Revista ARACÊ
ISSN: 2358-2472

THE ROLE OF A NEUROLOGY INTERNSHIP IN PSYCHIATRY RESIDENCY TRAINING: A SURVEY FROM BRAZIL

O PAPEL DO ESTÁGIO EM NEUROLOGIA NA FORMAÇÃO DA RESIDÊNCIA EM PSIQUIATRIA: UM ESTUDO DE LEVANTAMENTO NO BRASIL

EL PAPEL DE LA PASANTÍA EN NEUROLOGÍA EN LA FORMACIÓN DE LA RESIDENCIA EN PSIQUIATRÍA: UNA ENCUESTA EN BRASIL

https://doi.org/10.56238/arev8n5-076

Submitted on: 04/19/2026 **Publication date:** 05/19/2026

Carlos Arteaga Rodríguez[1], Guilherme Zambam Koech[2], Otto Jesus Hernandez Fustes[3]

ABSTRACT

Background: Psychiatry and neurology have historically been separated by a functional–organic dichotomy. In recent years, however, there has been increasing interest in integrating these specialties as understanding of mental disorders advances. This context motivated the present study, which aimed to assess the perceived need for a Neurology Internship (NI) in the training of psychiatrists.

Methods: We conducted an observational, non-interventional, quantitative survey of psychiatry specialists in Brazil between January 2022 and August 2023. A structured questionnaire was developed and distributed, along with the informed consent form, via WhatsApp groups of psychiatrists. The study was approved by the Research Ethics Committee (Approval No. 5,441,147).

Results: A total of 60 participants were included; 50% were male, with a mean age of 36.5 years (SD ± 7.02). Most respondents had completed a psychiatry residency (88.3%), 81.7% had undertaken an NI, and 70% had received training in the neurological examination. All participants agreed on the importance of an NI during psychiatric training. The majority (51.7%) recommended that the NI should take place in both outpatient neurology clinics and general neurology wards. Additionally, 88.3% agreed that the NI should follow a structured program including defined objectives, core topics, references, and training settings. The most frequently recommended topics were: central nervous system (CNS) anatomy and physiology (91.7%), neurological examination (98.3%), epilepsy (100%), neurocognitive disorders in older adults (98.3%), secondary psychoses and CNS neuroimaging (96.7%), and attention-deficit/hyperactivity disorder (68.3%).

Conclusions: A Neurology Internship is considered essential in psychiatric training, with a preference for rotations in both outpatient and inpatient neurology settings. Core

[1] Master's degree. Secretaria Municipal de Saúde de Curitiba. Brazil.
Orcid: https://orcid.org/0000-0001-5869-2052
[2] Master's degree. Secretaria Municipal de Saúde de Curitiba. Brazil.
Orcid: https://orcid.org/0009-0009-6772-2167
[3] Dr. Universidade Federal do Paraná. Brazil. Orcid: https://orcid.org/0000-0003-0778-5376

Revista ARACÊ
ISSN: 2358-2472

components should include neurological examination, CNS anatomy and physiology, epilepsy, neurocognitive disorders in older adults, secondary (organic) psychoses, and neuroimaging. We recommend that the Brazilian Psychiatric Association and the National Medical Residency Council develop standardized national guidelines for the implementation of NI programs.

Keywords: Medical Education. Professional Training. Neurology and Psychiatry. Internship and Residency.

RESUMO

Introdução: A psiquiatria e a neurologia foram historicamente separadas por uma dicotomia funcional–orgânica. Nos últimos anos, entretanto, tem havido um interesse crescente na integração dessas especialidades à medida que o entendimento dos transtornos mentais avança. Esse contexto motivou o presente estudo, que teve como objetivo avaliar a percepção da necessidade de um Estágio em Neurologia (EN) na formação de psiquiatras.

Métodos: Realizou-se um estudo observacional, não intervencionista e quantitativo com especialistas em psiquiatria no Brasil entre janeiro de 2022 e agosto de 2023. Um questionário estruturado foi elaborado e distribuído, juntamente com o termo de consentimento livre e esclarecido, por meio de grupos de WhatsApp de psiquiatras. O estudo foi aprovado pelo Comitê de Ética em Pesquisa (Parecer nº 5.441.147).

Resultados: Foram incluídos 60 participantes; 50% eram do sexo masculino, com média de idade de 36,5 anos (DP ± 7,02). A maioria dos respondentes havia concluído residência em psiquiatria (88,3%), 81,7% haviam realizado EN e 70% receberam treinamento em exame neurológico. Todos os participantes concordaram sobre a importância de um EN durante a formação psiquiátrica. A maioria (51,7%) recomendou que o EN ocorresse tanto em ambulatórios de neurologia quanto em enfermarias gerais de neurologia. Além disso, 88,3% concordaram que o EN deveria seguir um programa estruturado, incluindo objetivos definidos, tópicos centrais, referências e cenários de treinamento. Os tópicos mais frequentemente recomendados foram: anatomia e fisiologia do sistema nervoso central (SNC) (91,7%), exame neurológico (98,3%), epilepsia (100%), transtornos neurocognitivos em idosos (98,3%), psicoses secundárias e neuroimagem do SNC (96,7%) e transtorno de déficit de atenção/hiperatividade (68,3%).

Conclusões: O Estágio em Neurologia é considerado essencial na formação psiquiátrica, com preferência por rotações tanto em ambientes ambulatoriais quanto hospitalares de neurologia. Os componentes centrais devem incluir exame neurológico, anatomia e fisiologia do SNC, epilepsia, transtornos neurocognitivos em idosos, psicoses secundárias (orgânicas) e neuroimagem. Recomenda-se que a Associação Brasileira de Psiquiatria e a Comissão Nacional de Residência Médica desenvolvam diretrizes nacionais padronizadas para a implementação de programas de EN.

Palavras-chave: Educação Médica. Formação Profissional. Neurologia e Psiquiatria. Estágio e Residência.

RESUMEN

Introducción: La psiquiatría y la neurología han estado históricamente separadas por una dicotomía funcional–orgánica. Sin embargo, en los últimos años ha habido un interés

Revista ARACÊ
ISSN: 2358-2472

creciente en integrar estas especialidades a medida que avanza la comprensión de los trastornos mentales. Este contexto motivó el presente estudio, cuyo objetivo fue evaluar la percepción de la necesidad de una Pasantía en Neurología (PN) en la formación de psiquiatras.

Métodos: Se realizó un estudio observacional, no intervencionista y cuantitativo con especialistas en psiquiatría en Brasil entre enero de 2022 y agosto de 2023. Se elaboró y distribuyó un cuestionario estructurado, junto con el consentimiento informado, a través de grupos de WhatsApp de psiquiatras. El estudio fue aprobado por el Comité de Ética en Investigación (Aprobación nº 5.441.147).

Resultados: Se incluyeron 60 participantes; el 50% eran hombres, con una edad media de 36,5 años (DE ± 7,02). La mayoría de los encuestados había completado una residencia en psiquiatría (88,3%), el 81,7% había realizado una PN y el 70% había recibido capacitación en examen neurológico. Todos los participantes coincidieron en la importancia de una PN durante la formación psiquiátrica. La mayoría (51,7%) recomendó que la PN se realizara tanto en consultas ambulatorias de neurología como en salas generales de neurología. Además, el 88,3% estuvo de acuerdo en que la PN debía seguir un programa estructurado que incluyera objetivos definidos, temas centrales, referencias y escenarios de formación. Los temas más frecuentemente recomendados fueron: anatomía y fisiología del sistema nervioso central (SNC) (91,7%), examen neurológico (98,3%), epilepsia (100%), trastornos neurocognitivos en adultos mayores (98,3%), psicosis secundarias y neuroimagen del SNC (96,7%) y trastorno por déficit de atención e hiperactividad (68,3%).

Conclusiones: La Pasantía en Neurología se considera esencial en la formación psiquiátrica, con preferencia por rotaciones tanto en entornos ambulatorios como hospitalarios de neurología. Los componentes centrales deben incluir examen neurológico, anatomía y fisiología del SNC, epilepsia, trastornos neurocognitivos en adultos mayores, psicosis secundarias (orgánicas) y neuroimagen. Se recomienda que la Asociación Brasileña de Psiquiatría y el Consejo Nacional de Residencia Médica desarrollen directrices nacionales estandarizadas para la implementación de programas de PN.

Palabras clave: Educación Médica. Formación Profesional. Neurología y Psiquiatría. Pasantía y Residencia.

Revista ARACÊ
ISSN: 2358-2472

1 INTRODUCTION

Psychiatry and neurology originated as closely interconnected disciplines but gradually diverged over time (1,2). By the late 20th and early 21st centuries, signs of convergence between psychiatry and neurology began to emerge, driven by increasing interest in brain sciences and a growing recognition of the psychological and social dimensions of neurological and psychiatric disorders (3).

Furthermore, advances in psychopharmacology, the identification of genetic underpinnings of neuropsychiatric disorders, and the development of neuroimaging techniques have contributed to a renewed integration of these fields (4,5). In this context, Coêlho et al.,2005 (6) argued that both specialties share a common substrate—the brain—as the origin of their clinical manifestations. This convergence has progressed to the point that a unified specialty, termed *brain medicine*, has been proposed (7).

From an academic perspective, this paradigm shift supports the inclusion of neurological training within psychiatric residency programs. In Brazil, the National Commission for Medical Residency (NCMR) recommended in 2006 that psychiatric training should include a Neurology Internship (NI) through supervised, practice-based learning (8). However, the 2021 NCMR resolution no longer explicitly mentions this requirement (9), potentially leading to its omission in some residency programs.

The Brazilian Psychiatric Association (BPA) recommends that at least 5% of the annual workload in the first year of psychiatric training be dedicated to the NI. It further suggests that the internship be supervised by qualified faculty and preceptors, although it does not provide detailed guidance regarding its structure or content (10).

Given the overlap between these specialties, incorporating an NI into psychiatric training is essential to facilitate understanding of their interface and to improve patient management. Internationally, neurological training is recommended in psychiatric education (11); however, there remains a lack of consensus regarding its theoretical and practical components. Suggested competencies include the ability to recognize neurological disorders, perform a neurological examination, screen for delirium, and interpret neuroimaging studies (11).

Between 2011 and 2014, a theoretical-reflective study conducted in São José dos Pinhais, Paraná, Brazil, led to the development of a Neurology Program for the Training of Psychiatry Residents (NPFTPR) (4). This program was implemented for six years in a local psychiatric residency and, since 2014, in the Psychiatry Residency Program of the State

Revista ARACÊ
ISSN: 2358-2472

Foundation for Health Care (SFHC)-Municipal Health Department of Curitiba. Its implementation has been well received by residents and has yielded satisfactory outcomes in clinical practice (5).

These considerations motivated the present study, which aims to evaluate the necessity of the NI in psychiatric training and to identify the theoretical and practical content that should be included.

2 METHODS

We conducted an observational, non-interventional, quantitative study between January 2022 and August 2023. Eligible participants were physicians in Brazil who had completed either a medical residency in psychiatry or a formal specialization in the field.

A literature search was performed using the keywords “medical education,” “professional training,” “neurology and psychiatry,” and “internship and residency” in the PubMed and SciELO databases. Based on this review, a structured questionnaire comprising 23 items was developed and organized into five sections: (1) demographic data (6 items); (2) NI-related training data (4 items); (3) characteristics of the NI (3 items); (4) roles of the BPA and NCMR (1 item); and (5) proposed curricular topics (9 items).

The questionnaire was administered via Google Forms and distributed, together with the informed consent form, through WhatsApp groups of psychiatrists. Participation was voluntary and uncompensated. Descriptive analyses were performed using R (version 3.6.3; R Foundation for Statistical Computing). Categorical variables are presented as frequencies and percentages, and continuous variables as means with standard deviations.

The study was approved by the Research Ethics Committee (Approval No. 5,441,147).

3 RESULTS

A total of 60 participants were included. Demographic characteristics and training modalities are summarized in Table 1. The mean age was 36.5 years (SD ± 7.02).

Among respondents, 81.7% reported having completed an NI. Training settings included outpatient clinics (58.3%), unspecified locations (20%), combined outpatient and hospital settings (11.7%), and hospital settings alone (10%). The distribution of training by year of residency is shown in Figure 1. Training in the neurological examination was reported by 70% of participants.

Revista ARACÊ
ISSN: 2358-2472

All respondents agreed on the importance of the NI in psychiatric training. Preferred training settings were outpatient clinics and general neurology wards (51.7%), followed by general outpatient clinics (25%), specialized outpatient clinics (21.7%), and specialized inpatient units (1.7%). Additionally, 88.3% agreed that the NI should follow a structured curriculum including learning objectives, core topics, references, and defined clinical settings.

Regarding the role of professional bodies, 83.3% supported the development of general guidelines by the BPA and/or NCMR, 13.3% favored mandatory adherence to such guidelines, 1.7% considered them unnecessary, and 1.7% believed each program should independently define its structure.

The most frequently endorsed curricular topics were: central nervous system (CNS) anatomy and physiology (91.7%), neurological examination (98.3%), epilepsy (100%), neurocognitive disorders in older adults (98.3%), attention-deficit/hyperactivity disorder (68.3%), secondary psychoses (96.7%), and CNS neuroimaging (96.7%) (Figure 2).

4 DISCUSSION

No comparable studies were identified in the literature, suggesting that this investigation addresses a gap in the field. Although previous publications emphasize the importance of neurological training in psychiatry, they lack detailed data on its implementation (11–14).

Gender distribution in our sample was balanced (50%). In contrast, Scheffer et al. (2023) (15) reported that 46.6% of psychiatrists in Brazil are women, with a mean age of 48.8 years (SD ± 14.2). The younger mean age in our study may reflect the relatively recent completion of training among participants, as 63.3% had less than five years of professional experience.

Most participants (88.3%) completed formal residency training, reinforcing its status as the gold standard in specialist education (16). Training was predominantly concentrated in the South of Brazil (86.7%), with limited representation from other regions.

The proportion of participants reporting completion of an NI (81.7%) exceeds that reported in a study from São Paulo, where only 43% of programs included such training (17). This difference may reflect a broader trend toward reintegration of neurology and psychiatry in clinical training.

Revista ARACÊ
ISSN: 2358-2472

The timing of the NI varied across training years. Notably, 18.3% of respondents reported no exposure to NI, which may be associated with the absence of explicit recommendations in the 2021 NCMR resolution (9).

We propose that the NI be distributed across the first and third years of residency. Early training should focus on neuroanatomy, neurological history-taking, examination skills, and common neurological disorders, while later training should emphasize neurocognitive disorders and outpatient management. This model aligns with the NPFTPR framework, which integrates residents into neurology teams with defined educational objectives (4,5).

Training in the neurological examination was reported by 70% of participants. This skill is essential, particularly in settings with limited access to neuroimaging. A focused neurological examination should include mental status assessment, gait evaluation, cranial nerve testing, motor strength, and assessment of extrapyramidal and cerebellar signs.

All participants recognized the importance of the NI, consistent with the growing convergence between psychiatry and neurology. While integrated models such as “brain medicine” have been proposed (7), the two specialties retain distinct competencies and should maintain their institutional identities.

The preference for outpatient and general ward settings supports their prioritization in curriculum design. The strong endorsement of structured curricula further highlights the need to formalize NI programs to ensure educational rather than purely service-oriented experiences.

Most respondents supported the development of national guidelines by the BPA and NCMR, suggesting a need for standardized frameworks adaptable to local contexts.

The proposed curricular content reflects both clinical relevance and interdisciplinary overlap, encompassing neurobiology, diagnostic skills, and common neuropsychiatric conditions. These findings are consistent with previous proposals (4,5).

Limitations include the relatively small sample size and potential selection bias associated with recruitment via WhatsApp. These factors may limit generalizability.

5 CONCLUSION

This study provides novel evidence supporting the importance of a Neurology Internship in psychiatric training, with a preference for outpatient and general ward settings. The NI curriculum should include core theoretical and practical components such as CNS

Revista ARACÊ
ISSN: 2358-2472

neurophysiology, neurological examination, epilepsy, neurocognitive disorders, ADHD, secondary psychoses, and neuroimaging.

There is a clear need for national guidelines, to be developed by the BPA and/or NCMR, to standardize NI implementation across training programs. Future multicenter studies are warranted to further refine and validate these recommendations.

6 STUDY FUNDING

None.

7 DISCLOSURE

The authors report no relevant conflicts of interest.

8 DATA AVAILABILITY

Data supporting the findings of this study are available from the corresponding author upon reasonable request.

REFERENCES

1. Perez, D. L., Keshavan, M. S., Scharf, J. M., et al. (2018). Bridging the Great Divide: What can neurology learn from psychiatry? Journal of Neuropsychiatry and Clinical Neurosciences, 30(4), 271–278.

2. Barchas, J. D. (1995). Some thoughts about the archives. Archives of General Psychiatry, 52(4), 313-314.

3. Reynolds, E. H. (2015). The historical evolution and future of neurology and psychiatry. Journal of Neurology, Neurosurgery & Psychiatry, 86(12), 1386–1388.

4. Souza, M. W. P., & Rodríguez, C. A. (2017). Programa de neurologia para a formação do residente em psiquiatria no Brasil. Revista da Faculdade de Ciências Médicas de Sorocaba, 19(2), 86–91.

5. Rodríguez, C. A., Souza, M. W. P., Remonti, N. S., et al. (2020). Neurology Training Program for the Education of Psychiatry Residents: Experiences Reported from Curitiba, Brazil. Revista Brasileira de Educação Médica, 44(4), e151.

6. Coêlho, B. M., Zanetti, M. V., & Neto, F. L. (2005). Residência em psiquiatria no Brasil: Análise crítica. Revista de Psiquiatria do Rio Grande do Sul, 27(1), 13–22.

7. Brown, J. C., Dainton-Howard, H., Woodward, J., et al. (2023). Time for brain medicine. Journal of Neuropsychiatry and Clinical Neurosciences, 35(4), 333–340.

Revista ARACÊ
ISSN: 2358-2472

8. Brasil. Conselho Nacional de Residência Médica. (2006). Resolução CNRM Nº 02/2006, de 17 de maio de 2006. Dispõe sobre requisitos mínimos dos Programas de Residência Médica e dá outras providências. Diário Oficial da União. http://portal.mec.gov.br/index.php?option=com_docman&view=download&alias=100981-resolucao-cnrm-n-6-de-5-de-setembro-de-2006&category_slug=novembro-2018-pdf&Itemid=30192

9. Brasil. Conselho Nacional de Residência Médica. (2021). Resolução CNRM Nº 18, de 6 de julho de 2021. Aprova a matriz de competências dos programas de Residência Médica em Psiquiatria no Brasil. Diário Oficial da União. https://in.gov.br/en/web/dou/-/resolucao-cnrm-n-18-de-6-de-julho-de-2021-330651716

10. Associação Brasileira de Psiquiatria. (n.d.). Programas de Formação em Psiquiatria acreditados pela ABP. https://www.abp.org.br/programas-de-formacao

11. Shalev, D., & Jacoby, N. (2018). Neurology training for Psychiatry Residents: Practices, challenges, and opportunities. Academic Psychiatry, 43(1), 89–95.

12. Duffy, J. D., & Camlin, H. (1995). Neuropsychiatric training in American psychiatric residency training programs. Journal of Neuropsychiatry and Clinical Neurosciences, 7(3), 290–294.

13. Matthews, M. K., Koenigsberg, R., Schindler, B., et al. (1998). Neurobehaviour rounds and interdisciplinary education in neurology and psychiatry. Medical Education, 32(1), 95–99.

14. Chemali, Z. N. (2005). The essentials of neuropsychiatry: Teaching residents and fellows the interface between psychiatry and neurology. Harvard Review of Psychiatry, 13(6), 312–315.

15. Scheffer, M., et al. (2023). Demografia Médica no Brasil 2023. FMUSP, AMB.

16. Filho, A. D. M. C., Santos, A. A. D., Wyszomirska, R. M. D. A. F., et al. (2022). Formação na Residência Médica: Visão dos preceptores. Revista Brasileira de Educação Médica, 46(2).

17. Calil, L. C., & Contel, J. O. B. (1999). Estudo dos programas de residência médica em Psiquiatria do Estado de São Paulo no ano de 1993. Brazilian Journal of Psychiatry, 21(3), 139–144.

18. Sanders, R. D., & Keshavan, M. S. (1998). The Neurologic Examination in Adult Psychiatry. Journal of Neuropsychiatry and Clinical Neurosciences, 10(4), 395–404.

Revista ARACÊ
ISSN: 2358-2472

APPENDIX

Table 1

Distribution according to demographic characteristics and type of Specialization

Feature	Nº	%
Gender		
Masculin	30	50%
Feminin	30	50%
Age		
<30 years	9	15%
30-50 years	48	80%
>50 years	3	5%
Specialization Type		
Medical Residency	53	88,3%
Specialization with SQR	4	6,7%
Specialization without RQE	3	5%
Time since Specialization		
<1 year	11	18,3%
Between 1-5 years	27	45%
Between 6-10 years	9	15%
Between 11-20 years	11	18,3%
More than 20 years	2	3,3%
Medical Education Center		
Municipal Secretary of Health	33	55%
Other Programs	14	23,3%
Federal University	6	10%
State University	3	5%
Specialization Course	4	6,7%
Country Region		
South	52	86,7%
Southeast	7	11,7%
Midwest	1	1,7%

Revista ARACÊ
ISSN: 2358-2472

Figure 1

Distribution according to the year of specialization or residency in which the Neurology Internship was carried out

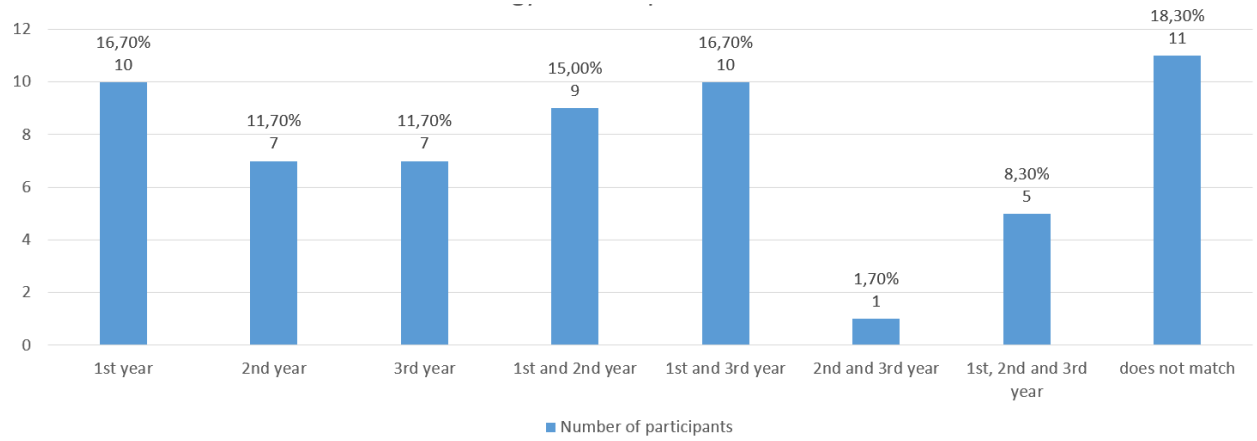

Figure 1

Frequency distribution according to the degree of importance of Neurology topics