Revista Brasileira de Enfermagem
REBEn

RESEARCH

Post-accident work behavior in caring for people with HIV/Aids

Conduta pós-acidente de trabalho no cuidado às pessoas com HIV/Aids

Conducta post-accidente laboral en el cuidado a las personas con VIH/Sida

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How to cite this article:
Padilha MI, Villarinho MV. Post-accident work behavior in caring for people with HIV/Aids. Rev Bras Enferm. 2015;68(4):571-6. DOI: http://dx.doi.org/10.1590/0034-7167.2015680412i

Submission: 12-11-2014 **Approval:** 05-18-2015

ABSTRACT

Objective: To identify post-accident conduct in the workplace by health professionals in caring for people with HIV/Aids. **Method:** A qualitative and descriptive research study with a socio-historical perspective (1986-2006), performed in a reference hospital for infectious diseases in the State of Santa Catarina. To collect data, interviews were conducted with oral history among 23 health workers and, for the treatment of data, Bardin's content analysis was used. **Results:** Post-accident behaviors emerged that included assessment, accident records, chemoprophylaxis when necessary, support, monitoring of the injured worker, and mainly psychological support. **Conclusion:** In situations in which the accident could not be avoided, post-exposure behaviors were important biosecurity strategies mentioned by health workers caring for patients with HIV/Aids, in the sense of minimizing the possible transmission of the HIV virus. **Key words:** Occupational Risks; Occupational Accidents; Acquired Immunodeficiency Syndrome; Health Professionals; Occupational Health.

RESUMO

Objetivo: identificar condutas pós-acidente de trabalho pelos profissionais da saúde no cuidado às pessoas com HIV/Aids. **Método:** estudo descritivo qualitativo com perspectiva sócio-histórica, (1986-2006) realizado em um hospital referência em doenças infectocontagiosas do Estado de Santa Catarina. Para a coleta de dados, utilizou-se entrevista, a partir da História Oral com 23 trabalhadores da saúde e para o tratamento dos dados a análise de conteúdo de Bardin foi utilizado. **Resultados:** emergiram condutas pós-acidente de trabalho que incluíram avaliação, registro do acidente, quimioprofilaxia quando necessária, acompanhamento, monitoramento do profissional acidentado e, sobretudo, apoio psicológico. **Conclusão:** nas situações em que o acidente de trabalho não pôde ser evitado, foram importantes as condutas pós-exposição como estratégias de biossegurança mencionadas pelos trabalhadores da saúde no cuidado aos pacientes com HIV/Aids, no sentido de minimizar a possível transmissibilidade do vírus HIV. **Descritores:** Riscos Ocupacionais; Acidentes de Trabalho; Síndrome de Imunodeficiência Adquirida; Profissionais da Saúde; Saúde do Trabalhador.

RESUMEN

Objetivo: identificar conductas post-accidente laboral por los profesionales de salud en el cuidado a personas con VIH/Sida. **Método:** Estudio descriptivo, cualitativo con perspectiva sociohistórica (1986-2006), efectuado en un hospital de referencia en enfermedades infectocontagiosas del Estado de Santa Catarina. Para la recolección de datos se utilizaron entrevistas a partir de la Historia Oral con 23 trabajadores de salud y para el tratamiento de datos el análisis de contenido de Bardin. **Resultados:** emergieron conductas post accidente laboral, que incluyeron la evaluación, registro del accidente, quimioprofilaxia cuando necesario, acompañamiento, monitoreo del profesional accidentado y, principalmente apoyo psicológico. **Conclusión:** en las situaciones en que el accidente laboral no pudo ser evitado, conductas post exposición fueron importantes estrategias de bioseguridad mencionadas por los trabajadores de la salud en el cuidado a los pacientes con VIH/Sida, en el sentido de minimizar la posible transmisión del virus VIH. **Palabras clave:** Riesgos Laborales; Accidentes de Trabajo; Síndrome de Inmunodeficiencia Adquirida; Profesionales de Salud; Salud Laboral.

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INTRODUCTION

In the context of workers' health, it is necessary to know the work environment and the possible risks contained therein; therefore, we cannot fail to mention workplace accidents. Such accidents can occur due to many factors that deserve to be thoroughly investigated, considering the working process, employee characteristics, as well as the organization itself. Emphasizing health professionals, it is worth highlighting that the concern with workplace accidents is present throughout the labor process, mainly due to the advent of Acquired Immunodeficiency Syndrome (Aids), given the possibility of transmission of HIV resulting from occupational hazards involving biological materials[1-2].

The emergence of Aids and its possible occupational transmission has had repercussions in the development and implementation of public health policies aimed at the safety of workers. However, due to a number of factors, institutional and individual, the risks and vulnerabilities to accidents are significant, especially those involving exposure to biological material among health workers[3]. Consequently, there have been numerous surveys and studies on the theme, as well as concern from the U.S. Centers for Disease Control (CDC), about hygiene and safety. Since these events took place, recommendations to protect health professionals have been advocated, and are periodically revised and altered in light of the innovation of knowledge and the epidemiology of the disease[1,4].

The incessant search for information about Aids and its real forms of transmission has caused changes in the labor process. The adoption of recommended methods and techniques for effective biosecurity strategies have been implemented to eliminate or minimize occupational risks experienced by health workers in Nereu Ramos Hospital (HNR), a reference institution for infectious diseases, located in Florianópolis City, in the State of Santa Catarina (Brazil), the setting for this study.

Moreover, we emphasize how post-accident work conduct were relevant and necessary, because these measures greatly influenced the reduction of possible transmission of HIV and other blood-borne diseases when there is a possibility of occupational accidents with exposure to biological material that may be contaminated. It is believed that, when applied properly by health workers as part of their care practice, post-accident work conduct is essential to their security, regardless of the patient's diagnosis. Within this context, and pondering the exposed subject, it was decided that this study, which aimed to identify the post-accident work conduct of health professionals in the care of people with HIV/Aids at HNR in the period between 1986 to 2006, should be performed.

The option to (re)build the historicity of this period from 1986 to 2006 is due to the first reported case of Aids in the city of Florianopolis, and the final cut at 2006 is justified by the closure of the Florianópolis STD/Aids clinic because of the decentralization of Aids services in the city. The desire for a study of the health workers, guided by their memories, stands as an important way to understand the reminiscence and experiences about care practices for patients with HIV/Aids throughout the epidemic and reveal their methods of care, as well as post-accident work conduct when they were present.

METHOD

This is a qualitative research focused on career guidance, which made use of an oral history (OH) thematic as a source-method for data collection. Such historiographic sources favor conducting interviews with people who witnessed and participated in events in a given social context[5-6].

OH, when used as a method source, allowed the study subjects that is, the 23 health workers to be heard, and made a place in the history, through their memories, for those who did not have a say over their own history in the care of patients with HIV/Aids during the epidemic. Those recollections are stored in their memories and, when recovered, allow an understanding of the past through the personal perspective of each person, not only under the social, political, economic, and cultural time period to which they make reference[7-8].

The interviews were conducted from March 2011 to October of the same year, and were held with four doctors, eight nurses, four nursing technicians, three nursing assistants, a dentist, a nutritionist, a social worker, and a psychologist who participated, directly or indirectly, in the care of people with HIV/Aids admitted to the Nereu Ramos Hospital (HNR) from 1986 to 2006. Inclusion criteria were: health workers who acted in the care of patients with HIV/Aids during the study period; professionals able to carry the development of labor practices in the care of people with HIV/Aids in their memories; and professionals with the availability and interest in participating in the study.

The selection of subjects was performed based on a request made to the Department of Human Resources (HNR) and by recommendations from their own health workers as they were interviewed. All interviews were previously arranged, subject to the availability of the interviewee, and respecting suggested locations, dates, and times. In addition to the hospital, some interviews took place at the homes of these professionals or their other workplaces. Data collection was terminated upon data saturation.

After collection, the data were transcribed and passed on to respondents for validation in order to preserve the reliability of the reports. From the transcription and organization of reports, an attempt was made to identify relevant structures and perform a thematic reunification, as established by content analysis[7]. In the *pre-analysis*, we organized the material to be analyzed in order to make it operational, systematizing the initial ideas. Next, we conducted an *exploration of the material* from extensive reading in order to group and provisionally compile the possible utterances. And finally, while *processing the results*, we performed an *inference and interpretation*, in which the original data were treated in a manner to consider them significant and valid. At this stage, there was a condensation and analysis of the highlighted information, culminating in inferential interpretations, which are characterized by intuition, and reflective and critical analysis[9].

Thus, health workers' post-accident conduct for HIV/Aids patient care in the beginning of the epidemic included *immediate assessment of the accident*, *chemoprophylaxis* when necessary, *follow-up*, *periodic monitoring of the injured worker* and, above all, *psychological support*.

Considering the importance of Resolution N. 196/96 of the National Health Council, the subjects who agreed to participate signed a Free and Informed Consent Form (TCLE). The research was submitted to the Ethics Committee in Research with Human Beings (CEPSH) of the Federal University of Santa Catarina and approved by Opinion N. 920/10. To ensure anonymity, the study subjects were identified by letters relating to their professional categories, and numbers, in chronological order, according to who acted in the HNR (for example, M1 doctor, nurse E3, TE2 nursing technician, nursing assistant AE1, dentist D1, social worker AS1).

RESULTS

Health workers mentioned issues regarding their own post-accident work conduct involving exposure to biological material as essential strategies in the care of patients with HIV/Aids admitted to HNR at the time, in view of its influence in minimizing the possible transmissibility of HIV. *Evaluation*, *labor accident registration*, and *follow-up and monitoring of the worker* subjected to the accident were highlighted, as well as the importance of *psychological support*.

In regards to the *assessment of work-related accidents*, the statements of the subjects revealed the importance of this conduct in the indication or not of prescribing Zidovudine (AZT), because this anti-retroviral (ARV) was the only drug prescribed at the beginning of the Aids epidemic, as a measure to minimize the possible transmission of HIV in the case of an accident.

> *We would record and evaluate the worker who suffered an accident, because, at the beginning of the 90s there was no chemoprophylaxis. AZT was the only thing we had, which was the same as used in patient treatment. The routine was to take the test right then, after one month, after three months, and then after six months.* (M1)

> *As soon as I had an accident I sought help and the doctor who treated me asked for the patient's record and said: "Well, the patient's viral load is low, so we'll do the test, then you will take AZT." I also remember I did a test on the day of the accident and then others for monitoring purposes.* (D1)

> *I had an accident with blood contact in my eye, then I was assessed, asked several questions about the accident, and I was prescribed AZT, which was the only thing available at the time. I did the follow-up exams by the book.* (AE3)

Another important and adherent aspect of the assessment of labor accidents is the importance of an *accident record* with exposure to biological material, because there are several issues covered in the records, such as the circumstances of the accident, the type of exposure, organic material, and body part contact location, among others. This information, in turn, allows for the identification of possible risks and vulnerabilities present in the workplace, which contributes to planning actions aimed at disease and injury prevention, as well as to the promotion of workers' health.

> *I insisted the labor accident should be registered. It was important, because then we knew where the risks actually were, so we could prevent future accidents.* (M1)

> *As soon as we knew of the occurrence of any accidents involving contact with blood, when it was among employees of my team, I immediately led them through the entire accident assessment and especially the recording. Because with the records, we got to know the types better, the causes of the accidents, and could then propose preventive actions.* (E4)

In addition to the registration and evaluation of the work accident, as a requirement for indication or not of chemoprophylaxis, *following-up* and *monitoring the injured worker* were also reported.

> *I was in an accident and I remember that I took the antiretroviral for one month and was monitored for six months. Then, blood was collected at the time of the accident, in six weeks, 12 weeks, and six months. The follow-up was essential for me to continue treatment firmly and avoid HIV transmission.* (AE2)

> *When I was in an accident, I registered the accident immediately, and followed what was recommended by the book. I was monitored, having had blood collected at the time of the accident and then had control tests at 45 days, [and] three and six months. This follow-up was very important for me to not give up.* (E3)

> *By 2003 the CCIH only monitored HIV at the time of the accident, after 45 days, three months, and six months and, from 2003 on, with the Ministry's protocol, we started to follow up on hepatitis C until 12 months after. Psychological support then became very important to the employee who was following up, because every monitoring test was a time of great suffering.* (E8)

Monitoring done with psychological support was an indispensable strategy for compliance, as well as maintaining the health workers' commitment to the post-accident chemoprophylaxis plan.

The *psychological support* provided to the health worker in case of a labor accident with possible contamination through organic material was of paramount importance for restoring emotional balance, because sometimes the injured worker was faced with the difficulty of starting, as well as completing, the recommended prophylactic scheme.

> *Psychological support was very important because we get very upset at the time of the accident and also so that we didn't give up while we were taking AZT, because the medication was very strong. It made me feel worse, gave me nausea.* (D1)

> *I could tell employees were shaken, distressed, afraid of contracting HIV, and at these times the emotional support was essential.* (AS1)

> *I was pricked while performing a lumbar puncture. I was hysterical at the time, stressed because besides the accident*

having happened with a thick-gauge needle, the patient was not responding to any treatment, so I had to take a lot of medications. I remember throwing up all of the time. It was horrible; I didn't even manage 28 days of chemo. My emotional side was very affected and, in this sense, psychological support was very important. (M4)

When the chemoprophylaxis was recommended, psychological support was necessary to prevent withdrawal from treatment, because the adverse effects of the chemo were complicated. And it had to be taken seriously to avoid HIV transmission. (E5)

Psychological support was also important because HIV infection is always accompanied by biases, causing disruption not only from a professional aspect but also a personal one.

Psychological care for workers who had accidents was paramount, because some were very shaken, fearful of contracting HIV and having to deal with the very strong discrimination from the population and family members. (P1)

I remember I entered the patient's room to do a procedure when I saw him trying to hang himself with the serum equipment. Then I screamed and I think that, with the scare, the bloody scalp hit my hand. I was very shocked. Everything comes to mind, because I was a single mother and how would I tell my parents? (TE2)

Psychological support was crucial, because the accident involving possibly contaminated material carried many implications in the employee's life. Because it was the employee that was going to have to go home and tell their wife or husband that they were not able to have sexual intercourse. All of this messed with the person's head. (E2)

DISCUSSION

The precariousness of information, knowledge, and public policies for worker safety, added to the absence of post-accident chemoprophylaxis for use with exposure to contaminated biological material, were situations experienced by HNR workers at the beginning of the epidemic. Later on, through studies, the Centers for Disease Control developed recommendations that several other antiretroviral drugs should be administered, thus characterizing chemoprophylaxis as an essential measure for the reduction of viremia in labor accidents[10].

However, even with the absence of chemoprophylaxis, the study subjects mentioned the importance of evaluation, registration, monitoring, and psychological support as conducts for minimizing the possible transmission of HIV upon the occurrence of any labor accident involving blood or bodily fluids containing blood. The importance given to this by professionals is because the degree of contamination risk by certain diseases differs, as do the recommended post-accident actions.

The criteria for chemoprophylaxis recommendation upon the occurrence of labor accidents with exposure to biological material require rigorous evaluation and research to address the volume of inoculation, the needle or sharp object's penetration depth, the type and shape of the needle, in addition to the characteristics of the source patient and the relative immunity of the injured worker[11-12]. As for the inoculated volume and the depth of the perforation, chemoprophylaxis is indicated for deep lesions caused by piercing or cutting objects, the presence of visible blood in the invasive device, accidents with needles previously used in an HIV patient's vein or artery, and in the event of accidents caused by thick-gauge needles[10,13].

Regarding the source patient characteristics, the onset and maintenance of chemoprophylaxis should be evaluated according to the serological results. Information on the HIV status of the source patient is extremely important and can be obtained from medical records. But when this is not available, it is necessary to ask for the rapid HIV test, from the verbal and written consent of the patient or guardian, informing him or her about the nature of the test, the significance of its results, and implications for the worker[13-14].

In addition to identifying the serology of the patient source, it is also necessary to check the HIV status of the employee subject to the accident. Serum should be collected concurrently with the start of chemoprophylaxis, because there is the possibility that the injured worker may already be HIV positive[10,13]. In this case, it is extremely important that the incident is documented, as it may result in legal ramifications. Secrecy is essential from everyone involved.

Also regarding the evaluation of the labor accident, it is important to have information about the biological material involved, because accidents with blood and other potentially contaminated body fluids should be treated as an emergency. As indicated, the operations for prophylaxis of infection by HIV and hepatitis B need to be initiated in the first or second hour after the accident in order to increase the efficacy[10,13].

The beginning of chemoprophylaxis in the first or second hour after the occurrence of the accident, and the duration period of four weeks, are associated with an 82% reduction in the risk of seroconversion after occupational exposure[15]. Studies highlight the importance of public health policies on Aids aimed at improving working conditions, particularly the safety of health professionals, with the establishment of measures and protocols[14,16-17].

Concomitant with the evaluation of occupational accidents, the study showed the importance of accident records with exposure to biological material, because the information enables the identification of possible risks in the workplace in order to avoid them. However, it is also worth noting that such procedures have sometimes been ignored and not reported by health workers. Several reasons have led to failure to record events on the part of professionals. Among them may be listed as key elements the lack of mandatory procedures, the non-characterization of the episode as an accident, and the fear of the injured worker about the consequences of performing the notification[18].

The lack of systematic data on the occurrence of accidents interferes with the knowledge of the real magnitude of the problem and, moreover, research on the subject is essential to changes in working practices. Surveys generally point to the need to raise the awareness of workers and institutions about

the possible risk of accidents, especially the biological risk in the workplace, as well as the need for incentives for the registration and notification of these accidents[12].

Regarding notifications, since 1993 the Ministry of Health has established a Notifiable Diseases Information System (SINAN), deployed in the three spheres of government, that aims to collect, transmit, and disseminate data collected by the Epidemiological Surveillance System related to diseases and particularly compulsory reportable diseases. Included is the notification of occupational accidents involving exposure to biological material. This mandatory reporting was established by Ordinance GM/MS 777 of April 28, 2004[19].

In addition to the notifications, the ordinance emphasizes the importance of completing a Work Accident Communication form (CAT) in order to contribute to the action plans aimed at preventing diseases and injuries[19]. We agree with the authors and add that notification is an important source of information for the formulation and evaluation of health policies, plans, and programs. These, in turn, subsidize the managerial, institutional, and worker decision-making process, aiming to provide a healthier and safer working environment.

However, more than registration, assessment of labor accidents and establishment of a chemoprophylaxis antiretroviral regimen after accidental exposure to HIV where recommended, the injured health worker should be welcomed by the professional that treats him or her, as well as tracking, monitoring and, above all, provided with psychological support[10,13].

According to the behavior protocol for post-accident work conduct with exposure to biological material, monitoring should be performed for six months, with follow-ups at 45, 90, and 180 days after the accident, and for 12 months in cases of co-infection (hepatitis C + HIV). Due to the immunological window, this recommendation should be in place in cases of accidents where the source patient is unknown, positive or even negative for HIV, but has presented risk behavior in the last 3-6 months[13-14].

With every return for follow-ups or tests, the injured worker relives all of the suffering and looks with dread toward a possible seroconversion. Thus, they experience prolonged anxiety, which can extend to one year in cases of co-infection[20-21]. Therefore, monitoring, psychological support, and maintenance of the worker in the chemoprophylactic scheme are indispensable to support the process.

Counseling is necessary, considering that sometimes the injured worker is faced with the difficulty of beginning or completing the prophylactic regimen. This is a consequence of the side effects, of the incompatibility of the scheme with their daily activities, the large number of pills, food restrictions, and lack of emotional preparation[15,21].

Psychological support helps not only in compliance, but also in facing the prophylaxis period as a whole. A study carried out in a specialized treatment clinic for workers who are victims of exposure to biological material showed that compliance to outpatient follow-up was 70%. Of the total who had prophylactic measures with antiretrovirals for HIV, only 45% completed the proposed scheme[16].

CONCLUSION

This study identified that, in situations where occupational exposures could not be avoided, preventative measures were adopted through a thorough evaluation and recording of the accident, follow-ups, periodic monitoring, and psychological support. These behaviors were considered important strategies to minimize HIV transmission when dealing with the care of people with HIV/Aids admitted to HNR during the study period.

In this context, we highlight the important role not only of health workers, but also of the institution and managers in terms of being accessible, aware, and updated in relation to the standards and protocols with regard to the treatment of workers subject to accidents involving biological material. Above all, institutions and managers must be motivated to guide workers in accident prevention and, when these happen, inform them about care, and appropriate early and post-accident procedures, including psychological care.

Despite the existence of chemoprophylactic regimens and compliance with post-accident work behavior involving exposure to biological material by health workers within their working practice, there were many work-related injuries. There were also many health care workers affected by psychological trauma, given that work accidents, especially those with exposure to potentially contaminated biological material, cause changes in their sexual lives, difficulties due to prejudice, and stigma from family and friends that lasted for months while they waited for the results of the serological test.

Given this reality, the implementation of educational and preventative actions was important and necessary, emphasizing compliance with biosecurity measures, in order to avoid accidents during the work process.

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