

51 - CHARACTERIZATION OF SCIENTIFIC LITERATURE ON WORK ACCIDENTS INVOLVING BIOLOGICAL MATERIAL

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INTRODUCTION

During patient care, the Health workers are exposed to numerous occupational hazards caused by chemical factors, physical, mechanical, biological, ergonomic and psychosocial problems that can lead to accidents at work. (MARZIALE, RODRIGUES, 2002).

Among a myriad of risks, the biological pose a major threat to occupational health care, and the nursing profession has more contact with biological material and sharps. This kind of exposure is understood as the possibility of contact with blood and body fluids in the workplace through percutaneous inoculation, through needles or sharp objects, and direct contact with skin or mucous (PINHO, RODRIGUES, GOMES, 2007; LOUREIRO et al, 2009).

When an accident at work happens, the professional is vulnerable to contamination from microorganisms such as viruses and bacteria that may be in biological fluids. From an epidemiological point of view, the most common pathogens are hepatitis B virus (HBV), hepatitis C virus (HCV) and human immunodeficiency virus (HIV), the blood is the most efficient vehicle for occupational transmission of these viruses (MARZIALE, RODRIGUES, 2002; LOUREIRO et al, 2009).

Despite these problematic, in many cases incidents often go unreported or the employee who had suffered an accident is not followed properly, it shows that a minimal has been done among us for protecting workers who handle sharps (BARBOSA, SOLER, CIORLIA, 2004).

In Brazil, many accidents in the workplace are not recorded, combined with lack of epidemiological data preclude a safe knowledge about the magnitude of this problematic in the nursing team, ruling out the implementation and evaluation of preventive measures (LOUREIRO et al. , 2009).

Regarding the lack of epidemiological data about accident at work among health professionals, the Statistical Yearbook of Work Accidents (AEAT) does not analyze the occurrence of accidents happened with nursing professionals. According to the National Classification of Economic Activities (CNAE), nursing is included in a general category of health called activities of health care. Conforming to the National Social Security Institute (INSS) in the year 2008, the health care activities were the sector where number of incidents reported grew most (BRASIL, 2008).

In Brazil, the cut and puncture accidents in hospitals only began to be mentioned in research studies in the 1970s, but in an incipient way. From the 1980s, emphasis on publications and debates about AIDS, many health professionals were scared about contracting diseases possibility caused by accidents involving material contaminated with secretions and body fluids common in piercing-cutting material. Thus, it was growing interest in research more deeply on this issue, particularly in the hospital context (BARBOSA, SOLER, CIORLIA, 2004).

Therefore being the study of this thematic growing, it has a fundamental scientific relevance for characterizing the situation where the scientific production on the accidents at work with health staff facing biological hazards, it was expanded and acquired knowledge about these accidents, in this way professionals allied to health management can take acceptable measures to prevent employees.

In this way our intention in researching this topic is confirmed because it is not only considered a problem of significance to nursing but also important to population assisted and managers of health services.

Thus, it was elaborated the following question: what show the scientific research published in the online databases LILACS, and BBO BDENF on the thematic studies, subjects research, material agent that caused the accident, occupational category most affected, place where most accidents happen and the notification of this accident?

In this manner, in order to seek an answer to our question, we developed the following aim: to characterize through LILACS, BBO BDENF the scientific productivity on accidents with biological materials, regarding the thematic studies, subject research, type material agent that caused the accident, occupational category most affected, place where most accidents happen and the notification of this accident.

MATERIALS AND METHODS

It is a survey of the literature undertaken using online scientific articles available on the Virtual Health Library (BVS), specifically in the databases of Latin American Literature (LILACS), Brazilian literature of dentistry (BBO) and the database of Nursing (BDENF). The terms "work accidents" and "accidents and biological events" (Accidents, Occupational / Biological Accidents and Events; Accidentes de Trabajo / Accidentes y Eventos Biologicos) were used as keywords, according to the classification of the Health Sciences Descriptors (DECS).

The inclusion criteria adopted were: texts available online, on the thematic, based on data from 2005 to September 2009 in Portuguese, English and Spanish language. Those that were repeated in more than one database were only counted once.

This process resulted in the identification of 15 studies that was selected in accordance with the inclusion criteria predetermined: LILACS found nine articles, however only six were selected; one from BBO and five from BDENF, but only two were chose.

Data were collected from a structured form covering questions correlated with the research proposal including: thematic studies, subject research, type material agent that caused the accident, occupational category most affected, place where most accidents happen and the notification of this accident. Data was analyzed using descriptive statistics.

RESULTS AND DISCUSSION

Nine articles were selected; the most cited issue was about the occurrence of accidents at work related to biological material exposure. Two articles sought to understand the procedure after an occupational exposure to biological material, other analyzed the quality record of accidents involving biological caused by sharp objects, another one drawn up a profile of

professionals involved in accidents and two was a master's dissertation.

Regarding to subject research, we observe six articles was carried out with all health professionals, only two from nursing staff and another one only searched dentist professionals.

Concerning to the type material agent that caused the accident, Spagnuolo, Baldo, Guerrini (2008) state that 92, 5% of the accidents involving biological material caused by sharp objects as scalpel blades, vena puncture device and needles, mainly during recapping needles after use, reinforcing the urgent necessity for constant vigilance and continuous training related to proper prophylaxis of manipulation sharps objects.

Chiodi, Marziale, Robazzi (2007), in a study, reveal that 80,6% of accidents in the workplace are originated from trauma with needle and 4,8% with scalpel blades. The activities performed in the time of accidents are associated with the nursing staff procedures, and the risk of exposure to biological material, predominating blood. Twenty and one percent of the accidents at work happened during the vena puncture procedure, 15,1% in glucose blood test, and sensitivity to penicillin test and 9.7% in medication administration.

The Gomes et al. (2009) study points out that the most of this accidents were by percutaneous sharp injury (85, 5%) and 67,8% by exposure to needle. The most constant situation was during vena puncture (26, 8%) and medication administration (13,3%). It was found that 34 (60, 8) professionals wore personal protective equipment. The researchers conclude that is necessary to implement a permanent educational program and new strategies that allows the work process review.

On the subject of occupational category most affected in accidents at work, Spagnuolo, Baldo, Guerrini (2008) imply that the nursing auxiliaries are the professionals who are in direct contact with the patient, making medication administration, applying dressings and other procedures that keep them in a continuo contact with accident risk besides being the largest contingent in the health team.

Soerensen et al. (2009), in a study, demonstrate that health professionals exposed more to work accidents is the nursing technician, auxiliary and attendant (31,2%), followed by physicians (23,4%), students (18,6%) and nurses (8,5%).

Contrasting results was found in Magagnini (2008) study, where the occurrence of accidents, in 2003, 2005 and 2006 was high among nurses. Chiodi, Marziale, Robazzi (2007) reported that the second health professional category with more cases of accidents was the dentist with 11 (17, 7%) accidents, 42 (67.7%) were nursing auxiliaries and nursing technician, and 3 (4, 8%) nurses.

Different from others inferences, Canin, Gri, Machado (2005) in their results show that the most affected professional category was the cleaning assistances (80,2%), and one third of workers had not received any dose of the vaccine against hepatitis B (35,4%). Most of accidents happened by sharp devices (96,8%) caused by needles incorrectly discarded. Concluded that professionals are vulnerable to acquire blood borne pathogens and periodic educational programs are needed.

With regard to the place where this kind of accident happens, Spagnuolo, Baldo, Guerrini (2008) reported that the Basic Unities Health (UBS) are the location whit more accidents (24, 1%) because their huge number of employees, followed by Surgical Center (14,2%). It is inferred that those unities showed a higher number of notifications because in those places happens the majority of risky procedure, use of sharp objects, emotional stress and work overload, it may lead to non-adherence to biosecurity measures.

Chiodi, Marziale, Robazzi (2007) infers that the accidents at work were approached in a large number of researchs involving health employees from hospitals. However, little attention has been directed to Primary Health Network: Basic Unities Health (UBS); District Unity of Basic Health (UBDS), Centers for Family Health (NSF) and Medical Assistance Emergency (SAMU).

Regarding to the accidents records, Chiodi, Marziale, Robazzi (2007) considering the number of professionals exposed and the quantity of activities executed in manipulation of sharp material and exposure to body fluids vehicle among nursing workers, their study found that accidents in the work place happened with nursing staff, 91,9% of them was underreported and 34.4% resulted from an accident involving sharp objects. The reason for this underreported of accidents is related to professionals that considers the injury as minor and also the lack of knowledge about the requirement to reporting of accidents at work. It was observed that the majority of Communication of Work Accidents (CATs) was not fulfilled properly; identifying gaps. This fact indicates that the institution where the research was conducted must adopt new strategies to improve the information recordings relevant to identify the real situation of accidents at workplace.

Garcia, Blank (2008) suggests that there are some reasons related to the underreporting of accidents as the non-perception of exposure severity, the disorder caused by the work interruption of a employee due accidents reasons, when they need to seek medical care and follow up examinations after occupational exposure and even the process complexity involved in the accident record on reporting forms.

Regarding this reporting forms, Silva (2006) shows that 13 of 14 interviewed stated that they had not received training to work with them, 10 answered they had difficulty to deal with the victim. A variety of forms used and precariousness of filling in each sector investigated contributed to consolidation of relevant information and, therefore, the implementation of policies to prevent this serious health hazard for workers.

About this thematic, Magagnini (2008) reinforce about the injuries in the employee life and in the institution. This reality allows the author suggests that systematic interventions should be strongly adequate to institutional policies, leading to the adherence to prophylaxis measures and the incorporation of technological innovations related to this type of injury, prioritizing health promotion in the workplace.

GENERAL DISCUSSION

Thus, in accordance with the proposal of our objective, the scientific publications on occupational accidents with biological materials was organized in category as follows: the most evident theme on the general analysis of the accidents involving exposure to biological material, related to research subjects, lots studies emphasized all health professionals. The kind of material that caused the accident, most cited in publications as being high risk to this professionals are the use of needles during the vena puncture. The professional category most affected is the nursing auxiliary. Regarding the place where most work accidents happen, hospitals are significant. Accident notification was one of the most discussed focusing on accidents at work sub notification due to poor consideration given to the employee who had an accident and because the victimized employee has little knowledge on accident at work notification.

This article adds a better understanding on occupational accidents involving health care staff exposed to biological material. This knowledge enhance preventive measures to minimize the work related injuries and diseases among this population. It's known the importance of scientific clinical research to health professionals due necessity of qualification in care should be grounded in scientific discoveries. Therefore, we encourage continuity and more research on occupational hazards. This attitude will assist to promote prevention as to acquire better quality of life for nursing workers.

KEYWORDS: Accidents at work, Accidents, Biological events.

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CHARACTERIZATION OF SCIENTIFIC LITERATURE ON WORK ACCIDENTS INVOLVING BIOLOGICAL MATERIAL

ABSTRACT

Introduction: during patient care, the Health workers are exposed to numerous occupational hazards caused by chemical factors, physical, mechanical, biological, ergonomic and psychosocial problems that can lead to accidents at work. Among a myriad of risks, the biological pose a major threat to occupational health care. Objective: to characterize the scientific productivity on accidents with biological materials, regarding the thematic studies, subject research, type material agent that caused the accident, occupational category most affected, place where most accidents happen and the notification of this accident. Materials And Methods: It is a survey of the literature undertaken using online scientific articles available on the Virtual Health Library (BVS), specifically in the databases of Latin American Literature (LILACS), Brazilian literature of dentistry (BBO) and the database of Nursing (BDENF). Results And Discussion: the most cited issue was about the occurrence of accidents at work related to biological material exposure, six articles was carried out with all health professionals. Concerning to the type material agent that caused injury, 80% were by needles, and the nursing auxiliaries are the main victims. With regard to the place where this kind of accident happens were hospitals. With respect to notification of accidents, we identified the lack of trained professionals to the events, often leading to sub notification. General Discussion: this article adds a better understanding on occupational accidents involving health care staff exposed to biological material so that preventive measures are outlined to minimize them and reduce sub notification.

KEYWORDS: Accidents at work, Accidents, Biological events.

CARACTÉRISATION DE LA PRODUCTION SCIENTIFIQUE RELATIVE AUX ACCIDENTS DU TRAVAIL LIÉS À LA MANIPULATION DE MATÉRIEL BIOLOGIQUE

RÉSUMÉ

Introduction : pendant qu'ils assistent les patients, les professionnels de la santé sont exposés à des risques occupationnels qui peuvent donner lieu à des accidents du travail (AT) (MARZIALE, RODRIGUES, 2002). Parmi ces risques, le biologique constitue une importante menace à la vie de ces professionnels (PINHO, RODRIGUES, GOMES, 2007 ; LOUREIRO et al., 2009). Objectif : caractériser les productions scientifiques consacrées aux accidents du travail liés à la manipulation de matériel biologique, selon la thématique des études ; les sujets de la recherche ; le type de matériel qui est à l'origine de l'accident ; la catégorie professionnelle la plus touchée ; le lieu où survient le plus grand nombre d'accidents, et la notification de ces accidents. Matériel et méthode : recherche bibliographique réalisée au Portail de la Bibliothèque Virtuelle de la Santé (BVS), notamment sur les bases de données de la littérature latino-américaine (LILACS), de la bibliographie brésilienne d'odontologie (BBO), et des soins infirmiers (BDENF). Résultats et discussions : la thématique la plus courante concerne les accidents du travail liés à la manipulation de matériel biologique ; six recherches réalisées concernaient l'ensemble des professionnels de la santé. Par rapport au type de matériel qui est à l'origine de la lésion, 80,6 % ont été produites par une aiguille, les aides-infirmiers étant les victimes les plus fréquentes. L'hôpital est le lieu où l'on constate le plus grand nombre de cas. Quant

à la notification des accidents, on a constaté l'absence d'entraînement des professionnels, laquelle conduit bien souvent à la sous-notification. Considérations finales : la présente étude a contribué à mieux faire connaître les accidents du travail liés à la manipulation de matériel biologique par l'équipe des professionnels de la santé. Elle suggère en même temps des mesures de prévention destinées à réduire le nombre de ces accidents ainsi que les sous-notifications.

MOTS CLÉS: Accidents du Travail; Accidents et Événements Biologiques.

CARACTERIZACIÓN DE LA PRODUCCIÓN CIENTÍFICA RELACIONADA A LOS ACCIDENTES DE TRABAJO CON MATERIAL BIOLÓGICO

RESUMEN

Introducción: los trabajadores del área de la salud, durante la atención están expuestos a riesgos ocupacionales que pueden provocar accidentes de trabajo (AT). En estos riesgos se destacan los de carácter biológico, que representan una gran amenaza para estos profesionales del área de la salud. Objetivo: caracterizar la producción científica sobre accidentes de trabajo con materiales biológicos, relacionándolos con los siguientes tópicos: tema de los estudios, sujetos de investigación, tipo de material que causó el accidente, categoría profesional más afectada, sitio de ocurrencia del accidente y notificación de este. Material y Método: investigación bibliográfica, realizada en el portal de la Biblioteca Virtual en Salud (BVS), específicamente en las bases de datos de literatura Latino Americana (LILACS), Bibliografía Brasileira de Odontología (BBO) y Base de Datos de Enfermería (BDENF). Resultados y Discusión: el tema citado con la mayor frecuencia fue la ocurrencia de accidentes de trabajo con material biológico; seis investigaciones fueron realizadas con todos los profesionales de la salud. En relación al tipo de material productor de la lesión, 80,6%, fueron producido por aguja, siendo los auxiliares de enfermería las mayores víctimas. El lugar de mayor ocurrencia fue el hospital. La falta de notificación fue relacionada a la falta de capacitación, influyendo muchas veces en subnotificación. Consideraciones Finales: este estudio contribuye para entender mejor los accidentes de trabajo con material biológico en el equipo de salud, para que las medidas de prevención sean orientadas a minimizarlos y al mismo tiempo disminuir las subnotificaciones.

PALABRAS CLAVES: Accidentes de Trabajo, Accidentes, Eventos Biológicos.

CARACTERIZAÇÃO DA PRODUÇÃO CIENTÍFICA RELACIONADA A ACIDENTES DE TRABALHO COM MATERIAL BIOLÓGICO

RESUMO

Introdução: os trabalhadores da saúde, durante a assistência ao paciente, estão expostos a riscos ocupacionais que podem provocar Acidentes de Trabalho (AT). Dentre esses riscos, o biológico representa grande ameaça aos profissionais da área da saúde. Objetivo: caracterizar as produções científicas sobre acidentes de trabalho com matérias biológicas, quanto a temática dos estudos, sujeitos da pesquisa, tipo de material causador do acidente, categoria profissional mais atingida, local de maior ocorrência do acidente e a notificação deste acidente. Material e Método: pesquisa bibliográfica realizada no Portal da Biblioteca Virtual em Saúde (BVS), especificamente nas bases de dados da literatura Latino-Americana (LILACS), bibliografia brasileira de odontologia (BBO) e na base de dados da Enfermagem (BDENF). Resultados e Discussões: a temática mais presente foi a ocorrência de acidentes de trabalho com material biológico; seis pesquisas foram realizados com todos os profissionais da saúde. Com relação ao tipo de material produtor da lesão, 80,6% foram produzidos por agulha, tendo os auxiliares de enfermagem como as maiores vítimas. O local de maior ocorrência foi o hospital. Com relação à notificação dos acidentes foi identificada a falta a falta de treinamento dos profissionais para as ocorrências, levando muitas vezes à subnotificação. Considerações Finais: este estudo contribuiu para um melhor conhecimento dos acidentes de trabalho com material biológico na equipe de saúde para que medidas de prevenção sejam traçadas a minimizá-los e ao mesmo tempo minimizar as subnotificações.

PALAVRAS CHAVES: Acidentes de Trabalho, Acidentes, Eventos Biológicos.

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