

## INFECTION CONTROL MEASURES RELATING TO THE COLLECTION OF THE CERVICAL CYTOPATHOLOGICAL

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### ABSTRACT

Prospective study aimed to assess the knowledge and practice of nurses regarding measures of infection control during the collection of the Pap smear of the cervix. Data collected through direct observation and record on a checklist and a questionnaire to 18 nurses working in units of the Family Health of a Sanitary District. Data were analyzed using descriptive statistics and to compare the knowledge and practice of nurses about measures of infection control was used  $\chi^2$  test. Considered significant differences at  $P < 0.05$ . Adherence correct hygiene of hands is still low (50%), 44.4% of the nurses remove the adornments before collection and care for the environment is not applied by most ( $p < 0.05$ ). The nurses have knowledge about control measures of infection, but lack skills and attitudes to change reality.

**Keywords:** Infection Control. Protective Devices. Pap smear. Nursing. Primary Health Care.

### INTRODUCTION

In the family health strategy (FHS) many actions are performed for the prevention and control of cervical cancer, since those who aimed at the prevention of sexually transmitted diseases (STD), until the led for the early detection of cancer<sup>(1)</sup>.

In the daily life of the teams of the ESF, the nurse performs the nursing consultation, with STD syndromic approach, collecting material for citopatológico examination of the cervix; calls for complementary examinations and prescription medications, as evidenced by protocols and observed the provisions of the legal profession.

In the context of assistance to women's health are evidence of increasing risk for the occurrence of infections related to healthcare services, especially when the processes of control and prevention are not properly implemented and evaluated<sup>(2)</sup>.

To minimize the risk of infection is recommended if the observation of standard precautions measures (PP). These are composed of hand hygiene, use of gloves, lab coat, mask, goggles etc. In addition, equipment or items in the patient's environment which possibly have been contaminated with infected body fluids, should be handled in order to prevent the transmission of infectious agents<sup>(3)</sup>.

The infection control should be understood as a basic principle for health and activities seen as a moral responsibility by health professionals, for a safe practice that reflects the quality of assistance provided<sup>(4)</sup>. There are several guidelines on these measures<sup>(3,5)</sup>. However, there is low adherence to standard precautions during professional activities<sup>(6,7)</sup>, which represents a challenge for nursing.

The measures for the prevention and control of infection should focus on patient treatment areas, such as primary care, where are developed actions that represent risks for

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professionals and users<sup>(8)</sup>.

Among the activities developed in the basic attention to health (UABS), the nursing care, and outpatient doctor in cytological colpo exams with risk of exposure to biological material containing pathogenic microorganisms<sup>(8)</sup>.

Thus, this study seeks to evaluate the knowledge and practice of nurses regarding infection control measures while gathering citopatológico examination of the cervix in health units and the family health strategy.

## METHOD

Analytical, quantitative and prospective study conducted in the basic attention to health units. The study population was composed of 21 nurses responsible for collecting the citopatológico examination of the cervix in health units belonging to a Sanitary District, located in Goiânia-GO. Were excluded three nurses who were not at work at the time of direct observation and did not respond to the questionnaire, resulting in the sample of 18 nurses.

In the first stage of data collection, two researchers previously trained, after telephone contact with the attendants, scheduled to visit the ESF, where they performed the follow-up Gynecologic consultation, through direct observation, while gathering citopatológico examination of the cervix, in the period from January to March 2010, and recorded on a form type *check list*. In the second step a questionnaire was applied, with closed issues, for registration of knowledge in relation to infection control measures while gathering citopatológico examination of the cervix.

The data collection instrument included the following variables: the use of suitable gloves to the procedure, the accessibility and availability of materials for the exam and the correct handling to prevent cross-infection during the procedure. In addition, it was observed if the physical structure enables a service suitable for these women.

Data analysis was held in descriptive form by means of frequency distribution and percentage. To compare the knowledge and practice of nursing staff about infection

control measures while gathering citopatológico examination of the cervix test was used *Chi-square* ( $\chi^2$ ). Considered significant differences  $P 0.05 <$ .

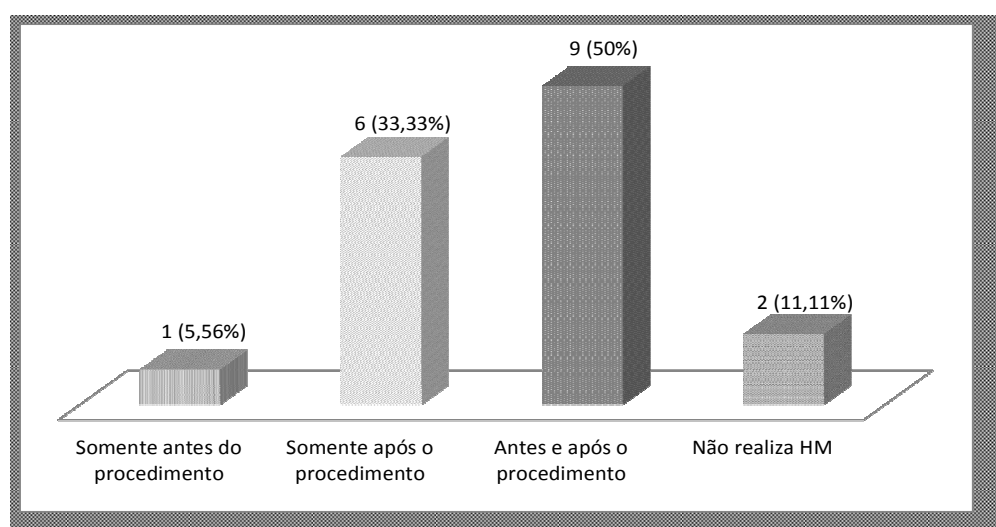
The research was approved by the Research Ethics Committee of UFG, under protocol number 080/2009 and the subject participated after clarification and study relevant to the signing of the informed consent.

## RESULTS AND DISCUSSION

Hand hygiene is the most simple and effective measure for the control of infection for any situation. The data relating to the hygiene of hands are presented in Figure 1.

Figure 1 shows that the correct hand hygiene adherence is still low. Similar results are found in other studies that report a hand hygiene adherence below 50.0% for health professionals<sup>(9,10)</sup>. We observed in this study that there is still a major concern of professionals in sanitize your hands only after the procedure. The who warns that the hands of the professionals constitute the main route of transmission of microorganisms and recommends five times when hand hygiene should be performed: before contact with the patient, before performing the aseptic procedures, after risk of exposure to bodily fluids, after contacting the patient and after contacting areas near the patient<sup>(11)</sup>.

To enable proper hygiene of the hands are needed adequate material resources. It was observed the knowledge and practice of nurses regarding the use of liquid soap and paper towels. The liquid soap was the only one available for use, which ensured the correct practice, 16.7% of nurses were leaving their indication to sanitize their hands. The opposite was observed in relation to paper towels, because all the nurses demonstrated to meet the need of its use in health services and even ruled out the possibility of tissue towels for this purpose, but in practice, in the absence of paper towels, the nurses utilize the fabric tablecloth, even knowing that this is contrary to the recommendations for prevention of infections<sup>(5)</sup>.



**Figure 1.** Realization of hand Hygiene by the nurses during the consultation for the cytopathology exam in women using the SUS. Goiânia, 2010

Although we did not find a significant difference, check that still exists that ignores or professional practice properly its use is intriguing because it is well established that the drying of the hands must be made with paper towel, because conventional towels fabric remain moist, enabling the transmission of microorganisms<sup>(12,13)</sup>.

Among the nurses who did not hand hygiene, we observe that these just replaced the gloves between a service and another. The use of gloves that represents professional protection factor, user and environment, in this case, was at risk for the professional user.

This fact is evidenced by the observation of nurses who do not sanitize your hands at any time, performing only the exchange procedures between the glove Collections. Although the use of gloves is an effective barrier against contamination, this does not relieve the hygiene of hands, because they have minor imperfections, besides presenting the risk of contamination at the time of its removal<sup>(14)</sup>.

Only eight (44.4%) nurses removed the adornments before collection, demonstrating a resistance, especially in the case of alliances. However, when asked about the use of decorations during service, nurses demonstrated adequate knowledge. The who reports that the adornments are a challenge for infection control, because the skin surrounded by rings presents a higher microorganisms rate

when compared to skin devoid of them. The adornments not only represent a risk for spread of microorganisms but also hinder the implementation of a proper hand hygiene, as well as can tear gloves or even constitute a physical risk to the patient<sup>(11)</sup>.

Adherence to use of EPI at the time of collection of the citopatológico exam is shown in table 1. Similar result was described in another study<sup>(9)</sup>.

Most nurses said not be required use of surgical gloves, gloves for procedures only. It is well established the necessity of use of gloves to prevent contamination of the hands of health professionals during direct contact with blood or bodily fluids, mucous membranes, skin unhealthy and potentially infectious materials, as well as in handling or contact with patient care equipment and potentially contaminated environmental surfaces<sup>(10)</sup>.

For the care of the environment related to the handling of materials and furnishings while gathering, knowledge if differed in a few moments. With regard to the identification of the vial with gloved hands found 22.2% of nurses responded correctly that is not best practice to identify the blades with gloved hands. In addition, 94.4% acknowledge that one should not touch the focus or the leggings with gloved hands, though in practice this conduct was followed by the majority of these professionals.

**Table 1** - knowledge and practice of nursing staff about infection control measures used in meeting the woman user of SUS in Goiânia, GO, Brazil, 2010.

	Knowledge		Practice		value of "p"
Control measures	Yes (%)	No (%)	Yes (%)	No (%)	
Long-sleeved coat	17 (94.4)	1 (5.6)	3 (16.7)	15 (83.3)	<b>0.01</b>
Beanie	9 (50.0)	9 (50.0)	2 (11.1)	16 (88.9)	<b>0.03</b>
Mask	4 (22.2)	14 (77.8)	8 (44.4)	10 (55.6)	0.28
Gloves	13 (72.3)	5 (27.7)	18 (100)	0	<b>0.04</b>
Closed-toe shoes	18 (100)	0	4 (22.2)	14 (77.8)	<b>0.01</b>
Hand hygiene					
Remove adorners	17 (94.4)	1 (5.6)	8 (44.4)	10 (55.6)	<b>0.00</b>
Liquid soap	15 (83.3)	3 (16.7)	18 (100)	0	0.22
Paper towel	18 (100)	0	15 (83.3)	3 (16.7)	0.22
Caring for the environment					
Identifies bottle with gloved hands	4 (22.2)	14 (77.8)	18 (100)	0	0.10
Touch focus with gloved hands	17 (94.4)	1 (5.6)	8 (44.4)	10 (55.6)	<b>0.00</b>
Plays cuff with gloved hands	17 (94.4)	1 (5.6)	1 (5.6)	17 (94.4)	<b>0.00</b>
Exchange sheet after consulting	18 (100)	0	12 (66.7)	6 (33.3)	<b>0.01</b>
Performs focus cleaning	18 (100)	0	18 (100)	0	1.00
Performs cleanup of gynecological table	18 (100)	0	1 (5.6)	17 (94.4)	<b>0.00</b>
Disposal of waste					
Trash can with lid	18 (100)	0	14 (77.8)	4 (22.2)	0.10
Recycle Bin next to the place of use	17 (94.4)	1 (5.6)	18 (100)	0	1.00

Important is that the nurses know the need to perform disinfection of the securities, as the focus of light and gynecological table, however only one (5.56%) performed gynecological table cleanup. This significant difference. Study demonstrates that these sites require decontamination, in order to prevent cross-contamination when handling objects and contact with surfaces becomes inevitable<sup>(15)</sup>.

We observed low adhesion to the use of closed shoes, although all affirm need its use, most nurses consider appropriate closed footwear like sneaker at practice. However, according to the Regulatory Standard 32 the Ministry of Labour, the closed footwear is an EPI, mandatory health professionals<sup>(5)</sup>. The sneaker is not in a suitable PPE for keeping the dorsum of the feet of unprotected nurses.

Most of the nurses used short-sleeved coats and open. Contamination of skin and clothing in a health care environment is practically inevitable, especially when it comes to Scrubs. He is one of the first places of contact with the patient and the environment and for this reason, it is a potential vehicle for transmission of microorganisms<sup>(2)</sup>. Corroborating with our results, other studies have

shown that nurses are aware of the unhealthiness of the environment in which they work<sup>(16,17)</sup>.

With regard to the use of Beanies 50.0% of nurses said to be recommended, although its use is not mandatory, their use is a form of protection against organic fluids that can eventually get in touch with the professional during the procedure. Despite not owning record as EPI, health care the surgical mask and CAP are considered to be devices that ensure the professional protection<sup>(4)</sup>.

On the use of masks 4 (22.2%) nurses claimed not to be required to be used during the collection procedure, reporting that its use prevents the identification of odors indicative of infection. Although not mandatory, its use is recommended, because the mucous membranes of the mouth, nose, and skin with continuity solution from the face of the Professional are particularly vulnerable to infection by exposure during procedures<sup>(6)</sup>.

The sheets of gynecological table and for the protection of women answered, preferably disposable and must be disregarded in an appropriate place. If reusable, must be forwarded to the linen closet for washing and disinfection. The study demonstrated that spite of all nurses meet the need for Exchange of sheet between a

collection and another, 33.3% not exchanged the sheet, reporting the lack of this resource in the drive. Studies show that the fabrics used by patients such as bed linen, sheets, towels and clothing from the patient himself may be contaminated with pathogenic microorganisms, but the risk of transmission of infection through them is minimal when these tissues are handled correctly: every new patient<sup>(3,14)</sup>.

We observe that in most of the rooms had collection bins with pedal driven Cap. All nurses are aware of this importance, but in practice not used by 22.2% lack of onsite resource.

## CONCLUSION

Most of the nurses of the ESF has a satisfactory theoretical knowledge about infection control measures, but it is necessary to rethink the reasons that adherence to these practices still does not reach satisfactory levels between professionals who recognize the importance of such measures. The reasons for this dichotomy between theory and practice need to be better investigated.

The nurse has extensive and diverse assignments that extend from the provision of care to management activities. Is the professional that best meets all stages of assistance in health care, so

has the responsibility to ensure that the service provided is of quality and safe in all aspects.

From that reflection becomes indispensable to developing strategies to ensure regulatory compliance and standardized use of PPE and related infection control. Redirect services from protocols would be a way to solve this deficiency, hence the significance of the role of the nurse in the ESF.

We believe that a good education and training of nurses are essential to a secure service and excellence. Courses combined with other educational strategies are ways to extend the knowledge and link the responsibility to secure assistance, minimizing risks and ensuring the safety of professionals and users of health services within the primary health care.

Measures such as the use of closed shoes, long-sleeved jacket and closed, in addition to the treatment of linen and shirts must have its revised concepts and expanded, as well as the moments of hand hygiene, how and when to carry it out. However, it is necessary an effort of the Health Service to provide appropriate inputs and conditions of work of functional and adequate way, eliminating unfavorable situations that contribute to that many professionals ignore or fail to adhere to the practices and appropriate measures.

## MEDIDAS DE CONTROLE DE INFECÇÃO RELACIONADAS A COLETA DO EXAME CITOPATOLÓGICO DO COLO UTERINO

### RESUMO

Estudo analítico prospectivo que objetivou avaliar o conhecimento e a prática de enfermeiros quanto às medidas de controle de infecção durante a coleta do exame citopatológico do colo do útero. Os dados foram coletados por meio de observação direta com registro em um *check list* e aplicação de um questionário a 18 enfermeiros que atuam nas Unidades de Estratégia Saúde da Família de um Distrito Sanitário. Os dados foram analisados por estatística descritiva e verificar se o conhecimento interfere na prática dos enfermeiros acerca das medidas de controle de infecção foi utilizado o teste do  $\chi^2$ . Considerou significantes as diferenças de  $P < 0,05$ . A adesão correta à higiene de mãos ainda é baixa (50%), 44,4% dos enfermeiros retiram os adornos antes da coleta e o cuidado com o ambiente não é aplicado pela maioria ( $p < 0,05$ ). Os enfermeiros apresentam conhecimento acerca das medidas de controle de infecção, mas lhes faltam habilidades e atitudes para modificar a realidade.

**Palavras-chave:** Controle de Infecções. Equipamentos de Proteção. Exame Colpocitológico. Enfermagem. Atenção Primária à Saúde.

## MEDIDAS DE CONTROL DE INFECCIONES RELACIONADAS CON LA COLECCIÓN DEL CUELLO UTERINO CITOPATOLÓGICO

### RESUMEN

Estudio prospectivo tuvo como objetivo evaluar el conocimiento y la práctica de las enfermeras a respecto a las medidas de control de infecciones durante la recogida de examen de la prueba de Papanicolaou del cuello uterino. Los datos fueron recolectados por medio de observación directa registrados en un *check list* y un cuestionario a 18 enfermeras que trabajan en unidades de la Salud de la Familia de la Jurisdicción Sanitaria. Los datos se analizaron mediante estadística descriptiva y para comparar el conocimiento y la práctica de las enfermeras sobre las medidas para controlar la infección, se utilizó la prueba  $\chi^2$ . Diferencias consideraron significativas a  $P < 0,05$ . La adhesión a la higiene adecuada de las manos sigue siendo baja (50%), 44,4% de las enfermeras retiran los adornos antes de la recogida y el cuidado del medio ambiente no es aplicada por la

mayoría ( $p < 0,05$ ). Las enfermeras tienen conocimiento de las medidas de control de infecciones, pero carecen de conocimientos y actitudes para cambiar la realidad.

**Palabras clave:** Control de Infecciones. Equipos de Seguridad. Prueba de Papanicolaou. Enfermería. Atención Primaria de Salud.

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