



Sandwich stage in Norway: experience report

Estágio Sanduíche na Noruega: relato de experiência

Práctica sandwich en Noruega: relato de experiencia

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ABSTRACT

The Doctoral Program in Brazil, with the Internship Abroad known as the *Sandwich Ph.D.*, aims to contribute to exchanges of graduate courses in the country with counterparts abroad. The objective of this article was to report the lived experience during an internship in Norway, in hospital units, microbiology laboratories, federal agencies and health services in Oslo and the metropolitan region. Activities were developed for epidemiological surveillance, laboratory techniques for identification and molecular typing of *Staphylococcus aureus*, and public and institutional policies for prevention and control of these bacteria, when multiresistant. The *Sandwich* stage in addition to supporting and strengthening the analysis of project data of the thesis, permitted the reflection on the importance of established public policies and guidelines, and conditions provided for prevention and control of diseases, and health and welfare of the person as values of the state

Keywords: *Staphylococcus aureus*; Methicillin resistance; Health postgraduate programs; Internships; Norway

RESUMO

O Programa de Doutorado no Brasil com Estágio no Exterior, conhecido como *Doutorado Sanduíche*, visa a contribuir para intercâmbios dos cursos de Pós-Graduação no País com seus congêneres no exterior. O objetivo deste artigo foi relatar a experiência vivida durante o estágio realizado na Noruega, em unidades hospitalares, laboratórios de microbiologia, órgãos federais e serviços de saúde de Oslo e Região Metropolitana. Foram desenvolvidas atividades de vigilância epidemiológica, técnicas laboratoriais de identificação e tipagem molecular de *Staphylococcus aureus* e políticas públicas e institucionais de prevenção e controle dessas bactérias, quando multirresistentes. O estágio, além de subsidiar e fortalecer a análise dos dados do projeto da tese, permitiu refletir sobre a importância de políticas públicas e diretrizes definidas, e fornecer condições para ações de prevenção e controle de agravos, tendo a saúde e o bem-estar da pessoa como valores de Estado.

Descritores: *Staphylococcus aureus*; Resistência a metilina; Programas de pós-graduação em saúde; Estágios; Noruega

RESUMEN

El Programa de Doctorado en el Brasil con Prácticas en el Exterior, conocido como *Doctorado Sandwich*, visa contribuir a los intercambios de los cursos de Postgrado en el País con sus congêneres en el exterior. El objetivo de este artículo fue relatar la experiencia vivida durante las prácticas realizadas en Noruega, en unidades hospitalarias, laboratorios de microbiología, órganos federales y servicios de salud de Oslo y Región Metropolitana. Se desarrollaron actividades de vigilancia epidemiológica, técnicas de laboratorio de identificación y tipaje molecular de *Staphylococcus aureus* y políticas públicas e institucionales de prevención y control de esas bacterias, multirresistentes. La práctica, además de ofrecer subsidios y fortalecer al análisis de los datos del proyecto de la tesis, permitió reflexionar sobre la importancia de las políticas públicas y directivas definidas, y dar las condiciones para acciones de prevención y control de agravios, teniendo a la salud y al bienestar de la persona como valores de Estado.

Descriptores: *Staphylococcus aureus*; Resistencia a la metilina; Programas de postgrado en salud; Pasantías; Noruega

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INTRODUCTION

The Doctoral Program in Brazil with Training Abroad (DPTA), known as the Sandwich PhD Program, is an opportunity to foster the development of theses⁽¹⁾. The Coordination for the Improvement of Higher Level Personnel (Capes) (CAPES) and the National Council for Scientific and Technological Development (CNPq), agencies of the Ministries of Education and of Science, Technology and Innovation in Brazil, respectively, grant scholarships to undergo training at institutions recognized overseas for excellence. The main objective of the training must be directed towards engaging in activities that are complementary and essential to the study project in Brazil, and is based on the principle of cooperation between professors and researchers, in which interaction between the parties is fundamental.

During the course in the Inter-Unit Doctoral Program in Nursing of the School of Nursing and the School of Nursing of Ribeirão Preto of this University, Training overseas was apprehended as a unique opportunity to complement the process of study and academic formation, considering the object of study – the colonization of health service workers by methicillin resistant *Staphylococcus aureus* (MRSA) – and in view of the low prevalence of these micro-organisms in Nordic countries, among them, Norway⁽²⁾. It was understood that knowledge of that reality and the protocols for the prevention and control of the problem contributed to learning and reflection about the strategies used in that country, were differential when compared with Brazilian, North American and European reality.

In this context, the aim of this article was to relate the experience gained in the training undergone in Norway between October 2007 and January 2008 through the Doctoral Program in the Country with Training Overseas financed by CAPES.

PLANNING THE TRAINING

Based on the object of study, the first step was to proceed with a survey of renowned researchers who worked on the subject, and the epidemiology of MRSA in the world, but means of consulting scientific publications. The low prevalence of MRSA in Nordic countries, including Norway, primarily resulting from the public policies, urged the desire to find out in more depth about the practices in the health institutions.

After making the necessary contacts and having defined a course tutor overseas, a plan of activities pertinent to the study project was drawn up, defining the institutions for training in the capital Oslo and Metropolitan Region, and the preliminary time schedule for the period of 4 months.

The Plan of Activities “Knowledge, vigilance and control of methicillin resistant *Staphylococcus* in health services” sought to subsidize the development of the doctoral thesis and covered different hospital and laboratory units of the University of Oslo, health services of the Oslo Municipality and Metropolitan Region and federal health services.

Considering the aim of the training, activities were planned with the purpose of getting to know about and participate in epidemiological vigilance actions, phenotypic and genotypic identification of bacterial isolates, measures for the prevention and control of MRSA and strategies for the decolonization of health service users and workers; and discussion on the preliminary data of investigation about the state of colonization of health professionals conducted in Brazil.

The support received by the Post-Graduate Inter-Unit Program of the School of Nursing of Ribeirão Preto, University of São Paulo, was fundamental in the guidance and forwarding of requests to CAPES, as well as the support received from the Brazilian funding agency.

MEASURES FOR PREVENTION AND CONTROL OF MRSA

At the Ullevål University Hospital – University of Oslo, host institution of the training program, initially introduction to the work team and the organizational structure of the hospital infection control services, headed by Dr. Bjorg Marit Andersen, course tutor overseas took place. There was participating in administrative and technical meetings, epidemiological vigilance activities and continued education in the prevention and control of infection and discussions relative to the physical structure as an element in prevention and control of MRSA. Access to the routines, discussion and follow-up of intervention situations in patients and health professionals colonized or infected with MRSA composed the activities developed. Follow-up of the diagnosis, guidance and monitoring of a health professional colonized with MRSA, an uncommon fact in that reality, provide valuable discussion on the subject.

Fortunately, it was possible to participate in the project of the Rapid Test for MRSA Detection in health professionals – GeneXpert®, collecting and processing the clinical specimen, and analyzing the partial results. The results of the project were published recently⁽³⁾. There was also participation in the collection of clinical material for the investigation of MRSA in three community services in nursing homes for the elderly, as a stage in a clinical research in progress under the responsibility of the course tutor overseas.

With the aim of exchanging experiences, the thesis project and the partial results, as well as the Brazilian public

policies for the prevention and control of MRSA were presented, and the opportunity was taken to discuss the differences between the Brazilian and Norwegian public policies.

In the Norwegian Institute of Public Health – The Ministry of Health and Care Services, it was possible to learn about the attributions and forms or organization of this agency, with emphasis on the preparation of guidelines directed towards the community and hospital health services; compulsory notification of diseases, including multi-resistant bacteria and outbreaks of infection; coordination of the program for the prevention and control of infections, and the policies for control of the use of antimicrobial agent⁽⁴⁾. The National Hospital Infection Surveillance System, under the responsibility of this Federal Institute is operated by means of prevalence studies involving hospitals and nursing homes.

In the Oslo Municipal Surveillance Service (*Oslo Kommune*) the MRSA surveillance system includes the control of different clones in these agents and investigation of the origin and monitoring of infected or colonized patients and health professionals. It was possible to learn about and follow up the educational activities developed by the municipality's nurse for the professionals of three community services providing attention to the elderly in nursing homes. The subject approached was the prevention and control of MRSA and training in hand hygiene. Participation in meetings with professionals from *Oslo Kommune* and a nursing home was relevant for learning about planning strategies to control an active outbreak of MRSA among elderly resident. From this aspect, the visit to a nursing home that had implemented a differentiated routine for the prevention and control of MRSA in chronically colonized patients was also an opportunity to discuss its implementation and the challenges faced, with the nurse responsible for the service.

With a view to extending knowledge about the techniques for the identification and molecular typing of MRSA, it was relevant to perform different methodologies in the laboratories of Ullevål Hospital, Rikshospitalet University Hospital and Akershus University Hospital, which belong to the University of Oslo, and discuss the results and the cases of colonization or infection.

MEASURES FOR PREVENTION AND CONTROL OF HOSPITAL INFECTIONS

Fortunately, during the training period, actions for the prevention and control of hospital infections were developed at Ullevål Hospital, with emphasis on the participation, as a trainee, in the quarterly study of the incidence of infections and the study of the prevalence of using adornments on the hands, face and neck by health professionals in the care units. In addition, there was participation

in routine water quality surveillance with activities sample inspection and collection for microbiologic investigation. It was relevant to follow-up the system of automated cleaning and disinfection of hospital beds, quality control service routine for reprocessing articles, and hospital hygiene service at Riks hospital. The excellent structure of the isolation rooms and specific rooms for patients with highly transmittable diseases; the surgical center and article reprocessing center, as well as the health service residue management system are pointed out.

CONTRIBUTIONS TO QUALIFICATION

The activities planned and developed during the training period allowed one to experience the public policies of prevention and control of infectious diseases in Norway, emphasis on infection and colonization by MRSA. There is an effective effort made to investigate the state of a carrier among patients at risk and both community and hospital health service workers. In addition the well defined public policy provides not only guidelines to the services, but also acts homogeneously, which is fundamental when one seeks to prevent and control transmittable diseases, including MRSA.

Another aspect in the same context is with reference to the conditions of physical structure, inputs and human resources. The national recommendation for prevention can be made operational, as there is a sufficient contingent of professionals, availability of inputs and adequate physical structure.

Knowledge of different technologies for the identification of MRSA, and experience of the extent to which the availability of equipment, inputs and trained professionals is relevant for the good working of this system are aspects that should be highlighted.

In Brazil the high prevalence of colonization by MRSA among health workers demonstrates the need for public policies to systematize investigation of this problem, particularly in the hospital care environment⁽⁵⁻¹⁰⁾. The experience contributed to aggregate knowledge and subsidize discussions on the results of the research and thesis⁽⁵⁻⁷⁾, as well as those of other researches developed on the subject⁽⁸⁻¹¹⁾.

FINAL CONSIDERATIONS

In the justification of the project forwarded to CAPES, requesting the DPTA scholarship, it was affirmed that: *We understand that the training in a context of a reality that differs from ours as regards human, technological and economic resources, as well as the epidemiology of MRSA will create the opportunity for not only the acquisition of knowledge, but also to perceive another reality, desirable for our context.* It is inevitable to reflect on the reality perceived and Brazilian reality. The protocols of Norway to not fully adjust to the

reality of our Country, but changes are possible, starting with respect for the health workers who at times do not have the least conditions for performing their activities. Respect for persons, irrespective of whether they are users or workers, also reflected in the public health policies of Norway, is a relevant teaching. The generosity of the Norwegian people and of those who contributed to this opportunity for learning is pointed out.

Considering that the prevention of infectious diseases frequently depends on basic conditions of structure and work, and reflecting about the reality of a university hospital in which the data for these were collected, and the results of these, it was possible and relevant to share the experience so that others may also desire better quality in the relationships between users and workers in the health area.

In conclusion, the experience gained during the training was considered valuable from the academic, professional and personal aspects. However, it is pointed out that the doctoral

student who intends to develop this activity, must include it in the time schedule and planning of activities as soon as possible in order to allow permanence overseas for the required time and to fit in with the deadline for defending the thesis. Another relevant aspect was the disposition to accept financial and cultural challenges that appeared during training, the necessity for flexibilizing the plan of activities and to have the initiative to seek new opportunities.

Candidates are encouraged to undertake this experience; the Brazilian State provides financial conditions for realizing the doctoral training overseas, and it is up to students and course tutors to do the planning and to operationalize it in a responsible manner.

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