



## CLINICAL ANALYSIS INTERNSHIP: THE VIEW OF PHARMACY MANAGEMENT AND GRADUATES

### ESTÁGIO EM ANÁLISES CLÍNICAS: A VISÃO DA GESTÃO E EGRESSOS DE FARMÁCIA

### PASANTÍA EN ANÁLISIS CLÍNICOS: LA VISIÓN DE LA ADMINISTRACIÓN DE FARMACIAS Y GRADUADOS

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#### RESUMO

**Objetivo:** conhecer a contribuição do estágio em análises clínicas para a formação do profissional do farmacêutico. **Método:** estudo com abordagem qualitativa, de caráter descritivo, realizado em uma instituição pública do Nordeste brasileiro. Para o levantamento dos dados primários, na fase de pesquisa de campo, foi composto um grupo focal com egressos e aplicada uma entrevista semiestruturada com a gestão do curso. Os dados coletados foram obtidos mediante a gravação de áudio e analisados à luz da Análise de Conteúdo, da qual emergiram três categorias: O estágio curricular supervisionado como lócus da profissionalização; Percepções sobre os fatores dificultadores do desenvolvimento da aprendizagem durante o estágio em análises clínicas no hospital universitário; Percepções sobre os fatores facilitadores do desenvolvimento da aprendizagem durante o estágio em análises clínicas no hospital universitário. **Resultados:** os caminhos apontados pelos discursos de egressos e da gestão do curso de Farmácia revelaram que ocorreram oportunidades de estabelecimentos de relações entre a teoria e a prática no cotidiano profissional do estágio. Indicaram, também, a necessidade de promover iniciativas de reflexão e avaliação das práticas desenvolvidas no estágio, em consonância com os objetivos formativos do curso, por meio de planejamento conjunto das atividades, bem como investimentos em desenvolvimento docente dos preceptores. **Conclusão:** a participação de egressos e da gestão do curso, na avaliação do estágio curricular supervisionado, apontou aspectos passíveis de realinhamento e forneceu subsídios concretos para a melhoria da qualidade do currículo do curso de graduação cenário deste estudo.

**Palavras-chave:** Hospitais de Ensino; Estágio Clínico; Serviços de Laboratório Clínico; Educação em Farmácia; Preceptoría.

#### ABSTRACT

**Objective:** to know the contribution of the internship in clinical analyzes to the training of the Pharmaceutical professional. **Method:** study with a qualitative approach, of a descriptive character, carried out in a public institution in northeastern Brazil. For the survey of primary data, in the field research phase, a focus group was formed with alumni and a semi-structured interview with the course management. The data collected were obtained through audio recording and analyzed in the light of content analysis, from which three categories emerged: The supervised curricular internship as the locus of professionalization; Perceptions about the factors that hinder the development of learning during the internship in clinical analyzes at the University Hospital; Perceptions about the factors that facilitate the development of learning during the internship in clinical analyzes at the University Hospital. **Results:** the paths pointed out by the speeches of graduates and the management of the Pharmacy course revealed that there were opportunities to

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establish relationships between theory and practice in the professional routine of the internship. They also indicated the need to promote initiatives for reflection and evaluation of the practices developed in the internship, in line with the training objectives of the course, through joint planning of activities, as well as investments in teacher development by preceptors. **Conclusion:** the participation of graduates and course management, in the evaluation of the supervised curricular internship, pointed out aspects that can be realigned and provided concrete subsidies for improving the quality of the curriculum of the undergraduate course, the scenario of this study.

**Keywords:** Teaching Hospitals; Clinical Internship; Clinical Laboratory Services; Pharmacy Education; Preceptorship.

## RESUMEN

**Objetivo:** conocer la contribución de la pasantía en análisis clínicos a la formación del profesional farmacéutico. **Método:** estudio con abordaje cualitativo, de carácter descriptivo, realizado en una institución pública del Noreste de Brasil. Para el relevamiento de datos primarios, en la fase de investigación de campo, fue formado un grupo focal con egresados y se aplicó una entrevista semiestructurada con la dirección del curso. Los datos recolectados se obtuvieron mediante la grabación de audio y se analizaron a la luz del Análisis de Contenido, de los cuales surgieron tres categorías: La pasantía curricular supervisada como el lugar de la profesionalización; Percepciones sobre los factores que dificultan el desarrollo del aprendizaje durante la pasantía en análisis clínicos en el hospital universitario; Percepciones sobre los factores que facilitan el desarrollo del aprendizaje durante la pasantía en análisis clínicos en el hospital universitario. **Resultados:** los caminos señalados por los discursos de los egresados y la dirección del curso de Farmacia revelaron que existían oportunidades para establecer relaciones entre teoría y práctica en la rutina profesional de la pasantía. También señalaron la necesidad de impulsar iniciativas de reflexión y evaluación de las prácticas desarrolladas en la pasantía, en línea con los objetivos formativos del curso, a través de la planificación conjunta de actividades, así como inversiones en el desarrollo docente por parte de los preceptores. **Conclusión:** la participación de los egresados y la dirección del curso, en la evaluación de la pasantía curricular supervisada, señaló aspectos que podrían realinearse y brindaron subsidios concretos para mejorar la calidad del currículo de la carrera de grado, escenario de este estudio.

**Palabras clave:** Hospitales de Enseñanza; Prácticas clínicas; Servicios de Laboratorio Clínico; Educación en Farmacia; Precepción.

## INTRODUCTION

The pharmaceutical professional has, over the years, striving to expand its field of action, whether in the drug industry, pharmaceutical assistance or clinical analysis. In this context, the internship can bring a relevant contribution.

The internship is essential for the academic formation, it helps in the growth of the professionals who participate in the supervision and it can be even more efficient with the strengthening of the links between the academy and the health service made available as an internship field.<sup>1</sup>

In this sense, the integration of the course with teaching hospitals for the training of pharmaceutical professionals becomes essential in a scenario of human resources training by the Unified Health System (UHS). Therefore, they are relevant, since they correspond to general and/or specialized hospitals that serve as practice scenarios for the curricular activities of health courses [...].<sup>2</sup> They also provide highly complex health care and develop human resources training activities, involving teaching, research and community service activities.

According to the hospital's website, the internship learning of the university's health courses to which it is linked is done through active teaching activities that favor the participation of students through environments and tools that provoke the processes of observing, experimenting, creating and executing, which develop the critical and reflective capacity aligned with the guidelines of the humanization of care.<sup>3</sup> For this purpose, the teaching hospital in question has a network of preceptors, so that the preceptor becomes indispensable in the formative process, since the internship preceptor is an educator in day-to-day practice, bringing knowledge through reflection, dialogue and participation.<sup>4</sup>

This study aimed to answer the following questions: "What are the contributions of the internship in clinical analysis to the training of pharmaceutical professionals? What is the perception of the graduates of the course about the Internship? What are the expectations of the management of the course on the internship?".

## **METHOD**

A qualitative approach study, of a descriptive nature. The research scenario was the internship in clinical analysis of the Pharmacy undergraduate course developed in a teaching hospital of a public university.

The course management and five graduates, of both sexes, from the Pharmacy course of the institution in question participated in the research. The criterion for the inclusion of participants was the conclusion of the internship in clinical analysis in the last 24 months, i.e., to have participated in the classes from 2017 to 2018.

The data collection took place in two phases. In the first phase, there was a semi-structured interview with the course management, following the script prepared by the researchers.

In the second phase, five graduates participated in a unique focal group - male and female, guided by a 61-minute script. This sample did not compromise the quality of the research technique, because studies affirmed that the ideal quantity of participants is that which allows the effective participation of all and an adequate discussion of the theme.<sup>5</sup>

At the beginning of the interview and the focus group, after clarifications, the questions of reliability and confidentiality of information were highlighted, the Free and Informed Consent Terms (FICTs) were signed and the research was started. All meetings were recorded on smartphone with the express authorization of the participants.

The analysis and interpretation of the data took place from the perspective of Bardin Content Analysis, in the Thematic mode.<sup>6-7</sup> The material collected was exhaustively read by the two researchers for the organization of the reports and a pre-analysis identified the main lines and raised the categories. Then, the most relevant content was identified by observing the similarities, divergences and contradictions in the participants' narratives. Then, there was an attempt to recognize the meanings attributed by the management and graduates of the course, in a comparative dialogue with literature, in order to obtain a description as close as possible to reality. At the end, an interpretative synthesis was elaborated in order to answer the questions of the study.

This research was submitted and approved by the Research Ethics Committee (REC/UFAL) with Opinion No. 3.036.284/CAAE: 02839718.9.0000.5013. The names of the participants were presented by the letters "G" for management and "E" for graduates, followed by numbering.

## **RESULTS AND DISCUSSION**

The management, represented by a component of the coordination of the course, and five graduates participated in the research, four of them male and one female, between 22 and 26 years of age, of the classes of 2017/2018 of the graduation course in Pharmacy.

The collection and analysis of the data gave rise to three categories from six subcategories: Supervised curriculum internship as the central locus of professionalization; Perceptions about the factors that hinder learning development during the internship in clinical analysis at the university hospital; and Perceptions about the factors that facilitate learning development during the internship in clinical analysis at the university hospital.

### **Supervised curricular internship as central locus of professionalization**

In this category, coming from the subcategories Management Design on Curricular Internships and The role of the clinical analysis area in the Pharmacy curriculum, the centrality of the practice and the space of the clinical analysis laboratory were explored as main aspects of professional training models.

#### ***Management design on curricular internships***

The National Curricular Guidelines (NCG)<sup>8</sup> they establish that pharmaceutical training contemplates the development of internships under a teaching orientation

with the theory-practical articulation. About this function of the internship, the management of the course emphasizes:

*Internship is a pre-professional experience, and they (students) can reinforce the theory of some discipline, this is the great contribution. The main thing is to experience the routine, to know the technique, to know how to deal with the machine that breaks and that can be out of balance and realize that it is out of balance and this is only learned in the internship. (G)*

In this talk, the importance of student-professional, student-student and student-service user interaction is understood so that the professional future matures and becomes autonomous through relationships.

Here, the concept of competence for the profession - professionalism - as "the set of behaviors, knowledge, dexterities, attitudes and values" is rescued<sup>9</sup> which constitute the specificity of being, in that case, the pharmaceutical professional.

### ***The role of the clinical analysis area in the Pharmacy's curriculum***

The Pharmacy's clinical practice has expanded in recent years, requiring skills for adequate complete and quality pharmaco-therapeutic follow-up, evaluation of patients' clinical laboratory results and direct intervention in pharmacotherapy.

In this sense, the course management discusses the importance of clinical analysis as a tool for good practice in pharmaceutical care:

*Even if he (student) does not go to this area (Clinical Analysis), it is essential, because he needs to understand and know how to analyze patient reports properly, both when he is there in the laboratory that he will launch the report and when he is following the patient clinically. (G)*

Therefore "Laboratory tests, besides being useful in diagnosis, are extremely important in pharmaco-therapeutic monitoring, which is an instrument for the accomplishment of the adequate pharmaceutical care".<sup>10</sup>

The internship, in the expectation of the management, is a pedagogical space that contributes in the teaching-learning process, providing the development of skills in clinical analysis necessary for the good performance of the pharmaceutical professional:

*[...] that the students can experience in practice, that they can develop skills, because they already arrive with the theoretical basis, so that they can start working in a laboratory of clinical analysis. It's*

*obvious that they won't come out expert, but that they can come out with adequate abilities for the area, that's the expectation. (G)*

The training of a qualified pharmacist for UHS requires the experience in the practice scenarios where the student may encounter in the future exercise of the profession.<sup>11</sup> For the graduates, the internship at the university hospital has proved to be important for the training process, but it requires urgent changes in order to better contemplate the necessary learning in the area.

*We understand that the internship is the moment when we will put into practice what we have learned in theory. So, you need to be able to put in the heads of some people, who are important in that area. (E4)*

According to the above, it can be inferred that the management of the course yearns that the internship provides the opportunity to develop the necessary skills within the scope of clinical analyses. In parallel, the graduates point to the need for better structuring of this internship to obtain the results expected by the course. The management and the graduates allow the potentiality of the internship for the formation of the pharmaceutical professional.

### **Perceptions about the factors hindering the development of learning during the internship in clinical analysis at the university hospital**

This category can be composed by analyzing the internship and using the reports of the graduates and the management of the course, based on two subcategories: Absence of joint planning of the internship and Preparation of the service for the function of the preceptor.

#### ***Absence of joint planning of the internship***

The following speech showed that, in some sectors, students are idle for a period of time, that is, at the end of a task, they are not directed to new tasks, losing learning opportunities.

*One thing, which is frequent and I don't know to what extent, is the question of the timetable, for example, they have something to do early in the morning until 10 a.m. and then they stay without doing anything until the time to leave, not in all sectors and I don't know which are the sectors. They say they could optimize the time going to another sector. This, every now and then, they complain. (G)*

A resistência de alguns profissionais, bem como a necessidade de comunicação para integrar o estágio na vida quotidiana do laboratório, também foi percebida pelos egressos.

*When we arrived, they were already changing their physiognomy, and it was noticeable that they were bothered by our presence; whether they wanted it or not, it is another job that, besides having to fulfill the daily activities, they have to have an additional one and many of them don't understand that it is a school hospital there.*  
(E3)

It becomes relevant to discuss with the preceptors about the teaching hospital, because, besides providing health care, involving teaching, research and services to the community, it also serves as a practice scenario for the curricular activities of the Pharmacy course.

It is known that the student's insertion in the service raises a series of situations and feelings in professionals, such as tensions and anxieties,<sup>12</sup> because their presence alters the routine of the service so that the relationship with the team can become difficult. Some authors have cited the difficulties in achieving teaching-service-community integration, mentioning the resistance of professionals to the insertion of students into the service, both because they do not think it is consistent with the work agenda, and because they fear identifying their weaknesses.<sup>13</sup>

Another consequence of the lack of planning and the fragile communication between the course and the place of internship is the fragmentation of the knowledge observed by the graduates:

*There, we see everything in a sectorized way, but the patient who had a CBC also has biochemistry, a serology, and it becomes important to discuss this in a general way, to discuss cases of the week in the stage with the preceptors. Because we are discussing specific topics referring to routine, we are not discussing knowledge.*  
(E4)

The reports showed that the lack of knowledge about what was planned for these moments interferes with the development of education, showing the need for greater understanding and organization of some sectors for this stage. It is necessary that everyone (course and service) participate in the planning, deciding what to do and how to do it, in order to contemplate the objectives of the pedagogical project of the course.

With joint planning, it is possible to structure, examine and think about possible problems that may arise during the internship, making it possible to anticipate situations and reduce likely events in order to generate benefits for students, professionals and the community.<sup>14</sup>

## **Preparation of the service for the preceptor's function**

It is expected that during the internship there will be an exchange relationship in which interns and tutors learn and teach. The preceptor has, in that space, the role of advising, motivating, influencing, inspiring and directing the student, helping in the integration of the student in the work environment, allowing experiences.<sup>15</sup>

In the narratives about the experiences of the internship, the graduates realized that, although the premises of the NCG have gained strength in recent years, the office of the preceptor still lacks knowledge explicitly for the assessment of the student.

*In each sector, an employee signed our attendance and assigned a grade. But it was random, it was nine and ten. I missed some sectors and, even so, my presence was signed, so there is no control. (E2)*

Thus, the unpreparedness of the preceptor of the service to perform the teaching function necessary for this professional was identified. The preceptor articulates the world of work with the world of teaching, being the protagonist of the teaching-learning process. Thus, he needs to have knowledge that goes beyond the knowledge of his daily practice. In the exercise of precept, the professional needs to have mastery not only of clinical knowledge, but be able to transform the experience of the professional field into learning experiences. For this, the preceptor needs pedagogical knowledge.<sup>16</sup>

The internship, being one of the spaces destined to the professional formation, must provide, to the students, through the process of teaching-learning, the necessary competences of the profession so that, to reach its objectives, the evaluation process becomes pertinent. Through the evaluation, it can be verified if the students are, in fact, reaching the intended objectives, verifying the compatibility between such objectives and the results effectively achieved during the development of the proposed activities.<sup>17</sup>

The speeches of the graduates indicate that some professionals neglect not only the teaching, but also the commitment to the service, directly impacting the progress of the service, the team and the learning of the student.

*Many professionals arrive late and push the work with their bellies; this is a reflex there in UH! Therefore, this reflects on the other professional who works and on the student, that is, it overloads some to the point of interfering in the student's teaching process. (E3)*



In this sense, "every teaching activity, whether within the academy or developed through the preceptorships of the service, demands commitment and responsibility".<sup>18</sup>

It was noted that the internship has been developing in a manner disconnected from the learning objectives of the course studied, not allowing a critical and meaningful evaluation of the practices performed under the guidance of the service. These results highlight the need for joint planning of training activities and a program for valuing the preceptor's office, which would help to build the bond and commitment of the service professionals.

The training of preceptors, to meet both the need for professional training appropriate to the principles of UHS and NCG, becomes of fundamental importance at this time. This professional needs to gather fundamental aspects for the good practice of in-service education, such as supervision, receptivity, incentive to the search for knowledge, evaluation and feedback, in an ethical and humanized context.<sup>17</sup>

### **Perceptions about the facilitators of learning development during the internship in clinical analysis at the university hospital**

In this category, the existence of two sub-categories was identified that facilitate the development of learning in this stage: The accessibility of the course to the university hospital and the receptivity of some sectors of the laboratory of the university hospital.

#### ***The accessibility of the course to the university hospital***

The following speech expresses a cast of factors that culminated in the choice of the university hospital as the scenario of practices for the development of the internship. The management highlights the importance of the hospital in different aspects.

*[...] we decided to stay (the internship in clinical analysis) only in UH, because it is the university hospital, because of the structure, the proximity of communication with the professionals and also because one of the professors works there. (G)*

The link between the course and the university hospital's laboratory was marked by the ease of allocation of students, which, according to management, is a privilege in current times.

*We never have a problem with vacancies! We always manage to place the boys, we always have the opportunity for you to receive us as a priority and we have never had a problem of this nature. (G)*

The above speech expresses that the pedagogical activities developed in the hospital are favored by the opportunity of vacancies. It is worth mentioning that this is a problem for many Higher Education Institutions (HEI), due to the large number of courses offered, so they face difficulties in obtaining internship agreements and, many times, with low offer of vacancies because of intrinsic factors to the practice scenarios. Many authors have pointed out that the difficulty of insertion of students in some areas and the lack of public investment, both in infrastructure and personnel, are obstacles to the effective integration of teaching and service.<sup>19</sup>

Another important factor in linking the course to the university hospital is the participation of a teacher in the technical staff of the laboratory. This fact, in the vision of management, can intercede in a better reception of the students, monitoring of the internship and in the preceptor-student-service relationship, thus becoming a protagonist between the HEI and the service.

*Perhaps, because it has the anonymous (teacher) and, as anonymous is an employee of UH, I think it opens the door a lot; also we never had a preceptor problem and, if there was or there is, anonymous manages very well. (G)*

Thus, the course identifies the university hospital's laboratory as an accessible and strong ally for internship practices in clinical analysis, essentially contributing to the training of future Pharmacy professionals.

It is important to emphasize that the talk of management does not make clear the knowledge about the institutional and legal responsibility of the university hospital as a trainer of professionals for the UHS.

In Brazil, UHs are understood as centers of human resource training and technology development for the health area, which provide services to the population, elaborate technical protocols for various pathologies and offer continued education programs that allow the technical updating of health system professionals. <sup>(20)</sup> This broad definition refers the university hospital to teaching, research and care activities and inserts it in the local health system as a trainer of health professionals and also in the development and evaluation of technologies.<sup>21</sup>

## **The receptivity of some sectors of the university hospital's laboratory**

In the actual context of practices, welcoming is a major factor in the student's success. In the following account, the graduates felt welcomed in some sectors and this had a positive influence on learning.

*The first sector I passed in the internship was sector 3, so, when we arrived, we were inserted in all the laboratory practice, we had the person to pass on how to use the equipment, the reagents, so, we had a very big base in this sector. (E3)*

Studies have found that the receptivity of the team makes it easier for students to remain in the practice setting, providing them with the conditions to exercise their reflection skills and learn by doing, becoming subjects of action during the learning process.<sup>11,22-23</sup>

In this sense, autonomy is the individual's moral freedom, which, through the effort of his or her own reflections, enables him or herself to act in such a way that the student wishes to be recognized as someone with previous knowledge and skills, the result of skills achieved in previous stages.<sup>24</sup>

The guarantee of access, the recognition of the importance of the space and the receptivity of some professionals are not enough to guarantee an internship in clinical analysis committed to good practices in Pharmacy. It is perceived that there is a promising approach between the Pharmacy course and the laboratory so that the internship, if better instrumented, can be characterized as a powerful tool for the development and solidification of skills and competencies required in the profile of the professional and admission to Pharmacy.

### **CONCLUSION**

The spaces of the curricular internships have provided the students with a realistic experience of their professional performance, being indispensable in the formation process.

The data obtained in this research allowed analyzing the main challenges of the internship in clinical analysis, in a public teaching hospital, directed to undergraduate students in Pharmacy, allowing that fundamental questions regarding this training were made explicit.

In the analyzed internship, the student and the preceptor did not participate in the planning, and this absence, associated with the unpreparedness of the laboratory professionals for the function of preceptor, produced visible effects in the report of the graduates, generating conflict between the demands of learning of the students and those presented by the service.

The need for constant improvement of the preceptors was noted, as well as the study plans and objectives of each activity, with the academy being responsible for its instrumentation in tune and dialogue with the service, in this case, the laboratory of clinical analysis.

For the management of the undergraduate course of the university studied, it is necessary to build a new institutional place strongly anchored in the course, a place for meeting and joining the various realities that make up the internship.

The limitations of this study are inherent to the non-participation of the professionals working in the hospital's clinical analysis laboratory, since it is an activity that requires the participation of teaching and service and that can only result in effective changes with the strengthening of the work together. New studies are recommended to deepen and update the aspects addressed in this research and to include preceptors and managers of the service in order to contemplate new perspectives that can support the reflection and strengthen the curricular stage in clinical analysis.

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