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PROFILE OF PROFESSIONALS IN INFECTION CONTROL IN THE HOSPITAL ENVIRONMENT

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ABSTRACT
Facing the complexity of hospital infection control services, it is essential to have professionals with specific knowledge in this area acting. This research sought to determine the profile of the professionals who develop the infection control service and the strategies to be used. Descriptive, exploratory qualitative research, using semi-structured interviews with the professionals working in hospital infection control services of medium and large hospitals of the three health regions in the state Santa Catarina, Brazil, for data collection. It was found that the services are accomplished by professional who graduated as nurses and doctors. Most nurses entered the infection control service without specific training in the area, by appointment of the institution, while doctors usually have residency in infectious diseases. Part of the professionals did not graduate in the area enrolled in a course after taking on the function in order to develop the skills needed for practice. The activities developed by the services are diverse and in line with the recommendations of the ministerial order 2,616 of 1998. It is necessary to know the infection control professionals and the services, understanding the needs of intervention to develop regional and national plans as to establish more strengthened and disseminated infection control and prevention activities.

Keywords: Nursing. Medicine. Public Health. Infection Control. Cross Infection.

INTRODUCTION

Since 1950, scientific nursing and medical studies have shown the concern of health professionals with the transmission of infectious diseases in the hospital environment. The increasingly frequent and serious occurrence of hospital infections (HI) caused by antimicrobial-resistant microorganisms and the costs accrued in the health recovery of the affected individuals as well as the social impact of these infections were the main factors that prompted the organization of permanent commissions for infection control[1,2].

In 1983, the state acknowledged HI as a public health problem by issuing the ordinance no. 196 of 24 June 1983[2]. Among the main deliberations of this ordinance is the obligation of the organization and implementation of Hospital Infection Control Committees (HICC) in all Brazilian hospitals. Moreover, the surgery classification was defined and the creation of training centres determined, which enable the health care professionals to promote the prevention and control of hospital-acquired infections.

In 1992, the ordinance 930[3], which replaces the ordinance 196 of 1983, became effective, expanding activities that should be developed by the HICC, including the active research of HI cases, the creation of the Hospital Infection Control Service (HICS), setting administrative skills for the medical and public sphere and furthermore the rational use of antimicrobials.

On 6 January 1997, the state enacted the law 9,431, establishing the obligation of the hospitals to maintain a hospital infection control program (HCIP), defined as the "set of deliberately and systematically developed actions aiming at the highest possible reduction of incidence and severity of hospital-acquired infections"[4:01]. It is to perceive as from this enactment that the hospital infections won't be eliminated in their entirety but that the institutions ought to have

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policies and programs that aim to reduce their incidence. Subsequently, the ordinance 2,616 of 12 May 1998[3] was enacted, regulating the actions of hospital infection control in the country, replacing the ordinance 930/1992.

The Hospital Infection Control (HIC) is understood as a set of actions implemented as to reduce the incidence of HI and its prevention. The nosocomial infection is conceptualized as: "the one gained after the admission of the patient and established during the hospital stay or after discharge, when it can be linked to the hospitalization or medical procedures"[3:01].

The HICC is composed by a group of fully qualified healthcare professionals who are divided into advisory and executive members of this committee, which has the function to plan, develop, implement and evaluate the hospital infection control program, adapting it to the needs of the hospital institution[3,5].

The advisory members of the HICC "are responsible for the establishment of guidelines for the hospital infection control program", representing the medical, nursing, pharmacy, microbiology and administration services[3:02]. The executive members are professionals, commonly nurses and doctors, who represent the HICS and therefore "are responsible for implementing the planned actions regarding hospital infection control"[3:02].

With the emerging discussions about the care quality in health services and patient safety, hospital infections, as well as the prevention and control of these remain and reinforce themselves every day as an indispensable subject in all health services[6,7]. The growing complexity of infection control services require professionals trained for the development of all those actions as well as essential and necessary norms, being able to create innovative ways to implement infection prevention and control actions.

In light of the complexity and breadth of the actions involving the hospital-acquired infection control services, this research was developed in order to determine the profile of the professionals who develop infection control in medium and large hospitals in the health regions Blumenau, Itajaí and Balneário Camboriú, moreover the strategies used by these services for the control and prevention of health care-related infections.

METHODOLOGY

We apply a qualitative, exploratory descriptive type. The choice was made due to the multitude of possibilities for studying the subject, without reducing it to variables, but contemplating all its complexity and entirety, considering the meanings people give it[8].

The research was developed in the state Santa Catarina, located in southern Brazil, which divides the state since 2008 into nine macro-regions and 21 health regions, according to resolution 245/CIB/08, which established the general regionalization plan for Santa Catarina. Based on this state organization, three health regions were defined as areas for this research, located in the macro-regions Vale do Itajaí Valley and Foz do Rio Itajaí, namely: the 9th health region Blumenau, the 10th health region Itajaí and the 11th health region Balneário Camboriú. It should be noted that there is a diversity of health institutions in this geographical region.

As criteria for the inclusion of health institutions as places of study, we established a cut for medium and large hospitals, these being public, philanthropic or private, featuring in their organization chart the hospital infection control committee. According to the national classification, established by the Ministry of Health, institutions with a number of 50 to 150 beds are called medium hospital and when its capacity of beds is more than 150 beds it is characterized as large hospital[9].

At the time of data collection, which happened from 2 May to 26 July 2012, there were nine hospitals that met the criteria for inclusion in the research, of these being four medium-sized hospitals and five large ones. All institutions proved to be private regarding the administrative level, seven of them charitable organizations and only two strictly private.

Of the nine institutions that met the inclusion criteria of the study, only five have granted letter of acceptance for participation in the study, and in one of them, at the time of data collection, due to a change in the management of the institution, entry was not allowed into the research area. Given this, there were four of the institutions as research locations left.

The target population consisted of all graduated professionals who worked in hospital

infection control services of the institutions included in the survey which initially accepted to participate in the study, being five nurses and four doctors; of the total target population of the study, only one nursing professional did not accept to participate in the research.

For the data collection we chose the semi-structured interview method, drawn from the literature consulted to substantiate this study, as well as the experience of researchers in relation to the subject. The interviews were conducted individually, recorded, with permission of the participant, and transcribed shortly after their completion.

The data analysis was based on a proposal deriving from the content analysis. This method is designed to effect and generate logical and justified deductions from the messages taken for analysis in order to know what lies beyond the recorded words in search of other realities through the messages. It is also possible to use various operations and techniques which allow the enrichment of results or increase the validity of these, striving for a substantiated final interpretation[10]. This method is divided into three phases: the pre-analysis, the material exploration and the result processing, meaning inference and interpretation.

For the development of this research the ethical aspects have been complied with in accordance with resolution 196/96. Observing the principles of anonymity, autonomy, innocuousness and beneficence, after having been informed about the objectives of the survey, the participants were asked to sign an informed consent, and only afterwards the interview began. This survey was submitted to the Committee for Ethics in Research with Human Beings at the Federal University of Santa Catarina, being approved by opinion no. 2293/2012.

RESULTS AND DISCUSSION

The hospital infection control service follows the principles described and established through ordinance 2,616/1998 with the need to be implemented in each hospital environment, observing their particularities, characteristics and needs, seeking ways to meet the standards and the basic infection control premises, making them viable and applicable for each hospital in an individualized form.

For this, the existence of a team of professionals with knowledge and expertise in this field is essential in order to meet all those requirements, reaching the ultimate goal of HICS, the control of the spread and the prevention of infections within the hospital environment.

The data analysis procedure culminated in the emergence of two categories: Recognizing the infection control professionals and developing the infection control in the hospital environment.

Recognizing the infection control professionals

The control service of hospital-acquired infections is composed by executive HICC members, HICC being the responsible organ for the development and implementation of the actions set out in the HICP. We met the nursing and medical professionals composing the HICS in the institutions surveyed and found what the legislation defines, being that the executive members must be at least two fully qualified health professionals, recommending that preferably one of these is a nursing professional[3].

We observed a regional tendency that the HICS consists solely of medical and nursing professionals, not observing the insertion of other occupational categories like pharmacist and microbiologist, who have important knowledge for this practice. We found no studies that could be faced with this data.

Referring to the gender of these professionals, we verified that all nurses were female and all the doctors were male. These data have a relation with the historic features of both professions, where nursing is predominantly performed by women and medicine by men, nowadays still suffering the reflections of the historical context of these professions[11]. These characteristics are also reflected in other health areas, as in collective health[12].

The age of the professionals ranged from 24 to 55 years and it is not possible to establish a relation of age with the work in HICS, taking us just to the inference that recently graduated professionals have insertion in the labor market in this area in the same way like professionals with greater experience and longer activity.

As regards the time of the graduation, we can see that among the nurses there is a variation between less than one year and more than 30 years of graduation. A similar characteristic was observed among doctors, where the variation was between a period of less than 3 years up to 30 years of graduation. A study accomplished with nursing and medical HICS professionals found that most professionals were graduates in their respective areas for more than 20 years[13].

As for the postgraduate training, four of the five nurses had accomplished a specialization, being two of these in the hospital infection control area. The four doctors had postgraduate training in their respective residence, three of them in the area of infectious diseases. Of all the interviewed professionals only one nurse had in addition to the specialization a postgraduate master's degree.

The same study which shows a trend that the infection control professionals graduated more than 20 years ago also pointed out that most professionals possess a postgraduate degree in specialization and of these, most in infection control[13]. We observe that the professionals inserted in the work of infection control strive for professional improvement in postgraduate training, demonstrating the importance they perceived and attributed to the basis and knowledge for the development of their activities and success in infection control actions.

While checking the time of performance of these professionals in the hospital environment, we observe an identical result regarding the time of graduation: all, nurses and doctors, have worked since the beginning of their professional careers in hospitals.

We furthermore note that, among the nurses, three started their activities in other areas of the hospital and after a few years of work, assumed the activities inherent to the HICS. Among the other nurses who initiated their activities directly in the HICS, we determined some previous experience in this area, mostly in the form of extracurricular training or pre-work with HICS, although acting in another function.

Among the doctors, those who made residency in infectious diseases had previous time in training, hospital performance and HICS. It is to note that the infectiologists became active in the areas of hospital-acquired infection control, and this can be related to the graduation of the same since the residency in infectiology contemplates a specific period and follow-up activities in the HICS[14].

As for the time of actuation in the institution in which they were working at that time, we found a variation from 2 to 28 years, with no differences between nurses and doctors in regard to the time of performance in the institution. Regarding the time of experience in infection control in institutions, we observed that among the nurses the majority (three) started in the institution in another area and were later invited to assume activities related to infection control what makes us infer that the institutions prefer to appoint nursing professionals from amidst for the position rather than hire professional experts. This may also relate to the reduced number of professional experts available in the labor market, a fact which is also influenced by the reduced number of postgraduate courses offered in the area of infection control[2].

We advert to the frequency with which professionals are invited and appointed to take on infection control activities without proper expertise in the area since the education in the undergraduate courses of the health area does not include in the curriculum base subjects that address this issue within the entire length and complexity.

The difficulties encountered in the development of infection control practices in health services, due to deficiency of the undergraduate curriculum of the courses in the health area, have been reported in literature for several decades[2,15]. Although we have gone through the recasting of the ordinance that regulates the HICS and the HICC and also of the curricula for undergraduate courses in the year 2002 we are still facing the same problem[2].

This characteristic of the undergraduate courses in the health area also contributes to the difficulty of developing in these institutions the habit of health professionals regarding the prevention and control of infections. In light of this it is to ask: what would the professional and scientific competence of not specialized professionals in infection control for the development of such a function be?

We note that the majority of nursing professionals is invited to assume the HICS without even having training or experience in the field, learning over time how the service should be developed and what the best ways to do so are. Neither can be detected concern on the part of managers in terms of encouragement for the specialization of those professionals.

Os enfermeiros controladores de infecção buscam, de maneira autônoma, o aprimoramento e o conhecimento para que o controle de infecção seja desenvolvido de maneira eficaz. Um achado importante é o ingresso em curso de pós-graduação na área de controle de infecção, ocorrendo após eles terem assumido tal função. Evidenciando a necessidade sentida pelos profissionais de aprofundarem e buscarem o conhecimento para o desempenho desta extensa e complexa responsabilidade, como se percebe no depoimento dos mesmos:

The nurses in infection control strive autonomously for the improvement and the knowledge for the infection control to be developed effectively. An important finding is the fact that this happens only in the postgraduate training in the area of infection control which occurs after they had assumed such function. The need to deepen and pursue knowledge for the performance of this extensive and complex responsibility is felt by the professionals, as we see in their deposition:

> [...] soon after I arrived I was invited to the infection control, I'd never worked with infection control but always in assistance [...]. I assumed the infection control in the hospital and at the same time I went to the postgraduate training as to learn how to deal with that [...]. (Nurse 1)

> We graduated but hadn't studied infection control at college, I didn't even know it existed [...]. I had no preparation, they were giving me what existed, I was reading what I had, I went to many events, courses. (Nurse 2)

> Actually, here in the hospital this is a post of trust and I was indicated by the direction. (Nurse 3)

> It all came through practice, without any specific training. We strive for knowledge by means of articles and internet as to be able to really understand that part and why I'm doing so. (Nurse 4)

> I worked as nursing trainee in another HICS, so I already got an idea there. Afterwards I was instructed here according to what we had in the the postgraduate training [...]. (Nurse 5)

However, it is also to note in the doctor group that non-specialized professionals are invited by hospital managers to assume such a function.

> My preparation was all through my HICC nurse, (...) for a HICC doctor I had no knowledge, related from the point of view of who is inside. I had that contact as the doctor who is outside the HICC and that often receives the HICC visit and discusses the case related to the HICC. (Doctor 1)

Some inferences with regard to the training of infection control professionals can be made: professionals without specific training for that area take on such activity due to the lack of other professionals who are qualified and available in the labor market, or the health managers do not understand the complexity and importance of the work developed by the infection control professionals and do not strive to seek and hire professionals with specific training in the area. They even prefer appointing known and trusted professionals rather than hiring professional experts which reaffirms that the placement of those does not cover the gap that presents itself in the area of infection control and the whole difficulty involved in such a function[2].

Developing the infection control in the hospital environment

When faced with all the demand generated by the activities inherent in the infection control in hospitals, it was investigated how the professionals allotted their work time. Three nurses reported working exclusively in HICS and HICC activities, while others shared their time in the institution with several other activities, expressing negative points in this work fragmentation:

> Very bad, [...] I miss more time for infection control, there is a lot to be done, but time does not allow [...]. But this is an institutional dynamic which we have tried to talk about, but it's hard, the understanding is not even hard, the institution even understands, but there are no resources [...], mainly small institutions. (Nurse 1)

> [...]I see that there is something a bit confusing for the collaborators, because they see me charging them during the week, then comes the weekend and I need them [...] and they end up not willing to come because I called their attention during the week. So I guess working in quality control is

> difficult because it confuses the head of who's there on call of the assistance that is being charged. (Nurse 5)

A trend is to be perceived that the medium hospitals aggregate functions to their nursing professionals in HICS while large institutions have professionals with specific time exclusively for infection control. It is observed in large institutions that, sometimes, the professional can develop another function, and, despite this not being included in the time established for the infection control, the professionals even criticize this task association as a complicating factor for infection control activities.

This characteristic of medium institutions relates to the often reduced budget of these institutions, or even to their managers who understand that due to the small size of the institution, the time of the professional for this activity can be shorter. We emphasize, however, that even small and primarily medium institutions have infection control activities similar to large institutions, and the fragmentation of time and sum of functions for the professional may be a characteristic of little active HICS and HICC[15]. Given the complexity of the infection surveillance activities, risk detection situations, prevention measure implementation, educational activities, visits to hospital units for conversation and approach with other health professionals, it is thus damaging the impact of infection control practices.

As for medical professionals, we note that all respondents joined, in addition to the HICS activities, another function within the institution, mainly acting as a specialist in their area. Most of them did not realize any complication in the sum of these functions. Only a doctor who developed an administrative function within the institution reported this relation as a complicating factor to the success of the HICS activities.

A consensus, including the doctors, is registered, that the permanence of the nursing professional for an extended time in the HICS for the development of activities is a necessity:

> [...]the nurse, she really has to stay longer in the hospital, because there is much more, some more assignments [...]. (Doctor 2)

> [...]Great that there is nursing staff here, the nurse, nursing techniques, the secretary, everyone here to work together, whereas alone here I couldn't work, couldn't deliver all data, charts and surveys. (Doctor 3)

As for the strategies for the prevention and control of hospital-acquired infections developed by HICS, we identified a variety of activities: epidemiological surveillance, educational activities with professionals and students, elaboration of protocols and manuals, process indicators, audit in the sectors with return to the coordinators of the areas through reports. Studies developed regarding this topic emphasize education and epidemiological infection surveillance as main axes that need to be linked for the greatest success in the infection prevention and control[16,17].

The greatest difficulty encountered by professionals was in relation to educational activities, because, in addition to encompass health professionals operating in the institution, undergraduate students and residents who took part in the services still needed to be included, and due to the institutional structure and the HICS it gets difficult to reach all professionals and students involved in the assistance process, once the demand of these activities is far superior to the structural capacity of the services. Studies highlight the need to exploit this educational competence for the promotion of infection prevention and to transform the reality of health care, ensuring its quality and patient safety[17,18,19].

FINAL CONSIDERATIONS

We realize that the infection control professionals are often appointed to that function, without proper training and preparation for this area, starting from a personal need to search for specialization courses and improvement to develop the necessary skills for this work.

The professionals who work in HICS realize the importance of the role of the nurse in the activities of infection control and prevention, as well as the need to maintain this professional acting solely in HICS activities to ensure the quality of infection control practices at the institution.

We still found a gap in the knowledge development about the characteristics of infection control professionals, as well as about the training and preparation for the development of complex activities that involve the exercise of infection control. This study presents a regional sample of these aspects, meaning further studies are needed in other regions of the state and also the country in order to draw up a national profile and consequently intervention needs to develop individualized actions regionally or collectively in search of additionally strengthened and spread infection control activities.

PERFIL DOS PROFISSIONAIS DO CONTROLE DE INFECÇÕES NO AMBIENTE HOSPITALAR

RESUMO

Frente à complexidade dos Serviços de Controle de Infecção Hospitalar, é imprescindível a atuação de profissionais com conhecimento específico na área. Esta pesquisa buscou conhecer o perfil dos profissionais que desenvolvem o serviço de controle de infecção e as estratégias que utilizam. Pesquisa qualitativa, exploratório descritiva, utilizando entrevista semiestruturada para a coleta de dados com os profissionais atuantes nos Serviços de Controle de Infecção Hospitalar dos hospitais de médio e grande porte de três Regiões de Saúde do Estado de Santa Catarina, Brasil. Verificou-se que os serviços são constituídos por profissionais graduados enfermeiros e médicos. A maioria dos enfermeiros ingressou no serviço de controle de infecção sem formação específica na área, por nomeação da instituição, enquanto que os médicos geralmente possuíam residência em infectologia. Parte dos profissionais que não possuía pós-graduação na área buscou ingressar em curso após assumir a função, a fim de desenvolver competências necessárias à prática. As atividades desenvolvidas pelos serviços são diversificadas e se encontram em sintonia com as recomendações da Portaria 2.616 de 1998. É necessário conhecer os profissionais controladores de infecção e os serviços, compreendendo as necessidades de intervenção, desenvolvendo planos regionais e nacionais em busca de ações mais fortalecidas e disseminadas de controle e prevenção de infecção.

Palavras-chave: Enfermagem. Medicina. Saúde Pública. Controle de Infecções. Infecção Hospitalar.

PERFIL DE LOS PROFESIONALES DEL CONTROL DE INFECCIONES EN EL ÁMBITO HOSPITALARIO

RESUMEN

Frente a la complejidad de los Servicios de Control de Infección Hospitalaria, es imprescindible la actuación de profesionales con conocimiento específico en el área. Esta investigación buscó conocer el perfil de los profesionales que desarrollan el servicio de control de infección y las estrategias que utilizan. Investigación cualitativa, exploratorio-descriptiva, utilizando entrevista semiestructurada para la recolección de datos con los profesionales actuantes en los Servicios de Control de Infección Hospitalaria de los hospitales de porte mediano y grande de tres Regiones de Salud del Estado de Santa Catarina, Brasil. Se verificó que los servicios son constituidos por profesionales graduados enfermeros y médicos. La mayoría de los enfermeros ingresó en el servicio de control de infección sin formación específica en el área, por nombramiento de la institución, ya los médicos, generalmente, poseían residencia en infectología. Parte de los profesionales que no poseía postgrado en el área buscó ingresar en el curso después de asumir la función, a fin de desarrollar competencias necesarias a la práctica. Las actividades desarrolladas por los servicios son diversificadas y se encuentran en sintonía con las recomendaciones del Decreto nº. 2.616 de 1998. Es necesario conocer a los profesionales controladores de infección y los servicios, comprendiendo las necesidades de intervención, desarrollando planes regionales y nacionales en busca de acciones más fortalecidas y diseminadas de control y prevención de infección.

Palabras clave: Enfermería. Medicina. Salud Pública. Control de Infecciones. Infección Hospitalaria.

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