

EXPERIENCE REPORT

Supervised internship in the pulse therapy sector of a university hospital: experiences of nursing students

Estágio supervisionado no setor de pulsoterapia de um hospital universitário: vivências de discentes de enfermagem

Prácticas supervisadas en el servicio de pulsioterapia de un hospital universitario: experiencias de estudiantes de enfermería

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ABSTRACT

Objective: To describe the experiences of nursing students during their supervised internship in the pulse therapy sector of a University Hospital in the state of Amazonas.

Methodology: This is an experience report of supervised internship I, carried out from September to October 2021 at a University Hospital in the state of Amazonas.

Results: The curricular internship in the practical field of pulse therapy enabled nursing students to carry out activities inherent to the area, and to understand the importance of this therapy in the health field. Through observation and familiarity with the routine of the sector, the students learned about the most common diseases, the main drugs used in pulse therapy, how to prepare and infuse the drugs, and the importance of monitoring the patient before, during and after treatment with corticosteroids.

Final considerations: It can be concluded that practicing in different fields of nursing allows students to understand the versatility and autonomy of nursing professionals.

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Conduct of Drug Treatment; Nursing care; Nursing Students, Pulsetherapy; Preceptorship.

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RESUMO

Objetivo: Descrever as vivências de discentes de enfermagem durante o estágio supervisionado no setor de pulsoterapia de um Hospital Universitário do Amazonas.

Metodologia: Trata-se de um relato de experiência do estágio supervisionado I, realizado no período de setembro a outubro de 2021 em um Hospital Universitário do estado do Amazonas. **Resultados:** O estágio curricular no campo prático da pulsoterapia possibilitou aos acadêmicos de enfermagem realizarem atividades inerentes a área, e compreender a importância desta terapia no âmbito da saúde. Mediante a observação e familiaridade com a rotina do setor, os estudantes aprenderam sobre as doenças mais incidentes, os principais medicamentos utilizados na pulsoterapia, a forma de preparo e infusão dos medicamentos, e sobre a importância de monitorar o paciente antes, durante e após o tratamento com corticoides. **Considerações Finais:** Conclui-se que a prática em diferentes campos da enfermagem permite ao discente compreender a versatilidade e autonomia dos profissionais de enfermagem.

DESCRIPTORES:

Conduta do Tratamento Medicamentoso; Cuidados de Enfermagem; Estudantes de Enfermagem; Pulsoterapia; Preceptoria.

RESUMEN

Objetivo: Describir las experiencias de los estudiantes de enfermería durante su pasantía supervisada en el sector de terapia de pulso de un Hospital Universitario en el estado de Amazonas. **Metodología:** Se trata de un informe de experiencia de la pasantía supervisada I, realizada entre septiembre y octubre de 2021 en un Hospital Universitario del estado de Amazonas. **Resultados:** La pasantía curricular en el campo práctico de la terapia de pulso permitió a los estudiantes de enfermería realizar actividades inherentes al área, y comprender la importancia de esta terapia en el campo de la salud. Al observar y familiarizarse con la rutina del sector, los estudiantes aprendieron sobre las enfermedades más comunes, los principales medicamentos utilizados en la terapia de pulso, cómo preparar e infundir los medicamentos, y la importancia del seguimiento del paciente antes, durante y después del tratamiento con corticosteroides. **Consideraciones finales:** se puede concluir que la práctica en diferentes campos de la enfermería permite a los estudiantes comprender la versatilidad y la autonomía de los profesionales de enfermería.

DESCRIPTORES:

Conducción del Tratamiento Farmacológico; Cuidados de Enfermería; Estudantes de Enfermeira; Pulsoterapia; Preceptoria.

INTRODUCTION

Pulse therapy is a procedure available in health services that aims to treat different diseases associated with the immune system. This drug therapy consists of high doses of corticosteroids, usually between half and two grams, which are administered according to the guidelines prescribed by a qualified health professional, with duration and infusion time previously established⁽¹⁻²⁾.

In the nursing practice of the pulse therapy sector, it is the role of the nursing team to take care of the patient from admission to discharge, including the preparation and administration of drugs, as well as monitoring the general condition of the patient and preventing adverse effects. In this context, it is essential that these professionals have knowledge about the pharmacodynamics, pharmacokinetics and the main side effects of medications administered, such as drug therapy with corticosteroids, to ensure the safety of patients in pulse therapy treatment⁽³⁾.

In Brazil, specifically in the interior of the state of Amazonas, nursing students go through several fields of practice during graduation. The supervised internship in a university hospital, is a stage that provides skills regarding the medium and high complexity assistance provided by the institution.

This, being a school hospital, allows professional experiences in sectors of specific areas, such as the pulse therapy sector. The supervised internship in nursing is fundamental for the development of skills indispensable to the student's training. Throughout this experience, the academic is challenged to exercise the capacity of autonomy, responsibility and creativity, as well as deepen and contextualize the theoretical-practical knowledge acquired throughout the academic training. The health professionals who receive the student in their sector of work, are integrators and facilitators of knowledge in the field of nursing.

In addition, the essential role played by the preceptorship in the process of adaptation, knowledge, practice and guidance of students during the period that comprises the internship is highlighted. The preceptor acts as a link in providing support, strengthening confidence, development of technical skills, competencies related to the practical activities performed and evaluation regarding the performance presented by the academics⁽⁴⁾.

OBJECTIVE

To describe the experiences of nursing academics during the supervised internship in the pulse therapy sector of a University Hospital of Amazonas.

METHODOLOGY

It is a report of experience, descriptive and exploratory nature from the experience during the Supervised Curricular Internship I of the Nursing course of the Institute of Health and Biotechnology (ISB) of the Federal University of Amazonas (UFAM) in the period from September to October 2021 and involved routine assistance activities of the sector. The descriptive study aims to describe the inherent aspects of a given phenomenon and the exploratory research seeks a deeper understanding about the object and scenario of investigation⁽⁵⁾.

The scenario of the experience addressed occurred in the pulse therapy sector of the University Hospital Getúlio Vargas (HUGV). This institution of high complexity is one of the university hospitals managed by the Brazilian Company of Hospital Services (EBSERH) and is located in Manaus, the capital of the state of Amazonas. Manaus is located on the banks of the river Negro and Solimões. According to the last census (2022), Manaus has a population of 2,063,689 inhabitants distributed in a territorial area of 11,401,092 km²⁽⁶⁾. The internship was possible due to the National Program for the Restructuring of Federal University Hospitals (REHUF) with the objective of creating material and institutional conditions for the federal university hospitals to fully perform their functions in relation to teaching dimensions,

research and extension and the dimension of health care in the Unified Health System (SUS). The research participants were six students of the nursing course and a professor-preceptor from UFAM. The data presented were collected from direct observations and notes of students through experiences in the practical field of internship. Because it is an experience report, there was no need for approval in the Research Ethics Committee, however, the ethical precepts were assured and respected in the presentation of the data.

RESULTS

The described experience revealed itself in knowing pulse therapy, so the activities in the sector were divided into two moments, namely: a priori the academics were presented to the nursing team of pulse therapy, subsequently knew the physical structure of the environment and the main materials and medicines used for the treatment of patients. The planning nurse made a brief explanation about the complexity of pulse therapy, its purpose and the attributions of nursing professionals in this area. In the middle of the practical experience, the students were supervised by the nurse responsible for the sector.

In the second moment, the students were divided and directed to their respective rooms: screening room, venous puncture room, drug preparation room and observation room/ medication administration. The flow of care in the sector functioned as described below: patients were admitted to the hospital reception and referred to the unit's screening room for vital signs, such as Blood Pressure (BP), Heart Rate (HR), Respiratory Rate (RR), Temperature (C°) and Oxygen Saturation (OSO₂).

In the next step, patients were taken to the doctor's office for a general evaluation in order to confirm the indication of pulse therapy and prescription according to their clinical condition. The treatment time of patients was defined according to medical criteria, usually once a month. Before the confirmed medical prescription, the patient was referred to the procedure room for performing peripheral venous access (PVA) by the nursing technique, for the beginning of the corticotherapy session, simultaneously the nurse started the preparation of the drugs that would be administered through continuous infusion pump.

Therefore, the patient was taken to the drug administration room, where he received doses of promethazine and ondansetron, before the main drug. These drugs were given for prophylaxis of possible adverse effects, such as allergies and/or nausea. Before the beginning of each session was carried out the arrangement with the initial time and expected end of the session. In general, all medications were infused around one to three hours.

After the drug infusion, the academics performed a general physical assessment and neurological status of clients, as well as guidance on the continuity of treatment at home. Before the experience, the students showed that most of the patients presented frailties, physical weakness, mental wear, fatigue and sadness before intense and exhaustive treatment.

In this perspective, the academics had the opportunity to understand the process of functioning of the sector and participate in various activities. Among these were the assessment of vital signs, the completion of the patient's admission form and the occurrence book, the evolution in the electronic chart, the monitoring of patients during and after the infusion of medicines. In addition, they learned about the installation and configuration of the infusion pump.

In relation to the diseases treated in pulse therapy the most frequent were the affections of the area of rheumatology, such as systemic lupus erythematosus, rheumatoid arthritis and necrotizing spondylitis. Other diseases included multiple sclerosis, followed by gastrointestinal, nephrological, ophthalmologic and neoplastic diseases. Regarding the drugs most used for the treatment of these pathologies, tocilizumab, rituximab, natalizumab, infliximab, dexamethasone, methylprednisolone and cyclophosphamide were highlighted.

Because it is a sector that makes use of a range of medicines, the importance of care in prescription, distribution, administration, Monitoring and use of these medications for patient harm reduction as recommended by the third Global Patient Safety Challenge launched by the World Health Organization in 2017. The objective is to raise awareness among professionals about safe practices related to medicines.

DISCUSSION

In the experience of nursing students, it was found that the pulse therapy sector follows a continuous and planned flow, in accordance with the standards established by the health institution, with the adoption of strict parameters and criteria under the responsibility of the multidisciplinary team. In view of the above, it was noted by the academics the importance of the nursing team for the proper functioning of care in the sector. According to the perception of students, it is essential that professionals be careful in the preparation and monitoring of patients when receiving high doses of drugs by infusion pump in pulse therapy sessions.

Among the results, it is important to observe and monitor the patient during the period of corticosteroid infusion. Nursing's priority is to assess the level of consciousness and monitor vital signs in order to identify unwanted side effects, such as agitation, pruritus, hypotension, arterial hypertension and glottis edema. The assessment of the individual's general condition, before, during and after medication, is an obligation of the nursing team⁽⁷⁾.

The academics found that general and specific physical examination, adequate venous puncture, maintaining patient comfort, inspection of the state of consciousness, checking skin conditions, quality of sleep and rest and evaluating side effects are fundamental care in pulse therapy. The experience also resulted in an understanding about recording the time of infusion initiation, seeking to know the patient's history regarding previous treatments, in order to identify past adverse reactions and general care in the

preparation of medications, in addition to carefully checking the time of action of the drug, the speed of infusion in the pump, the volume and correct dosage of the drugs.

In general, each session of corticosteroid treatment usually lasts around three hours. It is known that the high infusion of corticosteroids in a short period can cause unexpected adverse effects, such as nausea, vomiting, hypertension, fluid retention, electrolyte loss and glycemic instability⁽⁸⁾.

Before the experiential immersion students had the understanding about the attention in choosing the correct venous device, considering the size of the catheter and the time of infusion of the drug, in order to avoid damage to blood vessels, since the frequency in pulse therapy weakens the veins. The prevention of complications, such as damage to blood vessels and the emergence of infections, is also a competence of nursing professionals⁽⁹⁾.

Nursing performance in this area includes care before the infusion of drugs, during and after the end of sessions. In this sense, before the treatment with corticosteroids the nursing team has the assignment to explain the procedure to the individual and his companion, follow the biosafety protocols to preserve the safety and integrity of the patient. Another interesting finding was related to the preparation of drugs, the nurse on duty approached about the seriousness with the care that should be taken when preparing and handling certain drugs, such as cyclophosphamide which is a corrosive antineoplastic medication.

It is important to mention that the appropriate conduct of nursing during the preparation of medications, especially corrosive drugs in contact with the skin are paramount, these measures refer exponentially to care in the infusion and correct disposal of the drug, thus, professionals should make use of personal protective equipment (PPE), to avoid an exacerbated exposure to drugs⁽¹⁰⁾.

In the context of their responsibilities, nursing professionals are responsible for building a framework of nursing behaviors and diagnoses to reduce damage and negative effects of pulse therapy, whether physical or psychological, in addition to the support that should offer the family of the individual. Therefore, in this study it was observed the need for the implementation of a care plan focusing on physical, mental and social well-being aspects directed to the Amazonian context.

The nursing academics, as future professionals able to multidisciplinary action, have the role of understanding the aspects that make up the care with people in corticotherapy, providing a holistic assistance aimed at reducing physical symptoms, as well as contribute to alleviate pain, sadness, fear and depression that many patients develop⁽¹¹⁾.

Within the pulse therapy sector, nursing students have developed unique skills that can add to the knowledge of clinical practice and support the performance of these future health professionals and achieve success in coping with insecurities and anxieties, under a new perspective of the role of the nursing team in this sector.

The supervised internship provides the ideal field of practice for the student to perfect their skills, acquire new knowledge, develop their ability of effective communication with patients and nursing staff, in addition to allowing an approximation with the routine of activities of health institutions⁽¹²⁾.

In this training scenario, the performance of the nursing student in pulse therapy, as well as in the infusion of chemotherapy, requires the application of safe practices aimed at the correct administration of drugs, clinical monitoring and proper registration. Both contexts involve high complexity and risk therapies, requiring critical, ethical and technical posture. The nurse's leadership, as highlighted in the literature, is also reflected in the supervised internship, promoting safe and qualified training⁽¹³⁾.

In summary, performing an internship in the pulse therapy sector can offer opportunities for developing theoretical and practical skills and improvement in the various areas of nursing care. In addition, it allowed to know the functioning of an institution of high complexity, especially in the pulse therapy sector, and experience in practice the role of nurses in the management and provision of assistance.

Study limitations

The limitations of the study are the scarcity of articles in the area of pulse therapy, especially in the northern region of the country, there is a gap of studies addressing the experience of nursing academics in this sector. The short period of academic experience stands out with one of the limitations as well, since the academic needs a more in-depth and complex view on the performance of the nurse in pulse therapy.

Contributions to the fields of nursing, health, or public policy.

The present study contributes to give visibility to the work of nursing in the Brazilian Amazon with emphasis on performance in a sector not described in the literature. In addition, sharing these experiences can provide valuable insights into the challenges and opportunities encountered in this environment. In addition, the article can serve as a source of information for other nursing students and health professionals who are preparing to work in a similar environment. Addressing the experience of students in this sector makes it possible to glimpse the work of nursing in this scenario, as well as the difficulties and challenges in the assistance provided. The study also added to nursing education in the Amazon context, by understanding how it is crucial to look at the training of interior students, in experiencing the reality of services provided by medium and high complexity in health. Finally, by highlighting the importance of the pulse therapy sector and the role of nursing academics, this study helps to increase awareness and understanding about these essential aspects of the highly complex health system in Amazonas.

FINAL CONSIDERATIONS

Given the above, the supervised curricular internship I in the pulse therapy sector was a relevant experience for the professional development of nursing students in academic training phase. From the knowledge of a different reality of services that are offered in the regional hospitals of the municipalities of the interior of Amazonas, this theme becomes innovative by exposing theoretical and practical knowledge indispensable in the context of pulse therapy. As a result, it should be recognized the importance of this experiential process in higher education institutions, because the internship was fundamental for the preparation and science of future areas that the student can perform as a professional nurse.

In short, it is hoped that this study presents itself as a stimulus for the nursing courses to approach in their curricular grades on Pulse Therapy and incorporate it as a compulsory discipline, seeking the systematic and dynamic training of future nurses, with in-depth knowledge. It is suggested, therefore, that further studies be carried out in order to demonstrate the importance of this area for the academic community in the theoretical and practical field.

REFERENCES

1. Gupta G, Jain A, Narayanasetty NK. Steroid pulse therapies in dermatology. Muller J of Med Sci Res. 2014 [cited 2024 fev 28]; 5(2):155-158. Available from: https://www.researchgate.net/publication/273245824_Steroid_pulse_therapies_in_dermatology
2. Pentikäinen PJ. Pharmacological aspects of corticosteroid pulse therapy. Scand J Rheumatol Suppl. 1984 [cited 2024 fev 28]; (54):6-9. Available from: <https://pubmed.ncbi.nlm.nih.gov/6592753/>
3. Peres EM, Rodrigues JC, Leite DC, Souza LC, Peixoto IC, Santos TB. et al. Development of an Educational Protocol Based on a Nursing Team's Knowledge of Pulse Therapy in Adolescents in Brazil. Journal of Infusion Nursing. 2020 [cited 2024 fev 28]; 43 (4): 208-212. Available from: https://journals.lww.com/journalofinfusionnursing/abstract/2020/07000/development_of_an_educational_protocol_based_on_a.9.aspx
4. Souza CMS, Oliveira ACM, Leonello VM. Barreiras para a preceptoria na Educação Interprofissional: uma revisão integrativa. Cien Saude Colet. 2025; [cited 2025 Jul 09];30:e11472023. Available from: <https://doi.org/10.1590/1413-812320242911.11472023>
5. Gil AC. Como elaborar projetos de pesquisa. Atlas. 2017. 6. ed.
6. Instituto Brasileiro de Geografia e Estatística (IBGE). Sistema agregador de informações sobre municípios e estados do Brasil. [internet] 2022 [cited 2023 nov 20]. Available from: <https://cidades.ibge.gov.br/brasil/am/manaus/panorama>

7. Noturne G. Corticoterapia em la práctica reumatológica. EMC Tratado de Medicina. 2023 [cited 2025 Jul 09];27 (2): 1-8. Available from: [https://doi.org/10.1016/S1636-5410\(23\)47692-1](https://doi.org/10.1016/S1636-5410(23)47692-1)
8. Silva AR, Barros TG, Santos ABP, Pismel LS, Montalvão WCR, Leal AS. et al. Glomerulonefrite lúpica focal ativa combinada à variante membranosa com remissão completa após Pulsoterapia: um relato de caso. Braz. J. of Develop. Curitiba. 2020 [cited 2023 nov 20]; 6(5). Available from: <https://ojs.brazilianjournals.com.br/ojs/index.php/BRJD/article/view/10474>
9. Chami AS, Peres EM, Gomes HF, Leite DC, Pires BMFB, Pires AS. Cateteres venosos utilizados em adolescentes hospitalizados: estudo descritivo. São Paulo: Rev Recien. 2022 [cited 2024 fev 25]; 12(38):60-67. Available from: <https://recien.com.br/index.php/Recien/article/view/653>
10. Batista KC, Sousa KHJF, Ruas CAS, Zeitoun RCG. Knowledge about antineoplastic drugs: implications for the health of nursing workers in a general hospital. Rev Bras Enferm. 2022 [cited 2024 fev 25];75(3):e20210025. Available from: <https://doi.org/10.1590/0034-7167-2021-0025>
11. Leão BR, Almeida MSTM, Macedo EA. Resiliência em pacientes com doenças reumáticas autoimunes e sua relação com depressão e ansiedade. J. Ciênc. Saúde.2019 [cited 2025 Jul 09];2(3):9-19. Available from: <https://doi.org/10.26694/jcshu-ufpi.v2i3.11542>
12. Bresolin P, Martini JG, Lazzari DD, Nes AAG. Topp-n: Inovação tecnológica para orientação e avaliação de estudantes de enfermagem em estágio curricular no Brasil. Texto Contexto Enferm [Internet]. 2025 [cited 2025 Jul 09];34:e20240158. Available from: <https://doi.org/10.1590/1980-265X-TCE-2024-0158pt>

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