

## ADHERENCE TO STANDARD PRECAUTION IN THE PERIPHERAL VASCULAR ACCESS<sup>1</sup>

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Cirelli MA, Figueiredo RM, Mascarenhas SHZ. Adherence to standard precaution in the peripheral vascular access. Rev Latino-am Enfermagem 2007 maio-junho; 15(3):512-4.

*This prospective and quantitative study was carried out in a small private general hospital, where the adherence to standard precaution in the peripheral vascular access was evaluated. The data were collected through a questionnaire aiming to characterize the nursing team's knowledge and opinion about standard precautions and the availability of materials. In addition, a systemized observation of the procedures of vein puncture and medicine administration was performed. It was identified that 84.4% of the punctures had been carried out without gloves or previous hand washing; in 29.7% of the procedures, needles were recapped and 93.2% of the professionals reported adequate material supply. Concluding, the professionals expose themselves and patients to unnecessary risks of infection. The nursing team must be the focus of continuous interventions and future actions in order to minimize the risk of infection in the procedure of peripheral vascular access.*

**DESCRIPTORS:** infection control; education continuing; nursing

## SIGUIENDO LAS PRECAUCIONES PADRÓN PARA PROCEDIMIENTO DE INSERCIÓN VASCULAR PERIFÉRICO

*Estudio prospectivo, cuantitativo, realizado en un hospital general privado de poca complejidad, donde fue evaluado el seguimiento de las precauciones patrón para realizar inserción vascular periférica. Los datos fueron recolectados por medio de un cuestionario, con el objetivo de determinar las características del conocimiento y de opinión del equipo de enfermería sobre los temas de adhesión, precauciones patrón, disponibilidad de materiales; y por observación sistémica de los procedimientos de punción venosa y administración de medicamentos. Se identificó que 84,4% de las punciones fueron realizadas sin guantes y sin lavado previo de manos, 29,7% de las veces hubo reutilización de agujas y 93,2% de los profesionales afirmó tener una adecuada cantidad de materiales. Se concluyó que los profesionales exponen a sus pacientes y a sí mismos a riesgos de infección innecesaria. El equipo de enfermería debe enfocar su intervención y actividades futuras con el objetivo de minimizar el riesgo de infección durante el procedimiento vascular periférico.*

**DESCRIPTORES:** control de infecciones; educación continua; enfermería

## ADESÃO ÀS PRECAUÇÕES PADRÃO NO ACESSO VASCULAR PERIFÉRICO

*Estudo prospectivo, quantitativo, realizado num hospital geral privado de pequeno porte, onde foi avaliada a adesão às precauções padrão no acesso vascular periférico. Os dados foram coletados por meio de questionário, visando a caracterização do conhecimento e da opinião da equipe de enfermagem sobre os temas adesão às precauções padrão e a disponibilidade de materiais e por observação sistematizada dos procedimentos de punção venosa e administração de medicamentos. Identificou-se que 84,4% das punções foram realizadas sem luvas e sem lavagem prévia das mãos 29,7% das vezes houve reencape de agulhas e 93,2% dos profissionais afirmou ser adequada a oferta de material. Conclui-se que os profissionais expõem a si próprios e os pacientes a riscos de infecção desnecessários. A equipe de enfermagem deve ser foco de intervenção e ações futuras visando minimizar o risco de infecção no procedimento de acesso vascular periférico.*

**DESCRIPTORES:** controle de infecções; educação continuada; enfermagem

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## INTRODUCTION

The main goal of establishing so called basic or standard precautions (SP) is to reduce morbidity, limiting health teams' and patients' contact with secretions, body fluids, skin lesions and blood<sup>(1)</sup>. Health professionals' non-adherence to SP by has been extensively notified<sup>(2-3)</sup>, and evidences have showed that its use diminishes the risk of blood exposure<sup>(3)</sup>.

Peripheral venous access and medication administration are the procedures with greater risk of exposure to blood performed by the nursing team<sup>(4)</sup>. Studies contributing to the advancement of knowledge, providing support to actions that aim to interrupt the epidemiological transmission chain of intra-hospital pathogens, are of great academic interest and social relevance. Therefore, this study aimed to evaluate the knowledge of and adherence to SP in the peripheral venous access procedure by the nursing team of a small general hospital.

## METHODOLOGY

This is a prospective, quantitative study, performed between August 2004 and June 2005 with a nursing population working day shifts at a private general hospital in the interior of São Paulo. In total, 29 of the 35 professionals working at the institution participated in the study. The project was approved by the Institutional Review Board at UFSCAR (Opinion 047/04) and all participants signed the free and informed consent term.

Data collection was performed in three stages, as follows: 1. Application of a questionnaire, aiming to characterize the study population's knowledge and opinion about SP; 2. systematized observation (128hs) of the performance of venous access procedures and 3. evaluation of the opinion of nursing professionals about the physical structure and availability of material. Records were made per procedure, guaranteeing confidentiality to the subjects, and analyzed through simple statistics and descriptive analysis.

## RESULTS AND DISCUSSION

In the knowledge evaluation stage, only nine professionals identified the SP concept correctly, while

the wrong concept of "risk patient" appears in 16 responses. This concept infringes the principle of SP, that is, the fact that they are applicable to any and all patients. In the evaluation of how professionals see their own adherence to SP, approximately 50% of them acknowledge not using gloves in venipuncture or intravenous medication administration. On the other hand, the distribution of sinks and the supply of materials like liquid soap, piercing and cutting material collectors and paper towels were considered adequate by more than 90% of the professionals.

In the second stage, 64 venipunctures and 175 cases of intravenous medication administration were evaluated. From these, 84.4% punctures and 82.8% administrations were performed without gloves. Hand washing before the procedure occurred in only 15.6% of punctures and 10.3% of administrations (Table 1). The needles were recapped after 29.7% of punctures and 13.1% of medication administrations. These same professionals reported that the physical structure and material supply were adequate. Therefore, this factor does not collaborate to the professionals' non-adherence to this primary measure.

Literature gives justifications for the non-adherence to SP, such as the urgency of the procedure, rush, loss of ability when using gloves, non agreement with the precaution, unpredictable circumstances, low risk patients, among others<sup>(3)</sup>.

Table 1 – Distribution of observed conducts in the venipuncture and medication administration procedures. São Carlos, SP, 2005

Conducts	Venipuncture	Intravenous medication administration
No gloves	54	154
Hand washing before	10	18
Hand washing after	18	20
Use of alcohol gel	6	14
Skin exposure to blood	3	0
Discarding after the procedure	38	114
Needle/catheter recapping	19	23
Total performed	64	175

The non-adherence to hand washing is the main route through which pathogens are transmitted inside the hospital, while the use of gloves decreases exposure to blood borne pathogens by 35 to 50%<sup>(5)</sup>. The non-recapping of needles is still a great cause of accidents with piercing and cutting material<sup>(6)</sup>.

It was also observed that only 65.1% of the professionals discarded gloves and piercing-cutting material immediately after the medication

administration. This assessment is important in view of the fact that accident rates caused by the inadequate handling, transportation and discarding of piercing and cutting material remain high<sup>(7)</sup>.

## CONCLUSION

In conclusion, the study population does not adhere

to the SP satisfactorily, especially regarding the use of gloves, hand washing and the non recapping of needles.

We believe that the dissemination of these results might lead people to reflect about the efficiency of current education actions adopted by institutions. We suggest that more innovative models, with shared responsibility among the different actors involved should be studied and stimulated.

## REFERENCES

1. Sridhar MR, Boopathi S, Lodha R, Kabra SK. Standard precautions and post exposure prophylaxis for preventing infections. *Indian J Pediatr* 2004. [on line]. Available from: <<http://www.ijppediatricsindia.org/article.asp?issn=0019-5456;year=2004;volume=71;issue=7;spage=617;epage=626;aulast=Sridhar>> (15 February 2005).
2. Doebbeling BN, Vaughn TE, McCoy KD, Beekmann SE, Woolson RF, Ferguson KJ, et al. Percutaneous injury, blood exposure, and adherence to standard precautions: are hospital-based health care providers still at risk? *Clin Infect Dis* 2003; 37(8):1006-13.
3. Ferguson KJ, Waitzkin H, Beekmann SE, Doebbeling BN. Critical incidents of nonadherence with standard precautions guidelines among community hospital-based health care workers. *J Gen Intern Med* 2004 July; 19(7):726-31.
4. Phillips LD. Manual de terapia intravenosa. 2º ed. Porto Alegre: Artmed; 2001.
5. Caixeta RB, Barbosa-Branco A. Acidente de trabalho, com material biológico, em profissionais de saúde de hospitais públicos do Distrito Federal, Brasil, 2002/2003. *Cad de Saúde Pública* 2005; 21(3):737-46.
6. Marziale MHP, Nishimura KYN, Ferreira MM. Riscos de contaminação ocasionados por acidentes de trabalho com material perfurocortante entre trabalhadores de enfermagem. *Rev Latino-am Enfermagem* 2004 janeiro-fevereiro; 12(1):36-42.
7. Canini SRMS, Gir E, Machado AA. Accidents with potentially hazardous biological material among workers in hospital supporting services. *Rev Latino-am Enfermagem* 2005 August; 13(4):496-500.