

Intervening factors in attention flow of professionals injured by biological material*

FATORES INTERVENIENTES NO FLUXO DE ATENDIMENTO AO PROFISSIONAL ACIDENTADO COM MATERIAL BIOLÓGICO

FACTORES QUE INTERVIENEN EN EL FLUJO DE ATENCIÓN AL PROFESIONAL ACCIDENTADO CON MATERIAL BIOLÓGICO

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ABSTRACT

Objective: To describe the barriers and facilitator factors to follow the attention flow of professionals injured by biological material in the worker perspective. **Method:** Qualitative descriptive study with data collected through individual interviews with 18 injured workers, assisted in reference public units in the city of Goiânia. The content analysis was carried out with assistance of the ATLAS.ti 6.2 software, under the work organization and subjective perspectives. **Results:** From the interviews regarding the barriers and facilitator factors emerged the categories: *organizational structure, Support from close people, and Knowledge influence*. **Conclusion:** The organized services have enabled more qualified consultations and the workers follow-up, which caused a satisfaction feeling in relation to the working environment.

DESCRIPTORS

Health personnel
Occupational risks
Exposure to biological agents
Occupational health
Nursing

RESUMO

Objetivo: Descrever os fatores facilitadores e dificultadores ao cumprimento do fluxo de atendimento ao profissional acidentado com material biológico na perspectiva dos trabalhadores. **Método:** Estudo qualitativo, descritivo cujos dados foram coletados por entrevista individual com 18 profissionais acidentados, atendidos nas unidades públicas de referência do município de Goiânia. A análise de conteúdo foi realizada com o auxílio do software ATLAS.ti 6.2, sob a perspectiva da organização do trabalho e da subjetividade. **Resultados:** Dos depoimentos referentes a fatores facilitadores e dificultadores emergiram as categorias *Estrutura organizacional, Apoio de pessoas próximas e Influência do conhecimento*. **Conclusão:** Os serviços que se apresentaram organizados, viabilizaram de forma mais qualificada as consultas e o acompanhamento dos profissionais, o que provocou nos trabalhadores um sentimento de satisfação em relação ao ambiente laboral.

DESCRITORES

Pessoal de saúde
Riscos ocupacionais
Exposição a agentes biológicos
Saúde do trabalhador
Enfermagem

RESUMEN

Objetivo: Describir los factores que facilitan y dificultan el cumplimiento del flujo de atención del profesional acidentado con material biológico, desde la perspectiva de los trabajadores. **Método:** Estudio cualitativo, descriptivo, cuyos datos fueron recolectados por medio de entrevistas individuales a 18 profesionales acidentados, atendidos en las unidades públicas de referencia del municipio de Goiânia. El análisis de contenido fue realizado con ayuda del software ATLAS.ti 6.2, bajo la perspectiva de la organización del trabajo y la subjetividad. **Resultados:** De los testimonios referidos a factores que facilitan y dificultan, emergieron las categorías: *Estructura organizacional, Apoyo de personas cercanas e Influencia del conocimiento*. **Conclusión:** Los servicios organizados realizaron de manera más calificada las consultas y los seguimiento de los profesionales, lo que provocó en los trabajadores un sentimiento de satisfacción en relación al ambiente laboral.

DESCRIPTORES

Personal de salud
Riesgos laborales
Exposición a agentes biológicos
Salud laboral
Enfermería

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INTRODUCTION

Health professionals are commonly exposed to accidents with biological material (BM) and to the consequences from this exposition when performing their work activities⁽¹⁻⁵⁾. This fact leads to the importance of the discussion about the attention and the consequences of this harm in the health assistance context.

Health establishments should adopt prevention measures and control attendance to the injured worker. Within those, it is highlighted the development of an attention protocol for biological material accidents with guidance regarding the immediate local care for the affected body part, a medical attention flow chart, recommendations for chemo and immunoprophylaxis after exposition, serology request from the victim and the source-patient when possible, serology monitoring from the victim post-exposition and scheduling the return for monitoring^(1,4,6).

However, in the clinical practice it is observed the difficulty to follow those recommendations and to do effective attendance and follow-up for diverse reasons. Those include low risk attribution to the accident, slow attendance, forgetfulness, lack of time to do the consultation, presence of adverse effects from antiretroviral therapy, among others^(2,7-8). Another difficulty is related to follow the normative protocols for accidents, once those are recommended by the Health Ministry as general norm. As such, it does not always broaden the complex reality in which the accident happens, or the subjective particularities of the involved worker, and even less the cultural organization from the institutions.

To understand the interfaces of biological material victim attendance, it was pursued to comprehend the health work organization and the work dynamics of professionals inserted in this context, analyzing the existing subjectivity⁽⁹⁻¹¹⁾.

In this perspective, the work organization receives influence from the political system which is capitalism in this case and demands profit and productivity from workers, charged to attend the organizational needs. This productivity pressure interferes in the worker subjectivity, making him fragile and contributing to the work injuries aggravation⁽⁹⁻¹¹⁾. Thus, due to its organization, the institutions submit their workers under undue tensions in work places, transforming work into a risky and pernicious act⁽¹²⁾.

In health establishments or hospitals, the laboratory risks are due to practices and work organization. However, they should be minimized with accident prevention, and when it happens, they should be registered, attended and monitored.

The negative consequences generated by the biological material accident reach beyond the worker himself; it reaches their family members and the employer

institutions. Therefore, the risk management responsibility should be solidary within the worker and the employer^(1,4). The professionals should incorporate all protection measures to their practice, including search for attendance and follow-up, and the accident notification⁽⁸⁾. The health establishment should provide a safe environment, norms and should establish attending flow and follow-up to the worker victim, protecting their rights as workers⁽¹³⁾.

Attendance and follow-up services for the biological material victim are part of government politics already implemented in Brazil; those guide the attendance flow and provide norms to the permanent education programs⁽⁴⁾. Thus, the difficulty to attend as the current legislation and the diverse factors likely included in this context is a consensus^(2,7-8). Therefore, this problem is part of a current reality in the work context and there is a gap of knowledge to be explored.

This way, it is important to know the intervening factors in attendance and follow-up of the BM accident victim, so that it becomes possible to think of more assertive ways to promote safety to workers, specially to comprehend the related aspects to the work organization and how the subjects face this dilemma considering the subjectivity involved in this process.

All things considered, the objective of the study was to describe facilitating factors and barriers to follow the attending flow of professionals injured by biological material in the worker's perspective.

METHOD

Qualitative, descriptive and exploratory research developed in 2011 with data from an occupational health reference center and from reference units that provide attendance/monitoring to the biological material accident victim in Goiânia – Goiás.

The study population was constituted by professionals exposed to accidents with biological material attended in four public reference units for this type of care, which investigation files of biological material accidents were sent to the Workers Health Reference Center (CEREST) by the National Disease Notification System (SINAN).

The subjects were found through attendance registers from the reference units available at CEREST, considering the period of January of 2006 (year of services implantation) to December of 2010. From the professionals' identification, an intentional selection was done to guarantee the participation of workers from the four reference places for attendance, and also the years selected for the study. The contact was done by telephone and after informing about the study, the subject consent was requested and it was agreed the place and time for their convenience to perform the interview.

To define the number of participants, it was used the data saturation criteria from the moment that the

researcher considered that the workers' ideas and expressed content were repeated and the inclusion of new data would not contribute in a significant matter to enhance the reflection about the theme⁽¹⁴⁾.

Data was collected by one researcher through a semi structured interview and manually registered. The interview script was composed by the socio-demographic characteristics and specific questions about the barriers and facilitators of attendance and monitoring of the biological material worker victim.

After the data collection, the data was imputed immediately, organized and managed with assistance of the software ATLAS.ti 6.2 and after explored with a content analysis perspective – thematic modality⁽¹⁵⁾. The analysis structure was drawn in three steps. A comprehensive reading from the transcripts and a data analysis was initially done, aiming to hold the central content and ideas from the speeches. After, they were grouped in meaning nucleus, and later categories were extracted, highlighting that: the speeches were pre-classified in barriers and facilitating factors for attendance.

The data were analyzed following the recommendations for the BM injured professional^(1,4) and the subjectivity referential and work organization⁽¹⁰⁻¹²⁾.

The project was approved by the Ethics in Research Committee of the Tropical Diseases Hospital, protocol

nº 046/2009. After the reception, the research objective explanation and the ethics clarifications involving research with human beings, it was requested for the workers to sign the free and informed consent to then, perform the interview.

RESULTS

Eighteen workers participated in the study; from those (17/94.4%) were women, (10/55.6%) nurse technicians, (3/16.7%) general support services workers, (2/11.1%) students, (1/5.6%) pathology technician, (1/5.6%) biochemist and (1/5.6%) pharmacy helper. There were no physicians as subject of the study. The predominant age was 20 to 40 years old (13/72.2%) and most of them (12/66.7%) worked for more than four years in the field.

Seventeen (94.4%) mentioned to have received biosafety orientations. Nine (50.0%) affirmed to have had accidents with BM before and to know about the attending flow chart. Fourteen (77.8%) subjects notified the accident on the same day as the accident happened.

The speeches were distributed in the facilitating factors and barriers for BM accidents (pre-defined study classifications) and afterwards analyzed in its content, from where three categories emerged: *Organizational structure*, *Support from close people* and *Knowledge influence*, which are displayed in the following chart.

Chart 1 – Synthesis of the facilitating aspects and barriers from the accident with biological material, according with the categories “Organizational structure”, “Support from close people” and “Knowledge influence” - Goiânia, 2011

Classification	Category	Synthesis	Representative speeches
Facilitators	Organizational structure	The good attending, the time-off during working hours, the quick attendance, to be attended at the same institution.	<i>...I really liked the attendance and monitoring... ASG1</i> <i>...it facilitated to have them releasing me during working hours to do the medical appointments... BIO1</i> <i>...the scheduling always work... TE6</i> <i>...another facilitator is that they were quick to attend me in the medical appointments... TE6</i> <i>...to do all the exams and the medical appointment always at the same place... TE6</i>
	Support from close people	The support offered by the colleagues and the patient support allowing the blood sample collection to perform quick tests.	<i>...another thing that helped was the companionship of a work colleague that saw me in the accident, if it wasn't him, I wouldn't have communicated... TE1</i> <i>...a colleague oriented me; otherwise I would not look for help because of the accident anyhow... TE6</i> <i>...the patient released the blood collection... TE3</i>
	Knowledge influence	The professional victim knowledge of the protocol and the knowledge of the responsible professionals for attending. Importance to promote education with guidance about preconized conducts, offered by the service.	<i>...I knew I had to take the blood sample and that I needed to be attended in no more than two hours... TE3</i> <i>...the attendance was really good; they were knowledgeable about the subject... TE7</i> <i>...a very important thing when I started working was in the admission, I received a course with biosafety orientations, so I knew what to do ... TE2</i>
Barriers	Organizational Structure	To not be attended at the same place as the accident, lack of transportation, delay to attend, lack of organization from the service, lack of monitoring by the professionals who attended, the no attendance during night shifts and lack of quality in the attendance.	<i>...in the same place where the accident happened, they had to attend, because we get nervous, then we have to go to another place and by bus.... TE1</i> <i>...they should give us transport vouchers... ASG2</i> <i>...sometimes it took too long to be attended... BIO1</i> <i>...there was also scheduling and rescheduling the appointments; it was a little disorganized... BIO1</i> <i>...the HR should schedule the appointment and tell people so they don't forget it ... TE10</i> <i>...it would be easier if there were a doctor available at SAT at night... TE4</i> <i>...the doctor was a little dry, as the CAIS doctors, you know?... AF1</i>

Continued...

Classification	Category	Synthesis	Representative speeches
Barriers	Support from close people	Lack of support from close people, as colleagues, leadership and the occupational health doctor.	<i>...my boss could have been better, she did not help me at all, and neither respected me. They were rude, considered me as if I had no value... ASG1 ...the occupational health doctor was really objective and argued with me because I wasn't wearing glasses... TE7</i>
	Knowledge influence	The lack of knowledge from the professional and the responsible people for the attendance about the protocol and the recommended conducts and the lack of adequate orientation.	<i>...it became harder for not knowing that I had to take the blood and the patient information that were needed to take actions... TE1 ...they are really not aware of the information regarding workplace accident... TE9 ...another barrier was the lack of orientation, besides that, I had to call, schedule the appointment and go (to the place), nobody explained to me what to do or at least where was this place... E1</i>

DISCUSSION

The majority of participants in the study were young women and nursing technicians, a similar population to another study about this theme⁽¹⁶⁻¹⁷⁾. Most of them notified the accident in the same day as the occurrence, which is an essential factor to know the real diagnosis of the occurrence for this kind of accident, and it also allow the implementation of preventive measures^(3,18). The chemoprophylaxis for HIV is highlighted because when indicated it was a time dependence being the major benefit when initiated until two hours after the accident^(1,4).

The **facilitating factors** involved in the biological material accident attendance and follow-up, highlighted in the three categories above, have a relationship with the adequate conditions for supporting the victim, emotional support from close people and the knowledge that the victim had regarding the conducts to be taken when facing the accident. In opposition to that, there is a related paradox to the barrier aspects, which were opposing the facilitating factors, as the service lack of organization, the lack of support and the lack of knowledge of the adequate conducts.

The *organizational structure* category showed that when the service offered organization and agility, the attendance and monitoring seemed to satisfy the needs of support and orientation regarding the next steps to be taken. The quick attendance, with discharge during working hours and the monitoring at the same place offered security and trust to the worker that his health is priority to the institution and consequently it generates satisfaction in relation to their jobs⁽⁹⁻¹¹⁾. On the other hand, the disorganized service in relation to the attendance and monitoring caused discomfort and dissatisfaction.

In the dejournalian view, eliminating the barriers found in the work organization promotes a protective attitude, reducing the risks and increases the workers' satisfaction in relation to the work environment⁽⁹⁾. However, this organization in health work involves hard work and agility that in many emergency situations, generates tiredness and fatigue to the professional, it increases the number of occupational accidents and does not allow space to care and monitoring the professional victim in those accidents.

In this context, it is necessary to develop actions towards the improvement of those conditions and organize the work to prevent accidents with biological material^(17,19), the organizational, material, structural, behavioral and human resources restructuring are essential to reduce the risks involved in the health work dynamics^(11,20). To assess those organizational variables that compose the work process routine is an important strategy to identify preventive measures to be implemented to modify this reality⁽²¹⁾.

It is important to remember that any public or private institution should be responsible for monitoring the occupational accident victim, assuming all onuses from cases, as established by the occupational norms in the country⁽¹³⁾.

Regarding the category *support from close people*, the possibility to count on colleagues' help and incentive or the ability of the patient to take the adequate conducts was related as facilitating factor. In contraposition, the lack of support from managers made the attendance to the BM victim difficult and it leveraged their suffering by lacking verbal recognition.

Facing the fragile situation that happens in BM accident, it is common the loss of body mobility capacity, intelligence and reflection for decision making in search of their own protection⁽⁹⁻¹¹⁾. The person is not able to make a correct conduct decision and get exposed to the influence of others. Living as community is part of the work experience and the labor activity involves conjunct actions with their knowledge, actions, abilities, operative ways and affection⁽¹¹⁾, so the influence of others is inevitable. It is in this context that the work subjectivity rises, to guarantee the stay in the group and its requested productivity⁽¹²⁾.

Thus, the participation of others in this fragile moment can also be negative. Depending on their values and beliefs, it can influence the victim trivializing the situation and not giving importance to the search of care, as preconized. This accident trivialization by the colleague can constitute a defense strategy against pressure lived in the work organization, as reprehension and threat to loss the job⁽⁹⁾.

In the *knowledge influence* category, the technical-scientific knowledge was highlighted as a facilitator factor for

the qualified attendance. The lack of knowledge regarding the conducts and procedures leveraged the abandonment sensation in this situation. Besides that, the number of interviewed people affirming the occurrence of similar accidents previously was the same as the number of people that referred as knowing the attendance protocol for accident victims with BM (9/50.0%). It suggests that the professionals knew the attendance flow by experience with accidents and search for attendance.

A study⁽¹⁹⁾ showed that the previous experience with accidents provokes learning experience in relation to the post-accident conduct. The exposition situations, although induces to learning, generates dissatisfaction and suffering regarding their work⁽⁹⁻¹¹⁾.

In accordance with the current regulations⁽¹³⁾, it is mandatory the permanent/continuous education aiming to provide risk awareness, to learn biosafety measures and conducts to be adopted when facing accidents. The permanent education from discussions and problems comprehension and work needs, added to theories based in regulations^(1,4,13) and guidelines⁽⁶⁾, is an efficient strategy that can lead to changes in practice and in professional safety.

Another important point mentioned was that in the present study, the attendance protocol for BM accidents prescribed by the government agencies was considered as a facilitating factor and as a barrier.

Those prescriptions were conceived considering only the technically correct and recommended perspective, not taking into account, the work dynamic and the work subjectivity, for example. For the prescription to make sense to the worker, it is fundamental to be involved in cooperation agreements in normative constructions that consider the real and social needs in the work environment⁽¹¹⁻¹²⁾.

Thus, it is important to discuss the protocols collectively to be considered not only the technical knowledge, but also the workers subjectivity in the comprehension regarding the importance to protect them against risk at work. This discussion is the

irreplaceable opportunity to learn to respect others, the trust, the coexistence, the solidarity and to learn how to bring a contribution for the construction of work norms that are not absolutely limited to technical rules, but that considers the social norms at the same time⁽²²⁾.

The qualification and disclosure of this protocol is a duty and responsibility of employers' institutions and references to attendance, aiming to direct professionals and delimitate their actions and conducts facing the accident. Its ownership by the workers is fundamental, so they can perform their activities with safety and it is a legal issue⁽¹³⁾. The employers' institutions are responsible for educational services including conducts facing the BM accidents and its collaborators, aiming to reduce risk and

consequently, propitiate a safer work environment⁽¹⁶⁾. The worker with possibilities to use intelligence and reflections feels recognition and tend to have more assertive actions, and together, provokes a pleasure sensation in relation their work, reducing negative feelings⁽⁹⁻¹¹⁾.

The current legislation is available to guide managers and health services professionals in all and any situation involving accidents with BM. However, this study brings out other factors that put in evidence the need to also consider the victim subjectivity, since the knowledge of what to do, and how to be, integrating thoughts and actions, that should incorporate self-knowledge, self-perception, self-control⁽¹²⁾ and the work as a live act. This way, to work aiming to enhance the subjectivity dimension is not only to produce, but to transform oneself⁽¹¹⁾.

The subjectivity manifestation happens in the work context and needs an organizational management that advances incorporating the norms rigidity and existing protocols (technical), as well as the subjectivity expressed by the workers in the present study⁽²³⁾.

CONCLUSION

The comprehension of the present study is complex, because broadens the organizational and technical aspects and also the subjectivity from workers and the interference of those factors in the biological material accident attendance and follow-up. The worker multidimensionality is recommended for the involved in the health sector.

The worker knowledge of the attendance flow chart was the only not determinant factor to guarantee the monitoring by the professional as recommended by the current legislation. The health institution should offer conditions to the victim to look for attendance for that they do not get lost in this trajectory from the beginning until the end of follow-up.

Besides that, close people support appeared as a novelty in the present study in comparison to the scientific literature about the theme. Thus, as it is a complex subject that involves interpersonal relationship as an important factor to the worked on in the institutions, to improve the attendance and following-up the BM victims, it should be better explored in other studies as it is an important gap in the literature.

The facilitator factors and barriers comprehension regarding attendance and follow-up of BM accident victims facilitates to comprehend work organization and psychodynamics. This exercise contributed to rethink the laboratory practices in the work environment routine that involves BM accident victims, aiming to enhance the technical procedures that involve the organizational structure, as well as the enhancement of management processes for a qualified attending and monitoring.

REFERENCES

1. Center for Disease Control and Prevention. Workbook for designing, implementing, and evaluating a Sharps Injury Prevention Program [Internet]. Atlanta: CDC; 2008 [cited 2013 Sept 15]. Available from: http://www.cdc.gov/sharpsafety/pdf/sharpsworkbook_2008.pdf
2. Garcia LP, Blank VLG. Condutas pós-exposição ocupacional a material biológico na odontologia. *Rev Saúde Pública*. 2008;42(2):279-86.
3. Spagnuolo RS, Baldo RCS, Guerrini IA. Análise epidemiológica dos acidentes com material biológico registrados no Centro de Referência em Saúde do Trabalhador – Londrina-PR. *Rev Bras Epidemiol*. 2008;11(2):315-23.
4. Brasil. Ministério da Saúde; Departamento de DST, AIDS e Hepatites Virais. Recomendações para terapia antirretroviral em adultos infectados pelo HIV- 2008. Suplemento III: tratamento e prevenção. Brasília; 2010.
5. Ribeiro LCM, Souza ACS, Neves HCC, Munari DB, Medeiros M, Tipple AFV. Influência da exposição a material biológico na adesão ao uso de equipamentos de proteção individual. *Ciênc Cuidado Saúde*. 2010;9(2):325-32.
6. Miranda FMD, Stein Junior AV, Petreli S, Pires MR, Soares LG, Ribeiral BN, et al. A contribution to occupational health: a guide on the exposure to biological fluids. *Rev Esc Enferm USP*. 2011;45(4):1018-22. Available from: http://www.scielo.br/pdf/reeusp/v45n4/en_v45n4a33.pdf
7. Ko NY, Yeh SH, Tsay SL, Pan SM, Feng MC, Chiang MC, et al. Adherence to management after occupational exposure to bloodborne pathogen among health care workers in Taiwan. *Am J Infect Control*. 2009;37(7):609-11.
8. Pimenta RP, Ferreira MD, Gir E, Hayashida M, Canini SRMS. Care and specialized clinical follow-up of nursing professionals who have been victims of accidents with biological material. *Rev Esc Enferm USP* [Internet]. 2013 [cited 2013 sept 15];47(1):198-204. Available from: http://www.scielo.br/pdf/reeusp/v47n1/en_a25v47n1.pdf
9. Dejours C. Loucura do trabalho. São Paulo: Oboré; 1987.
10. Dejours C. A banalização da injustiça social. Rio de Janeiro: FGV; 2001.
11. Dejours C. Subjetividade, trabalho e ação. *Rev Produção*. 2004;14(3):27-34.
12. Thofehrn MB, Amestoy SC, Porto AR, Arrieira ICO, Dal Pai D. A dimensão da subjetividade no processo de trabalho da enfermagem. *Rev Enferm Saúde* [Internet]. 2011 [cited 2013 set. 15];1(1):190-8. Disponível em: <http://www2.ufpel.edu.br/revistas/index.php/enfermagemesaude/article/viewFile/58/43>
13. Brasil. Ministério do Trabalho e Emprego. Portaria nº 485, de 11 de novembro de 2005. Aprova a norma regulamentadora nº 32 (Segurança e Saúde no Trabalho em Estabelecimentos de saúde) [Internet]. Brasília; 2005 [cited 2013 set. 15]. Disponível em: <http://portal.mte.gov.br/legislacao/portaria-n-485-de-11-11-2005.htm>
14. Fontanella BJB, Luchesi BM, Saidel MGB, Ricas J, Turato ER, Melo DG. Amostragem em pesquisas qualitativas: proposta de procedimentos para constatar saturação teórica. *Cad Saúde Pública*. 2011;27(2):389-94.
15. Bardin L. Análise de conteúdo. Lisboa: Edições 70; 2011.
16. Lima FA, Pinheiro PNC, Vieira NFC. Acidentes com material perfurocortante: conhecendo os sentimentos e as emoções dos profissionais de enfermagem. *Esc Anna Nery Rev Enferm*. 2007;11(2):205-11.
17. Vieira M, Padilha MI, Pinheiro RDC. Analysis of accidents with organic material in health workers. *Rev Lat Am Enferm*. 2011;19(2):332-9.
18. Murofuse NT, Marziale MHP, Gemelli LMG. Acidente com material biológico em hospital universitário do oeste do Paraná. *Rev Gaúcha Enferm*. 2005;26(2):168-79.
19. Damasceno AP, Pereira MS, Souza ACS, Tipple AFV, Prado MA. Acidentes ocupacionais com material biológico: a percepção do profissional acidentado. *Rev Bras Enferm*. 2006;59(1):72-7.
20. Sarquis LMM, Felli VEA. Os sentimentos vivenciados após exposição ocupacional entre trabalhadores de saúde: fulcro para repensar o trabalho em instituições de saúde. *Rev Bras Enferm*. 2009;62(5):701-4.
21. Sêcco IA, Robazzi ML, Shimizu DS, Rúbio MM. Typical occupational accidents with employees of a university hospital in the south of Brazil: epidemiology and prevention. *Rev Lat Am Enferm*. 2008;16(5):824-31.
22. Dejours C, Cardoso MR. Christophe Dejours. *Ágora*. 2001;4(2):89-94.
23. Martins JT, Robazzi MLCC, Bobroff MCC. Pleasure and suffering in the nursing group: reflection to the light of Dejour psychodynamics. *Rev Esc Enferm USP* [Internet]. 2010 [cited 2013 Sept 15];44(4):1107-11. Available from: http://www.scielo.br/pdf/reeusp/v44n4/en_36.pdf

Support

CAPES Financing