some chemical agents.
Ordinance n. 3.214 of June 8, 1978. http://www.guiatrabalhista.com.br/legislacao/nr/nr9.htm (Doc 5)	NR-9 Environmental Risk Prevention Program (PPRA, in Portuguese). "The obligatoriness to prepare and implement, by all employers and institutions that admit workers, of the PPRA, aiming at the preservation of workers' health and integrity, through the anticipation, recognition, evaluation and consequent control of the occurrence of environmental risks or that might exist in the workplace, taking into account the protection of the environment and natural resources."	Ordinance MTE n. 1.471, of September 24, 2014 http://acesso.mte.gov.br/data/files/F80808148EC2E5E014961B2553368F0/Portaria%20n.%C2%BA%201471%20(Certifica%C3%A7%C3%A3o%20de%20Pessoas%20-20prorroga%20-%20NR-35).pdf	Three Ordinances that bring changes/updates, mainly by the Ordinance SSST n. 25/12/94, which, following OIT determinations, presents better guidelines on the adoption of measures to control environmental risks in the workplace, with the inclusion of Risk Map.

Title	Provisions	Last update	Progress achieved with updates
Ordinance n. 3.214 of June 8, 1978. http://www.guiatrabalhista.com.br/legislacao/nr/nr15.htm (Doc 6)	NR-15 Unhealthy activities and operations. It considers unhealthy activities or operations, which by the risk assessment will assure the worker the perception of additional, that is, incident on the defined minimum wage.	Ordinance MTE n. 203, of January 28, 2011. http://www.ccb.usp.br/arquivos/argpessoal/1360237303_nr15atualizada_2011ii.pdf	Seventeen Ordinances bring updates/changes. Ordinance SSST-12/79 approves the relation of activities involving biological agents, classifying insalubrities in maximum and average degree.
Ordinance Minister's Office n. 485, November 11, 2005. http://www.guiatrabalhista.com.br/legislacao/nr/nr32.htm	NR-32 Safety and health at work in health services. "Establish basic guidelines for the implementation of protection measures to the safety and health of health service workers, and those who carry out health promotion and assistance activities in general."	Ordinance MTE n. 1.748, of August 30, 2011. http://www.normaslegais.com.br/legislacao/portaria-mte-1748-2011.htm (Doc 7)	It alters sub-item 32.2.4.16 of RR n. 32, instituting the Plan for the Prevention of Risks of Accidents with Sharpening Materials, changing the wording.
Manual: Biological Risk: Technical Guide. 2008. http://acesso.mte.gov.br/data/files/F8080812BCB2790012BD509161913AB/guia_tecnico_cs3.pdf	Biological Risk: Technical guide. Information to workers, employers and health technicians, for a better understanding of the articles referring to Biological Risks, present in RR 32/05.	-	
Manual of Implementation of the Program of Prevention of Accidents with Sharpening Material in Health Services. Year: 2010. http://www.fundacentro.gov.br/biblioteca/bibliotecadigital/publicacao/detail/2012/9/manual-de-implementacao-programa-de-prevencao-de-acidentes-com-materiais-perfurocortantes-em	Implementation of the Program of Prevention of Accidents with Sharpening Material in Health Services. Year: 2010. Guidance to health services in the design, implementation and evaluation of its accident prevention program with sharpening material. It also assists in complying with the legal requirements of RR 32/05.	-	
Ordinance n. 1748 of August 30, 2011. http://www.sbpc.org.br/upload/content/320110926145339.pdf	Guidelines for the preparation and implementation of the Plan for the Prevention of Risks of Accidents with Sharpening Materials, amending sub item 32.2.4.16 of RR n. 32.	-	

Table 2: Brazilian recommendations and legislation published by the Ministry of Health, related to health and occupational safety of health workers, focusing on biological risk.

Title	Provisions	Update	Progress achieved with update
Ordinance n. 777 of April 28, 2004. http://www.cerest.piracicaba.sp.gov.br/site/images/Portaria_777_-_NOTIFICAO.pdf	It provides for technical procedures for compulsory notification of health problems of workers in a specific sentinel service network, in the Unified Health System – SUS. It regulated compulsory notification of problems to workers' health	Ordinance n. 1.271, of June 6, 2014. http://bvsm.sau.de.gov.br/bvs/saud_elegis/gm/2014/prt1271_06_06_2014.html (Doc 11)	It added to the national list of compulsory notification occupational accidents with exposure to biological material.
Ordinance n. 2616 of May 12, 1998. http://bvsm.sau.de.gov.br/bvs/saud_elegis/gm/1998/prt2616_12_05_1998.html (Doc 8)	Control Committee of Hospital Infection. Guidelines and rules for the prevention and control of infections, ending the largest possible reduction in the incidence and severity of infections in hospitals. Measures to prevent infections to prevent the spread of microorganisms to patients and workers.	-	
Manual: Biosafety in Health: priorities and strategies of action. 2010 http://bvsm.sau.de.gov.br/bvs/publicacoes/biosseguranca_sau.de_priorid ades_estrategicas_acao_p1.pdf (Doc 9)	Health Biosafety. Systematization of discussions to elaborate a consensus to be agreed, on national principles, guidelines and objectives on health biosafety.	-	
RDC n. 306 of December 7, 2004. http://www.sau.de.mg.gov.br/images/documentos/res_306.pdf (Doc 10)	It deals with waste management in health services. It classifies waste in A, B, C, D, E groups and guides on the preparation of a Waste Management Plan.	-	
Ordinance n. 1.823 of August 23, 2012. http://bvsm.sau.de.gov.br/bvs/saud_elegis/gm/2012/prt1823_23_08_2012.html (Doc 12)	It instituted the National Policy of Health of the Worker. Principles, guidelines and strategies observed by the three Unified Health System management spheres for the development of comprehensive care for workers' health. Emphasis on surveillance, aimed at promoting and protecting workers' health and reducing morbidity and mortality from productive processes.	-	

Title	Provisions	Update	Progress achieved with update
<p>RDC n. 2, of January 25, 2010. http://bvsmms.saude.gov.br/bvs/saud-elegis/anvisa/2010/res0002_25_01_2010.html (Doc 13)</p>	<p>It deals with the management of health technologies in health facilities. Minimum criteria to be followed by the health services, regarding the management of technologies to be used in providing services to the population, from entry into the establishment to the final destination. It indicates the use of PPE for the protection of risks that may threaten health and safety at work.</p>	<p>RDC n. 20 of March 23, 2012. https://www.google.com.br/?gws_rd=ssl#q=RDC+n%C2%BA.+20+de+23%2F03%2F2012+gerenciamento+de+tecnologias</p>	<p>Changes in the wording of § 1st of article 6th and article 16th of RDC n. 2 of January 25, 2010, eliminating the guidelines of the Guide on Health Technology Management and excludes article 22.</p>
<p>RDC n. 7 of February 24, 2010 http://bvsmms.saude.gov.br/bvs/saud-elegis/anvisa/2010/res0007_24_02_2010.html (Doc 14)</p>	<p>It provides for the minimum requirements for the operation of Intensive Care Units (ICUs). Reducing risks to patients, visitors, workers and the environment.</p>	<p>RDC n. 26 of May 11, 2012. http://bvsmms.saude.gov.br/bvs/saud-elegis/anvisa/2012/rdc0026_11_05_2012.html</p>	<p>It alters item III and V of article 14, determining the ratio of the number of nurses and technicians per bed per shift</p>
<p>RDC n. 15 of March 15, 2012. http://www.abih.net.br/wp-content/uploads/RDC-15-ANVISA_Processamento-Artigos-15Mar2012.pdf (Doc 15)</p>	<p>It provides for best practice requirements for the processing of health products. Good practices for the operation of services that perform the processing of health products to ensure the safety of the patient and the worker.</p>		
<p>Manual of Conducts: Occupational Exposure to Biological Material: Hepatitis and HIV. 2000. http://bvsmms.saude.gov.br/bvs/publicacoes/manual_condutas_hepatite_hiv.pdf</p>	<p>Conducts that should be adopted in case of worker exposure to biological material The purpose of the manual is to provide information on how to proceed to prevent the occupational spread of HIV and Hepatitis B and C viruses.</p>	<p>Manual: Recommendations for care and monitoring of occupational exposure to biological material: HIV and Hepatitis B and C. Year: 2004. http://www.aids.gov.br/publicacao/2004/recomendacoes-para-atendimento-e-acompanhamento-de-exposicao-ocupacional-material-bi</p>	<p>Update of the manual published in the year 2000. Innovations in treatment and expansion of the hepatitis B vaccine to people of all ages, regardless of specific vulnerabilities.</p>
<p>Joint Ordinance National Health Surveillance Agency/Funasa n. 01 of August 2, 2000. http://www.rio.rj.gov.br/dlstatic/10112/3740546/4106738/Portariaconjunta01ANVISAFUNASA.pdf</p>	<p>Requirements for the operation of private vaccination establishments, their licensing, supervision and control, and other measures. It determines the disposal of sharp materials in suitable containers for the prevention of accidents involving biological material.</p>	-	

Title	Provisions	Update	Progress achieved with update
<p>RDC n. 45, of March 12, 2003. http://www20.anvisa.gov.br/seguranca/cadopaciente/index.php/legislacao/item/resolucao-rdc-n-45-de-12-de-marco-de-2003</p>	<p>It provides for the technical regulation of good practices for the use of parenteral solutions in health services. Minimum requirements for the use of parenteral solutions, ensuring their safety and efficacy. Establishment of the Medical Control Program in Occupational Health (PCMSO), established by RR 07, of MTPS and worker's knowledge about safety at work.</p>	-	
<p>RDC n. 154 of June 15, 2004. Revoked http://www.saude.mt.gov.br/upload/controle-infecoes/pasta9/resolucao_rdc_n154_2004_regulamento_servicos_dialis_e.pdf</p>	<p>It establishes the Technical Regulation for the functioning of the Dialysis Services</p>	<p>RDC n. 11 of March 13, 2014 and RDC n. 36 of June 16, 2014 http://bvsmms.saude.gov.br/bvs/saudaelegis/anvisa/2014/rdc0011_13_03_2014.pdf (Doc 16)</p>	<p>It revoked RDC n. 154/2004. It is mandatory the disposal of dialysers and lines used in patients with hepatitis B and C and all lines used in hemodialysis procedures. Monitoring and periodic exams to patients in the initial stages of the disease.</p>
<p>Manual: recommendations for care and monitoring of occupational exposure to biological material: HIV and Hepatitis B and C. 2004. http://bvsmms.saude.gov.br/bvs/publicacoes/04manual_acidentes.pdf</p>	<p>Recommendations for care and monitoring of occupational exposure to biological material: HIV and Hepatitis B and C.</p>	<p>Manual exposition to Biological Materials. 2006 http://bvsmms.saude.gov.br/bvs/publicacoes/protocolo_expos_mat_biologicos.pdf</p>	<p>It reinforces the conducts adopted in the 2004 Manual, organizes the parameters to be followed by the health services and establishes a flow for the care of the injured person and the source of the accident.</p>
<p>RDC n. 302, of October 13, 2005. http://www20.anvisa.gov.br/seguranca/cadopaciente/index.php/legislacao/item/rdc-302-de-13-de-outubro-de-2005</p>	<p>Technical Regulation for the operation of Clinical Laboratories. Functioning of the clinical laboratory and laboratory collection station and ensuring the quality of the laboratory tests. Vaccination of all workers according to the current legislation, PCMSO institution, according to RR 07/MTPS regulations and workers' orientation on biosafety.</p>	<p>RDC n. 30 of July 24, 2015. http://sbac.org.br/wpcontent/uploads/2016/01/RDC_30.pdf</p>	<p>It changes the wording of item 6.3.2 of RDC n. 302 of October 3, 2005, regarding the guarantee of authenticity and the integrity of the given report.</p>
<p>RDC n. 171, of September 4, 2006. http://crn3.org.br/Areas/Admin/Content/upload/file-0711201565917.pdf</p>	<p>It provides on the technical regulation for the operation of human milk banks. It is an effective measure for public policies on breastfeeding. Determinations of the use of PPE in accordance with the activity to be developed.</p>	-	

Title	Provisions	Update	Progress achieved with update
<p>RDC n. 36, of June 3, 2008. http://www20.anvisa.gov.br/seguranca/dopaciente/index.php/legislacao/item/rdc-n-36-de-03-de-junho-de-2008</p>	<p>It provides for the technical regulation for the operation of obstetric and neonatal care services. The operation of services should be based on qualification, humanization of care and reduction and control of risks to users and the environment. The service should maintain standards and biosafety routines, written, updated and available to workers, which contemplate the use of PPE and collective protection equipment and, in case of accidents, among other aspects.</p>	-	
<p>Manual exposition to Biological Materials. Year 2006 http://bvsm.s.saude.gov.br/bvsm/publicacoes/protocolo_expos_mat_biologicos.pdf</p>	<p>Exposure to biological material Guidelines for the care of workers who are victims of accidents involving biological material, with a risk of seroconversion to HIV and hepatitis B and C.</p>	<p>Exposition to Biological Materials. 2011 http://www.saude.rs.gov.br/upload/1337000719_Exposi%C3%A7%C3%A3o%20a%20Materiais%20Biol%C3%B3gicos.pdf</p>	Reissue of the 2006 Manual.
<p>Manual: Exposition to Biological Materials. Year 2011. http://www.saude.rs.gov.br/upload/1337000719_Exposi%C3%A7%C3%A3o%20a%20Materiais%20Biol%C3%B3gicos.pdf</p>	<p>Exposition to Biological Materials. Conducts for the care of workers injured by accidents with biological material.</p>		
<p>Manual of Recommendations for Antiretroviral Therapy in Adults Persons infected with HIV published in 2010. http://www.aids.gov.br/sites/default/files/publicacao/2007/suplemento_consenso_adulto_01_24_01_2011_web_pdf_13627.pdf</p>	<p>The Clinical Protocol and Therapeutic Guidelines of PEP. Updates on occupational post-exposure prophylaxis to HIV and the Technical standard on sexual violence.</p>	<p>Manual: clinical protocol and therapeutic guidelines for antiretroviral post-exposure prophylaxis of risk of HIV infection. 2015. http://www.aids.gov.br/publicacao/2015/protocolo-clinico-e-diretrizes-terapeuticas-para-profilaxia-antirretroviral-pos-ex-0</p>	<p>Extinction of PEP categories; recommendation of a single antiretroviral regimen for all types of accidents, which should be initiated within 72 hours after exposure to HIV for 28 days; rapid test for HIV for the exposed individual and reduction of monitoring time.</p>

Title	Provisions	Update	Progress achieved with update
<p>RDC n. 63 of November 25, 2011. http://www20.anvisa.gov.br/seguranca/cadopaciente/index.php/legislacao/item/rdc-63-de-25-de-novembro-de-2011</p>	<p>It provides for Good Operating Practice Requirements for Health Services.</p> <p>The functioning of health services should be based on humanization, qualification, reduction and control of risks to users and the environment. It establishes protection to the worker's health, with the use of PPE, immunization and communications of occupational accidents (CAT). This rule is in addition to the provisions of RR 32 of the MTPS.</p>	-	
<p>Decree n. 7.508 of June 28, 2011 http://www.planalto.gov.br/ccivil_03/_ato2011-2014/2011/decreto/D7508.htm</p>	<p>It regulates Law nº 8.080/90, on the organization of the Unified Health System, planning, health care and interfederative articulation. It guarantees the determinations regarding the safety and health of the worker.</p>	-	
<p>RDC n. 6 of January 1, 2012 http://bvsm.sau.br/bvs/saude/legis/anvisa/2012/rdc0006_30_01_2012.html</p>	<p>It provides on Good Operating Practices for Clothing Processing Units of Health Services. Guarantee of hand wash basins with the necessary supplies for hand hygiene, provision of PPE, guidelines for waste management and conducts to be adopted in case of occupational accidents.</p>	-	
<p>RDC n. 6 of March 1, 2013. http://www.saude.mt.gov.br/upload/controle-infeccoes/pasta2/rdc-n-6-2013-serv-endoscopia.pdf</p>	<p>It provides for the Good Operating Practice requirements for endoscopy services with access to the body through exclusively natural orifices. Chapter exclusive on occupational safety and health. Record requirement of occupational accidents, guidance on the use of PPE and strengthening of hand hygiene</p>	-	
<p>RDC n. 20 of April 10, 2014. http://www.saude.pr.gov.br/arquivos/File/RDC_20_de_10_de_abril_2014_Transporte_de_material_Biologico.pdf</p>	<p>It provides for sanitary regulations for the transport of human biological material. The sender, transporter and addressee of the biological material should adopt biosafety measures as well as the worker involved in each stage of the transportation process.</p>	<p>RDC n. 30 of May 23, 2014. http://www.sbpc.org.br/upload/contudo/anvisa_rdc30_23maio2014.pdf</p>	<p>It changed art. 44 of the RDC n 20/14, extending the deadline from 30 to 180 days to comply with the resolution.</p>

DISCUSSION

Major known landmarks on health and safety at work happened with the promulgation of the Constitution of 1988⁽¹⁾: the Federal Constitution and the Organic Law of Health that have in their scopes determinations for worker's health.

With the Federal Constitution⁽¹⁾, the deliberations about workers' health were formalized, initiating a more effectively dialogue with society. In addition, its promulgation determined that social and economic policies should develop public actions and services in order to integrate a regionalized and hierarchical network to reduce health problems. Through this Constitution, the Brazilian population has their health assured by the actions of promotion, protection and recovery in a universal and egalitarian way⁽¹⁾.

Another major breakthrough was the creation of a unified health system with skills that included worker's health surveillance and human resource training⁽¹⁾. This system, called Unified Health System, was regulated by Law n. 8080/90, which included workers in their field of activity, being supported by all governmental spheres. It assists in the recovery and rehabilitation of workers who are victims of occupational accidents or who have occupational diseases. This regulation establishes that the worker has the right to be informed about risks and diseases associated with work, participate in standardization, supervision and control processes of the worker's health services in public and private institutions, among other guarantees, in order to avoid accidents⁽¹³⁾.

Recommendations and legislation on workers' health are subject to frequent revocation, amendment and various document updates following recommendations of the World Health Organization (WHO) and the Pan American Health Organization (PAHO) as well as the Occupational Safety and Health Administration (OSHA) in the United States of America, which develop Legislation and Recommendations applied to employers and employees. As an example, the use of personal protective equipment (PPE) as a protective measure to occupational exposure to blood or other potentially infectious materials⁽¹⁴⁻¹⁵⁾.

The elaboration of NR-4, of June 8, 1978, updated in 2014, establishes the Specialized Service in Safety Engineering and Occupational Health (SESMT) with the purpose of promoting health and protecting worker's integrity in the workplace (doc 1). The NR-5 of June 8, 1978, updated in 2011, made it mandatory to create an Internal Commission for the Prevention of Accidents at Work (CIPA) to prevent accidents and diseases resulting from work, including those involving biological material (doc 2).

Both SESMT and CIPA address employer and employee issues as ways to protect the health of health workers. It is important to emphasize the determination of the employer to provide, free of charge and in perfect state of preservation and functioning, PPE appropriate to the existing risk in a certain activity, ensuring the determinations of NR-6, of June 8, 1978, updated in 2011 (doc 3).

Data from the SESMT guides health service managers in the elaboration of measures to prevent and control occupational accidents with exposure to biological material⁽¹⁶⁾.

The health control of health workers is mandatory in all health services, and the Medical Control Program in Occupational Health is established, according to the risks to which workers are exposed, as

established by NR-7, of December 29, 1994, updated in 2013 (doc 4). This program should have articulation with all regulatory rules, especially with the Environmental Risk Prevention Program of NR-9, of June 8, 1978, updated in 2014 (doc 5), with SESMT being responsible for both programs.

The work on health services is highlighted in NR-15, of June 8, 1978, updated in 2014, which presents the relation of activities with insalubrity, emphasizing those involving biological agents, whose insalubrity is medium or maximum degree (doc 6). It is important to highlight the sub-item 32.2.4.16 of NR-32, which determines the employer to elaborate and implement the Plan for the Prevention of Risks of Accidents with Sharpening Materials, stating that the companies that commercialize these materials are responsible for making available the training for correct use of the safety device, to health service workers (doc 7).

The publication of the Ministry of Labor and Social Security was fundamental, in 2010, when proposing in a guiding manual the implementation of the program of prevention of accidents with sharpening material in health services, in consideration of the concern with the risks of accidents with biological material, involving sharp materials⁽¹⁷⁾.

Together with the Ministry of Labor and Social Security, the rules and legislation of the Ministry of Health, collaborate to strengthen policies on worker's health. These were strengthened with the creation of Anvisa, in 1984, an organization whose actions contribute to the prevention and control of health problems.

One of the main and pioneering regulations of the Ministry of Health on biological risk was the Ordinance n. 2616, of 1998, which is still in force. It brings recommendations and measures to be taken in the health area that reflect in greater safety for the worker and the patient, such as technique adherence of hand hygiene and the use of protective equipment (doc 10). Thus, even indirectly, the Ordinance deals with protective measures to occupational accidents with exposure to biological material (doc 8).

Likewise, the Ministry of Health, in partnership with the Pan American Health Organization, has developed studies on biological risk, indicating behaviors that should be adopted by health workers and their employers, including questions related to biological risk monitoring, potential impacts and ability to handle biological agents in the Unified Health System laboratory network (doc 9).

Biological risk is also contemplated in the Resolution of the Collegiate Board of Directors (RDC) n. 306 (doc 10), which provides for the technical regulation for waste management of health services. This approach was a pioneer in the world scenario and of extreme importance, considering the high rates of work accidents with exposure to biological material involving waste from health services. Despite high rates, this RDC only provides guidelines for health workers.

It should also be pointed out the recommendation of international authorities regarding the adoption of rigid structures in the health services, for the protection of HW, with elaboration of safety measures for the management of waste generated in the health services, to ensure adequate protection by means of vaccinations, guidelines and the provision of appropriate PPE⁽¹⁸⁾.

The magnitude of accidents with biological material (ACM, in Portuguese) was better explained by Ordinance n. 777 of April 28, 2004⁽¹⁹⁾, which defined a national list of compulsory notification, including work

accidents with exposure to biological material. This Ordinance was one of the most important regulations related to the health care of health workers. It considers exposure to biological material as an occupational accident, given the possibility of contamination and seroconversion already documented in the literature (doc 1). Ten years after its publication, Ordinance n. 1271 (doc 11) amended it and determined that the notification should occur weekly. However, the challenge of underreporting still remains⁽⁴⁻⁵⁾.

The manuals of the Ministry of Health have contributed important orientations to the SAC regarding the scientific basis for the conduct to be adopted in the face of the accident involving biological material, including the importance of notifications. Workers from other countries find information, for example, in several thematic guidelines published by the CDC⁽⁷⁾.

Another publication of the Ministry of Health was the National Policy of Health of Worker (doc 12), which, among other aspects, regulates the guarantee of the rights to quality in the professional environment of all workers, regardless of location (urban or rural), their form of insertion in the labor market (formal or informal) or the employment relationship (doc 12).

The health of health workers is subject to regulation by Anvisa, which directs its actions to reduce occupational accidents with exposure to biological material. All the published resolutions present the recommendations with the necessary details, being the specificity of each one demarcated by the approached environments.

The RDC n. 2, of January 25, 2010, deals with the management of technologies in health facilities and determines that its use in the provision of health services should be ensured throughout the safety and quality process (doc 13). This can be considered a breakthrough for the health and safety of workers. This technology can be allied with critical units for care in health services, such as the Intensive Care Unit. Due to its peculiarities, Anvisa published RDC n. 7 of February 24, 2010, which includes issues for the protection of workers' health (doc 14).

RDC n. 15, of March 15, 2012, presents the requirements of good practices for the processing of health products, carried out in Centers of Material and Sterilization. This rule presents a section exclusively for occupational safety and health, addressing, among other items, the recommended personal protective equipment for health workers as well as the care of such equipment (doc 15).

RDC n. 11, of March 13, 2014, which provides for the good operating practice requirements for dialysis services, presented an important issue for the health of health workers, little discussed in the national scenario. This resolution requires that the worker, without a vaccine response for hepatitis B, be prohibited from working at the hemodialysis session, thus ensuring greater safety for health workers (doc 16).

The regulations on occupational accidents with exposure to biological material allow the observation that, gradually, the responsibilities of the employer, competent bodies at all levels, as well as the employee have been standardized. This responsibility is collective, since the disclosure of the new legislation must be exhaustive as well as the HW interest in knowing the labor legislation and the recommendations to protect its health. Knowing the current rules and identifying their rights and duties is the first step in integrating,

effectively, into the field of worker's health⁽¹³⁾.

The General Coordination of the National Immunization Program, through Informative Note n. 149/2015, expanded the supply of hepatitis B vaccine to the population, regardless of age and vulnerability conditions⁽²⁰⁾. This represented a step forward in the health care program of Brazilians, especially health workers who, upon entering the labor market, are more likely to be immune from the disease. This far-reaching measure, besides protecting workers, results in work quality and economy in public coffers.

Regarding vaccination, it would be interesting for the Ministry of Health to improve effective mechanisms for monitoring the vaccination of health workers before admission, since studies that indicate non-vaccination or incomplete vaccination at the time of the accident are frequent⁽²¹⁾.

However, it is known that an individual who does not respond to a first vaccination schedule (three doses) may respond to a second schedule and to those who do not respond there are recommendations that they should be directed to areas of lesser exposure to biological material, or, in case of an accident involving biological material, immunoglobulin for hepatitis B is instituted⁽²²⁾.

One important step forward was the recommendation to conduct the post-vaccination immunity confirmation test for hepatitis B (Anti-HBs) among workers of dialysis service (RDC 11/14). Historically, this test was presented as a recommended aspect⁽²³⁾, which in a way did not make it compulsory for it to be supplied by the Unified Health System. However, this measure should be extended to all HW, considering the possibility of revaccination and the need for allocation in areas of lower risk of exposure to biological material.

Where there is a possibility of exposure to biological material, the employer must provide written guidance on work routines, accident prevention measures and work-related diseases. HW shall immediately report the accident or an incident to the supervisor of the workplace and, when applicable, to the SESMT and to the Internal Commission for the Prevention of Accidents at Work⁽²⁴⁾.

Even with the obligatory notification of accidents involving biological material, since Ordinance MS 777/2004, underreporting rates are still high and constitute a great challenge to get to know the real incidence of occupational accidents. Studies show that these indices depend on the type of exposure, the professional category and the reporting policies of health institutions⁽²⁵⁾.

FINAL REMARKS

The research allowed identifying and analyzing 37 Brazilian recommendations and legislation that promote and protect the health of the health workers. Of the majority recommendations and legislation published in the year 1978, some have already been revoked and many have been updated or reformulated, based on scientific evidence and international recommendations, demonstrating commitment and commitment of the competent organs to worker's health.

The Ministry of Health and the Ministry of Labor and Social Security have issued a number of recommendations and standardizations that can be used to reduce or eliminate occupational biological risk.

These documents complement each other and the functions of the Ministries converge to make the health of health workers more protected.

The legislation covers the various areas of health services, such as Center for Material and Sterilization, Hemodialysis, Clothing Processing Sector, Intensive Care Unit, Obstetric Care, Milk Bank, Laboratories, and other related areas. These Documents have specific determinations for biosafety.

The evolution of legislation and recommendations shows important contributions to the protection of workers' health, and has added new determinations derived from scientific and technological advances, subsidized by epidemiological information.

Legislation ranges from standardization to the structure of services for workers' health, to the specific detailing of protective measures. Measures aimed at worker's health are contemplated even in legislation whose scope is directed to the attention and quality to the user's health.

Despite the scope of legislation, its applicability is restricted to the commitment of the employer to comply with legal requirements and the workers' unfamiliarity about their rights and duties as well as the low adherence to occupational safety measures. This analysis allowed us to conclude that in the health care worker scenario there are challenges to be overcome in practice.

The presented synthesis might support discussion about worker's health, both for advances in current legislation by identifying possibilities for improvement and to contribute to students and health professionals in understanding this important topic in the field of research, teaching and care.

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