

Association between nurses' training in integrative practices and their work situation



Associação entre a formação de enfermeiros em práticas integrativas e sua situação de trabalho

Asociación entre la formación de los enfermeros en prácticas integradoras y su situación laboral

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ABSTRACT

Objective: to verify the association between training in integrative practices and the work situations of nurses in Brazil.

Method: this is a descriptive, multicenter survey study, carried out with 1,154 nurses from the five regions of Brazil. Data was collected using an online questionnaire between June 2021 and January 2022. Statistical analysis included absolute and relative frequencies, association tests, linear trend tests and Poisson regression with robust variance, with significant associations at $p \leq 0.05$.

Results: the prevalence of training in traditional integrative practices was 43.5%, with a predominance of women, postgraduates, religious professionals and residents in the South. Self-employed nurses and those with fewer formal jobs were more likely to be trained ($RP=1.59$). Adjusted analysis revealed significant associations with the legal nature of the employment relationship, type of occupation and weekly working hours. Working in private institutions ($RP=0.67$) and being a salaried employee ($RP=0.64$) reduced the likelihood of training in integrative health, while being self-employed without social security ($RP=1.80$) or having working hours of 20h/40h increased this likelihood ($RP=1.51/RP=1.21$).

Conclusion: training in integrative practices among nurses is associated with more flexible professional relationships, greater autonomy and work situation that favor continued qualification. These results reinforce the need for institutional incentives and public policies to increase access to training.

Descriptors: Nursing; Complementary Therapies; Job Description; Working; Public Education Health Professional.

RESUMO

Objetivo: verificar a associação entre a formação em práticas integrativas com as situações de trabalho de enfermeiros no Brasil.

Método: estudo descritivo, multicêntrico (tipo *survey*), realizado com 1.154 enfermeiros das cinco regiões do Brasil. A coleta de dados foi realizada por meio de um questionário on-line entre os meses de junho de 2021 e janeiro de 2022. A análise estatística incluiu frequências absolutas e relativas, testes de associação, teste de tendência linear e regressão de Poisson com variância robusta, sendo significativas associações com $p \leq 0.05$.

Resultados: a prevalência de formação em práticas integrativas tradicionais foi de 43,5%, predominando mulheres, profissionais pós-graduados, religiosos e residentes na Região Sul. Enfermeiros autônomos e com menores vínculos trabalhistas formais apresentaram maior probabilidade de formação ($RP=1,59$). A análise ajustada revelou associações significativas com a natureza jurídica do vínculo, tipo de ocupação e carga horária semanal. Trabalhar em instituições privadas ($RP=0,67$) e ser celetista ($RP=0,64$) reduziram as chances de formação em saúde integrativa, enquanto ser autônomo sem previdência ($RP=1,80$) ou ter jornadas de trabalho de 20h/40h aumentaram essa probabilidade ($RP=1,51/RP=1,21$).

Conclusão: a formação em práticas integrativas entre os enfermeiros está associada aos vínculos profissionais mais flexíveis, maior autonomia e situação laboral que favorece a qualificação continuada. Esses resultados reforçam a necessidade de incentivo institucional e políticas públicas que ampliem o acesso à formação.

Descritores: Enfermagem; Terapias Complementares; Perfil Profissional; Trabalho; Educação Profissional em Saúde Pública.

RESUMEN

Objetivo: verificar la asociación entre la formación en prácticas integradoras y las situaciones laborales de los enfermeros en Brasil.

Método: Se trata de un estudio descriptivo, encuesta multicéntrica, realizado con 1.154 enfermeros de las cinco regiones de Brasil. Los datos se recogieron mediante un cuestionario en línea entre junio de 2021 y enero de 2022. El análisis estadístico incluyó frecuencias absolutas y relativas, pruebas de asociación, pruebas de tendencia lineal y regresión de Poisson con varianza robusta, con asociaciones significativas a $p \leq 0.05$.

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Resultados: la prevalencia de la formación en prácticas integradoras tradicionales fue del 43,5%, con predominio de mujeres, postgraduados, profesionales religiosos y residentes en el Sur. Las enfermeras autónomas y las que tenían menos empleos formales tenían más probabilidades de recibir formación ($RP=1,59$). El análisis ajustado reveló asociaciones significativas con la naturaleza jurídica de la relación laboral, el tipo de ocupación y las horas de trabajo semanales. Trabajar en instituciones privadas ($RP=0,67$) y ser asalariado ($RP=0,64$) redujo la probabilidad de formarse en salud integral, mientras que ser autónomo sin seguridad social ($RP=1,80$) o tener un horario laboral de 20h/40h aumentó esta probabilidad.

Conclusión: la formación en prácticas integradoras de las enfermeras se asocia a relaciones profesionales más flexibles, mayor autonomía y situación laboral que favorece la cualificación continuada. Estos resultados refuerzan la necesidad de incentivos institucionales y políticas públicas para aumentar el acceso a la formación ($RP=1,51/RP=1,21$).

Descriptor: Enfermería; Terapias Complementarias; Perfil Laboral; Trabajo; Educación en Salud Pública Profesional.

■ INTRODUCTION

In recent decades, Integrative and Complementary Health Practices (PICS) have received greater recognition in the health field, being valued for their comprehensive and/or holistic approach to care. In Brazil, their implementation in the Unified Health System (SUS) occurred in 2006, with the National Policy of Integrative and Complementary Practices (PNPIC), updated in 2015, and covers 29 practices⁽¹⁾.

Despite regulatory formalization, the implementation of PICS in Primary Health Care (PHC) faces significant structural barriers. The organization of work in PHC remains largely guided by quantitative goals and a procedure-centered biomedical model, which reduces time for relational and person-centered approaches and subordinates the autonomy of nursing professionals to administrative demands. Without investment in human resources, flexible routines, and institutional recognition, initiatives tend to remain fragmented and dependent on individual effort, rather than promoting their systemic incorporation^(2,3).

When effectively integrated, PICS can improve care in PHC due to their expanded nature and the appreciation of physical, emotional and sociocultural dimensions of the health-disease process, with the potential to strengthen bonds, listening and co-accountability⁽²⁾. In this scenario, the role of Nursing is central, whether due to its capillarity in the network or its interface with actions for the promotion, prevention and management of chronic conditions; however, gaps and heterogeneities persist in training, institutional provision and work arrangements, which condition the adoption of PICS^(4,5).

Studies have shown diverse training paths (management initiatives, in-person, blended and distance learning courses, including with costs borne by the professionals themselves) and have pointed out that the effective insertion of PICS in the network depends both on institutional guidelines and incentives and on concrete working conditions, such as: workload, links and legal nature of the institutions^(3,6).

In this context, the growing adoption of PICS reflects the limitations of the biomedical model in fully meeting human needs. It is clear that nursing training is essential for the advancement of PICS. Without adequate training of nursing

professionals, the population risks being deprived of this type of care, which could restrict access to treatments and hinder the integration of these practices with conventional health methodologies^(2,7).

The Thematic Group on Medical Rationalities and Integrative and Complementary Practices of the Brazilian Association of Public Health published, in a Technical Note from the II National Congress of PICS, recommendations to ensure first-rate training in this field. The main guidelines include: practical workload supervised by experienced professionals; use of distance learning as informational support; inclusion of relevant theoretical content; training focused on work in the SUS, with an emphasis on PHC; and appreciation of multidisciplinary work⁽⁸⁾.

In this study, the term "PICS training" was used arbitrarily in a broad sense, encompassing both formal academic pathways (such as specializations and university extension courses) and informal professional training processes (such as open courses, workshops, supervised internships, and, in some specific practical work, initiation processes, such as Reiki). It is recognized that different practices present distinct training requirements—acupuncture, for example, demands a consistent theoretical-conceptual foundation and extensive practical hours, while others, such as Reiki, may involve short-term initiatory processes. Therefore, for the purposes of this study, "training" was understood as any organized learning process that enables professionals to incorporate a specific PICS into their healthcare practice.

Given this situation, understanding who nurses with PICS training are and how their work situation relates to this educational path is crucial to guiding policies and training strategies. Thus, the present study aims to verify the association between PICS training and the work situations of nurses in Brazil.

■ METHOD

This is a descriptive, multicenter survey type study covering the five regions of the Brazilian territory.

The study subjects were Brazilian nursing professionals who met the following inclusion criteria: having a bachelor's degree in nursing, with or without active registration

with the Regional Nursing Council (COREN), as many could already be retired. According to the Federal Nursing Council (COFEN)⁽⁹⁾, Brazil registered 582,197 nurses in 2020. To ensure data reliability, the sample size was calculated using a simple random method in finite populations, based on predefined criteria⁽¹⁰⁾, resulting in a minimum number of 384 participants. The number of registered professionals served as a reference number for the calculation, considering that other parameters were not available. The minimum sample size was determined by the following equation⁽¹⁰⁾:

$$n = X.N.P (1-P)/d^2(N-1) + X^2.P (1-P)$$

Where:

n = sample size

X² = chi-square value for 1 degree of freedom, at a confidence level of 0.05, being equal to 3.89 (pre-determined fixed value)

N = population size

P = proportion of the population to be estimated (assumed 0.50, since this proportion would provide the maximum sample size)

d = degree of precision, expressed as a ratio (0.05)

Data was collected between June 2021 and January 2022, coinciding with the nurse recruitment period. After acceptance to participate in the study, a virtual questionnaire was made available on a website, facilitating access for nursing professionals. Participants who began filling out the questionnaire but did not complete it (incompleteness) were excluded, resulting in a total of 277 losses. Participants who submitted the completed questionnaire but left some questions unanswered (10% unanswered) were not excluded. The website also stored the Informed Consent Form (ICF) template, which could be consulted by participants at any time.

This website was widely publicized by the research institutions, through invitations sent to PICS groups in instant messaging applications, through Instagram® profiles⁽¹⁰⁾, by the participants themselves, by the Brazilian Association of Acupuncturist Nurses and Integrative Practice Nurses (ABENAH), by COFEN and by some CORENS⁽¹⁰⁾.

The instrument consisted of 52 questions, 17 of which were intended for all nurses, divided into nine questions related to sociodemographic profile and eight related to professional profile, such as: What is your gender? How long have you been training as a nurse?; Do you have training in Integrative Practices? The remaining 35 questions were directed only to those who reported training in PICS.

Stata IC® software, version 16.0 was used for statistical analysis. Initially, descriptive analyses were performed,

presenting the absolute and relative frequencies of each variable. The dependent variable of the study was training in Integrative and Complementary Health Practices (PICS). Independent variables comprised participant profiles, including gender; age quartiles; self-reported skin color; nationality; place of birth; marital status; presence of children; number of children; postgraduate degree; postgraduate level; income; place of work; time elapsed since graduation; and registration with the Nursing Council.

The association between training in PICS and the work situation was evaluated, which included the following variables: income; current work situation; the legal status of the institutions where nurses work; and the weekly workload. The concept of work situation adopted in this study comes from the Brazilian Classification of Occupations⁽¹¹⁾, defined as a set of activities performed by a person, with or without an employment relationship.

The association between PICS training and independent variables was analyzed using appropriate statistical tests (chi-square, Fisher's exact test, linear trend test, and Poisson regression), considering $p \leq 0.05$. Ordinal categorical variables (age group in quartiles, income, postgraduate level, number of children) were measured using the P test for linear trend.

The effect measures evaluated were Prevalence Ratios (PR), performed using Poisson Regression with robust adjustment for variance, precision assessed by 95% Confidence Intervals (95% CI) and the significance of the PR using the Wald Test^(12,13). All variables were included in the adjusted analysis so that possible confounding factors were controlled.

Initially, all variables were entered, and adjustments were made by removing variables with the highest p-value one by one until only variables with p-values less than or equal to 0.20 in the Wald test remained. A significance level of less than 5% was adopted for all analyses in two-tailed tests. PRs were considered null when a unit value of 1.0 was present in the 95% CI.

The main recommendations of the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE)⁽¹⁴⁾ were used. The project was approved by the Ethics Committee under CAAE No. 43306921.6.0000.5347 and met the guidelines of Resolution No. 466/2012 of the National Health Council (CNS) concerning research with human beings.

■ RESULTS

A total of 1,154 nurses participated in this study, with a mean age of 39.71 years (standard deviation: 10.37 years).

The majority (89.49%) were female. Regarding place of birth, 45.06% were born in the states of the Southern macro-region, 72.65% self-reported as white, and almost half of the participants (46.36%) worked in the states of the Southern macro-region (Paraná, Santa Catarina, and Rio Grande do Sul). The majority were married (41.28%) and declared having a religion, totaling 86.74% of the participants, with Catholicism (43.85%) being the most prevalent creed. Approximately six in

seven participants had a postgraduate degree (86.74%), with specialization/residency (57.45%) being the most prevalent level. Half of the participants (52.43%) said that they had an income of up to four minimum wages (Table 1).

The prevalence of training in PICS was 502/1,154 (43.50%). Regarding the time since training, 29.19% of the nurses had completed their degree more than 241 months ago (20 years), and 97.31% were actively registered with the

Table 1 – Sociodemographic characterization of Brazilian nurses (N = 1,154). Brazil, 2022.

Variable	n	%
Age (Quartile) (n*=1,069)		
21 to 32 years old	294	27.50%
33 to 39 years old	286	26.75%
40 to 46 years old	243	22.73%
47 to 73 years old	246	23.01%
Age (years) (n=1,067)		
Mean (standard deviation)	39.71 (10.37)	
Sex (n=1,151)		
Feminine	1,030	89.49%
Masculine	121	10.51%
Place of Birth (n=1,143)		
Southeast	408	35.70%
South	515	45.06%
Northeast	145	12.69%
Central-West	46	4.02%
North	29	2.54%
Marital status (n=1,153)		
Married	476	41.28%
Divorced/separated	107	9.28%

Table 1 – Cont.

Variable	n	%
Single	309	26.80%
Stable union/Lives with someone/Dating	245	21.25%
Widowed	16	1.39%
Children (n=1,154)		
No	497	43.07%
Yes	657	56.93%
Color (n=1,148)		
White	834	72.65%
Yellow	18	1.57%
Indigenous	1	0.09%
Black	50	4.36%
Brown	245	21.34%
Religion (n=1,154)		
No	150	13%
Yes	1,004	87%
Region where the nurse works (n=1,151)		
Southeast	430	37.36%
South	534	46.39%
Northeast	115	9.99%
North	19	1.65%
Central-West	53	4.60%
Postgraduate degree (n=1,154)		
No	153	13.26%
Yes	1,001	86.74%

Table 1 – Cont.

Variable	n	%
Postgraduate Level (n=1,154)		
No Postgraduate Studies	154	13.34%
Specialization/Residency	663	57.45%
Academic Master's Degree	144	12.48%
Professional Master's Degree	60	5.20%
Academic/Professional Doctorate	107	9.27%
Postdoctoral fellowship	26	2.25%
Income in minimum wages (n=1,150)		
Up to 2	156	13.57%
Between 3 and 4	447	38.87%
Between 5 and 6	282	24.52%
Between 7 and 8	152	13.22%
From 9 on	113	9.82%

*The total number of respondents varied in some questions due to participants not completing the questionnaire.
Source: Research data (2022).

Nursing Council. For the majority of participants (61.77%), the annual expenditure on PICS training was up to R\$1,000.00. Furthermore, it is noteworthy that, regarding the job market in the PICS area (499 participants with training answered this question), 424/499 (85.97%) believed that the job market is growing; 16/499 (3.21%) believed that it is stable, and 7/499 (1.40%) believed that the market is saturated or saturated. Furthermore, 52/499 (10.42%) said that they did not have a perception (idea) regarding the subject (Table 2).

According to the linear trend test, PICS training increased linearly with income ($p < 0.001$). Participants with an income above nine minimum wages had an 80% higher prevalence of training compared to those with an income of up to two minimum wages ($PR = 1.80$; 95% CI: 1.36–2.37; $p < 0.001$). Regarding current employment status, a statistically significant association was observed for most categories. Self-employed workers without social security had the highest prevalence of PICS training ($PR = 1.80$; 95% CI: 1.51–2.13; $p < 0.001$). On the other hand, being a salaried employee with a formal employment contract ($PR = 0.64$; 95% CI: 0.54–0.76; $p < 0.001$) and being unemployed ($PR = 0.70$; 95% CI: 0.50–0.99; $p < 0.001$) were factors inversely associated with training,

functioning as negative protective factors (or barriers to seeking training) (Table 3).

Regarding the legal nature of the employing institutions, there was a higher prevalence of training in PICS among nurses working in public institutions ($PR = 1.15$; 95% CI: 1.01–1.31; $p = 0.045$) and among self-employed workers ($PR = 1.59$; 95% CI: 1.30–1.94; $p < 0.001$). Working in private ($PR = 0.67$; 95% CI: 0.55–0.83; $p < 0.001$) or philanthropic institutions ($PR = 0.64$; 95% CI: 0.45–0.90; $p = 0.01$) significantly reduced the chance of having training in the area. Regarding weekly workload, a higher probability of training was observed among those who worked 20 hours ($PR = 1.51$; 95% CI: 1.24–1.84; $p = 0.001$) and 40 hours ($PR = 1.21$; 95% CI: 1.07–1.38; $p = 0.004$). In contrast, a 44-hour workload was negatively associated with training ($PR = 0.57$; 95% CI: 0.42–0.76; $p < 0.001$). There was no significant association with workloads of 36 hours, more than 44 hours, and on-call work.

Table 4 presents the variables that remained in the final model of the Adjusted Analysis. The association remained significant for the variables: Employment status: salaried employee with work record; Employment status: self-employed

Table 2 – Professional characterization of Brazilian nurses (N = 1,154). Brazil, 2022.

Variable*	N	%
Is registered with the Council Nursing (n=1,151)		
No	31	2.69%
Yes	1120	97.31%
When the nurse became aware of the PICS (n=1,154)		
Did not take notice	652	56.50%
Before graduation	42	3.64%
In graduation	138	11.96%
At the beginning of the professional career	78	6.76%
In the middle of the professional trajectory	206	17.85%
At the end of the professional trajectory	38	3.29%
Average annual expenses in training in PICS (n=429)		
Up to R\$500.00	165	38.46%
From R\$500.01 to R\$1,000.00	100	23.31%
From R\$500.01 to R\$1,000.00	101	23.54%
More than R\$ 3,000.01	63	14.69%
Time elapsed since graduation (n=1,151)		
Up to 12 months	74	6.43%
Between 13 and 36 months	108	9.38%
Between 37 and 60 months	126	10.95%
Between 61 and 120 months	171	14.86%
Between 121 and 180 months	187	16.25%
Between 181 and 240 months	149	12.95%
From 241 months	336	29.19%

Table 2 – Professional characterization of Brazilian nurses (N = 1,154). Brazil, 2022.

Variable*	N	%
They said that PICS contribute to a greater autonomy as a nurse (n=500)		
No	59	11.80%
Yes	441	88.20%
Performs activities with PICS in the work routine (n=500)		
No	177	35.4%
Yes	323	64.6%
Weekly hours dedicated to application of PICS (n=322)		
1 to 2 hours	119	36.96%
3 to 4 hours	79	24.53%
5 to 10 hours	57	17.70%
11 am to 8 pm	31	9.63%
9:30 pm to 9:30 pm	14	4.35%
More than 30 hours	22	6.83%

*The variables presented in this table are composed of data completed by all study participants (1,154) or by questionnaires answered by participants who reported having training in PICS (502).
Source: Research data (2022).

Table 3 – Association between participants' current work situation and PICS training (N = 1,154). Brazil, 2022.

	N (Frequency)	No training in PICS [n (%)]	With training in PICS [n (%)]	PICS p-value ^a	Gross analysis	
					p-Wald value ^b	RP (95% CI)
Income in minimum wages						
Up to 2 (n=156)	156 (13.57%)	106 (67.95%)	50 (32.05%)	p<0.001 ^b	p<0.001	1.0
Between 3 and 4 (n=447)	447 (38.87%)	268 (59.96%)	179 (40.04%)			1.25 (0.97-1.61)
Between 5 and 6 (n=282)	282 (24.52%)	156 (55.32%)	126 (44.68%)			1.39 (0.07-1.81)
Between 7 and 8 (n=152)	152 (13.22%)	72 (47.37%)	80 (52.63%)			1.64 (1.25-2.16)

Table 3 – Cont.

	N (Frequency)	No training in PICS [n (%)]	With training in PICS [n (%)]	PICS p-value ^a	Gross analysis	
					p-Wald value ^b	RP (95% CI)
More than 9 (n=113)	113 (9.83%)	48 (42.48%)	65 (57.52%)			1.80 (1.36-2.37)
Employee with signed employment contract						
No	801 (69.41%)	409 (51.06%)	392 (48.94%)	p<0.001	p<0.001	1.0
Yes	353 (30.59%)	243 (68.84%)	110 (31.16%)			0.64 (0.54-0.76)
Unregistered employee						
No	1,111 (96.27%)	624 (56.17%)	487 (43.83%)	p=0.245	p=0.280	1.0
Yes	43 (3.73%)	28 (65.12%)	15 (34.88%)			0.80 (0.53-1.20)
Self-employed with social security						
No	1,120 (97.05%)	641 (57.23%)	479 (42.77%)	p=0.004	p=0.002	1.0
Yes	34 (2.95%)	11 (32.35%)	23 (67.65%)			1.58 (1.24-2.02)
Self-employed without social security						
No	1,101 (95.41%)	639 (58.04%)	462 (41.96%)	p<0.001	p<0.001	1.0
Yes	53 (4.59%)	13 (24.53%)	40 (75.47%)			1.80 (1.51-2.13)
Unemployed						
No	1,077 (93.33%)	599 (55.62%)	478 (44.38%)	p=0.024	p=0.040	1.0
Yes	77 (6.67%)	53 (68.83%)	24 (31.17%)			0.70 (0.50-0.99)
Civil servant						
No	627 (54.33%)	391 (62.36%)	236 (37.64%)	p<0.001	p<0.001	1.0

Table 3 – Cont.

	N (Frequency)	No training in PICS [n (%)]	With training in PICS [n (%)]	PICS p-value ^a	Gross analysis	
					p-Wald value ^b	RP (95% CI)
Yes	527 (45.67%)	261 (49.53%)	266 (50.47%)			1.34 (1.18-1.53)
Public institution						
No	480 (41.59%)	288 (60%)	192 (40%)	p=0.043	p=0.045	1.0
Yes	674 (58.41%)	364 (54.01%)	310 (45.99%)			1.15 (1.01-1.31)
Private institution						
No	922 (79.90%)	493 (53.47%)	429 (46.53%)	p<0.001	p<0.001	1.0
Yes	232 (20.10%)	159 (68.53%)	73 (31.47%)			0.67 (0.55-0.83)
Self-employed						
No	1.102 (95.49%)	635 (57.62%)	467 (42.38%)	p<0.001	p<0.001	1.0
Yes	52 (4.51%)	17 (32.69%)	35 (67.31%)			1.59 (1.30-1.94)
Philanthropic institution						
No	1,070 (92.72%)	592 (55.33%)	478 (44.67%)	p=0.004	p=0.01	1.0
Yes	84 (7.28%)	60 (71.43%)	24 (28.57%)			0.64 (0.45-0.90)
20 hours/week						
No	1,090 (94.45%)	629 (57.71%)	461 (42.29%)	p=0.001	p=0.001	1.0
Yes	64 (5.55%)	23 (35.94%)	41 (64.06%)			1.51 (1.24-1.84)
36 hours/week						

Table 3 – Cont.

	N (Frequency)	No training in PICS [n (%)]	With training in PICS [n (%)]	PICS p-value ^a	Gross analysis	
					p-Wald value ^b	RP (95% CI)
No	970 (84.06%)	541 (55.75%)	429 (44.23%)	p=0.253	p=0.270	1.0
Yes	184 (15.94%)	111 (60.33%)	73 (39.67%)			0.90 (0.74-1.08)
40 hours/week						
No	667 (57.80%)	401 (60.12%)	266 (39.88%)	p=0.004	p=0.004	1.0
Yes	487 (42.20%)	251 (51.54%)	236 (48.46%)			1.21 (1.07-1.38)
44 hours/week						
No	1,019 (88.30%)	552 (54.17%)	467 (45.83%)	p<0.001	p<0.001	1.0
Yes	135 (11.70%)	100 (74.07%)	35 (25.93%)			0.57 (0.42-0.76)
More than 44 hours/week						
No	1,003 (86.92%)	573 (57.13%)	430 (42.87%)	p=0.266	p=0.250	1.0
Yes	151 (13.08%)	79 (52.32%)	72 (47.68%)			1.11 (0.92-1.33)
Not working						
No	1,070 (92.72%)	600 (56.07%)	470 (43.93%)	p=0.299	p=0.320	1.0
Yes	84 (7.28%)	52 (61.90%)	32 (38.10%)			0.87 (0.65-1.15)
Work on a shift basis						
No	1,090 (95.45%)	609 (55.87%)	481 (44.13%)	p=0.076	p=0.100	1.0
Yes	64 (5.55%)	43 (67.19%)	21 (32.81%)			0.74 (0.52-1.06)

Source: Research data (2022). a Pearson's Chi-square test b Wald test

without social security; Legal nature: private; weekly working hours: 20 hours; 40 hours; 44 hours. The other variables investigated presented a p-value for the Wald test greater than 0.20 and were removed from the adjusted model.

■ DISCUSSION

It was found that young, white, married women with children had the highest percentage among the subjects

Table 4 – Final model of Adjusted Prevalence Ratios (95% CI) for work factors associated with PICS training (N=1,154). Brazil, 2022.

Variable	Adjusted PR	Adjusted 95% CI	Adjusted Wald P-value
Employment status: retired or pensioner			
No	1.0	–	p=0.182
Yes	1.19	0.92-1.55	
Employment status: Employed with work card			
No	1.0	–	p=0.008
Yes	0.76	0.63-0.93	
Employment status: self-employed without social security			
No	1.0	–	p<0.001
Yes	1.60	1.30-1.96	
Legal nature: public			
No	1.0	–	p=0.108
Yes	0.87	0.73-1.03	
Legal nature: private			
No	1.0	–	p=0.007
Yes	0.72	0.57-0.91	
Weekly workload: 20 hours			
No	1.0	–	p<0.001
Yes	1.81	1.37-2.38	
Weekly workload: 36 hours			
No	1.0	–	p=0.096
Yes	1.24	0.96-1.61	

Table 4 – Cont.

Variable	Adjusted PR	Adjusted 95% CI	Adjusted Wald P-value
Weekly workload: 40 hours			
No	1.0	–	p=0.002
Yes	1.40	1.13-1.74	
Weekly workload: more than 44 hours			
No	1.0	–	p=0.009
Yes	1.41	1.09-1.82	
Income in minimum wages			
Less than 3	1.0	–	p<0.001
From 3 to 4	1.39	1.06-1.80	
From 5 to 6	1.51	1.14-1.99	
From 7 to	1.71	1.28-2.28	
More than 9	1.72	1.29-2.31	

Source: Research data (2022).

surveyed who had training in PICS. This information is consistent with other studies carried out^(15,16).

There is a female predominance in the search for training in auriculotherapy in Nursing⁽¹⁶⁾. The profession has a pioneering role in the area of PICS, although the registration of the Brazilian Association of Acupuncturist Nurses and Integrative Practice Nurses (ABENAH) with COFEN for the validation of specialization titles in this field is recent, and occurred only in 2019⁽¹⁷⁾.

Currently, this profession is undergoing significant transformations, with 40% of professionals between 36 and 50 years of age, and younger generations are seeking to complement conventional medicine with integrative methods. Regarding racial and ethnic representation, the predominance of white professionals reflects racial inequalities in the nursing profession⁽¹⁵⁾. Social inequalities in society provide white people with greater access to higher education and, consequently, more opportunities for employment and advancement^(9,18,19).

In this context, it is noteworthy that the percentage of research subjects who were Catholic, had graduated within 20 years, earned up to four minimum wages, and had completed a postgraduate degree (specialization/residency) suggests that a higher level of education may be a reason for professionals to have training in PICS. It is recognized that religion, beliefs, and spirituality influence individuals' behavior and perceptions, both personal and professional. Further studies on the correlation between the variables having a declared religion and training in PICS would be relevant for a better understanding of this issue⁽¹⁰⁾.

Regarding training and performance in PICS, this has provided greater professional autonomy, being recognized as relevant in the trajectory of many nurses, resulting in positive effects on their daily work, during which they dedicate 1 to 2 hours to these practices.

It should be stressed that PICS are part of the integrative paradigm, in line with the biomedical model, especially because they integrate scientific evidence, and some practices

can be used based on neurophysiology. Thus, the professional autonomy demonstrated by the study participants can be limited by several factors, including decisions by managers and by societal demands, which are subjectivized by this conventional model⁽²⁰⁾.

The results showed that nurses with more flexible employment relationships and autonomous work have a higher prevalence of training in PICS, while those with formal employment contracts or private employment have lower engagement. This trend needs to be analyzed in the context of neoliberal transformations in health care. The defunding and structural crisis of the SUS have been accompanied by a process of commodification of care, in which individual entrepreneurship is seen as a solution to professional devaluation^(21,22).

This dynamic naturalizes precariousness by transforming the loss of stable ties, with rights (Consolidated Labor Laws or statutory), into "opportunities for freedom" through private practices and alternative care. However, this discourse conceals the transfer of risks from the system to the worker, since flexibilization is not accompanied by social protection⁽²²⁾. Furthermore, it generates class, racial, and gender asymmetries, as the transition to autonomous models requires economic and social capital inaccessible to most nursing professionals^(9,19).

In this sense, the pursuit of training in PICS should not be understood solely as a strategy to strengthen professional autonomy, but also as a response to the dynamics of a precarious and competitive labor market, which drives some professionals to reinvent themselves in contexts of less institutional protection. The inclusion of PICS by nurses, most of them white women with greater access to postgraduate programs, highlights structural inequalities already described in the profession. The discourse of entrepreneurship associated with professional autonomy tends to reproduce asymmetries of class, race, and gender, as it requires social and economic capital that not all nurses possess⁽²³⁾.

Similarly, the findings of this study, which indicate a higher prevalence of PICS training among self-employed professionals without social security coverage, can be understood within the context of job insecurity. The study highlights that the neoliberal logic weakens bonds, increases working hours, and transfers risks to workers, producing insecurity and impacting health. In this scenario, autonomy appears as a possibility for innovation, but also as an expression of the contradictions of neoliberalism in the field of nursing. This movement, while expanding areas of practice, contributes to the commodification of care and the loss of historically achieved collective guarantees⁽²⁴⁾.

A mixed study carried out in 2024 revealed that although they understood the context of the insertion of PICS, managers and coordinators had difficulty and insecurity regarding its conceptualization. Regarding the testimonies of professionals who used PICS in their work routines, despite its motivating character, a great individual effort for its implementation was evidenced, with resistance, even from other members of the health team, generating dissatisfaction with the way PICS were inserted into their professional practice, marked more by an individual movement and an effort than by the support of management and colleagues⁽¹⁷⁾.

In PHC, characterized by insufficient resources, low institutionalization of integrative protocols, and difficulties in team coordination, the effective inclusion of PICS remains limited. Public health policies and management models inspired by neoliberal principles, centered on efficiency, competitiveness, and cost containment, can reproduce dynamics that relegate integrative practices focused on humanized care to a secondary role. It is noteworthy that such contradictions can result in greater fragmentation and discontinuity of actions, compromising the consolidation of PICS in the routine of the health system⁽²⁰⁾.

The research also identified that most nurses acquired knowledge about PICS throughout their professional activities, especially in the middle of their professional career, followed by those whose first contact with the topic occurred during graduation.

A study conducted in the metropolitan region of Goiânia revealed that training in PICS occurs heterogeneously, with incentives from federal and municipal administrations and professional councils, and is offered through distance, blended, or in-person learning modalities. Some of this training is provided by private educational institutions, where the costs are borne by the professionals themselves⁽³⁾. In another study⁽⁶⁾, participants reported having acquired knowledge about PICS through the Municipal Health Department, coworkers, individual initiatives (such as books and the internet), family, universities, and outreach projects.

Nursing and its diverse contexts make a great effort to implement PICS in their professional practices, with PHC identified as a favorable space, despite occasional resistance from teammates. Thus, the profession faces a reality in which only a little more than half of the professionals use PICS in their work routine in individual care⁽¹⁶⁾.

A study conducted with professionals from Pernambuco on the use of PICS in PHC identified the importance of spaces promoted by management for professional training; however, financial investments at the national level are insufficient, which threatens the continuity and expansion of these public initiatives of local management⁽¹⁶⁾. In the

hospital setting, a study with nurses from public hospitals analyzed the application of PICS and revealed that they are little incorporated into practice, since the focus still remains on the biomedical model⁽²⁵⁾.

The National Policy on Integrative and Complementary Practices (PNPIC) favors the inclusion of these therapies in PHC, with an emphasis on the Family Health Strategy (ESF), considered the most appropriate context for their implementation. This is due to the proximity of Family Health Teams to users. As a result, approximately 88% of PICS in the SUS occur in PHC, with approximately 71% being carried out by the ESF⁽²⁶⁾.

Regarding the professional work profile, nurses who had a high income (above nine times the minimum wage) were more likely to have training in PICS. Research on the nursing profile in Brazil indicates that more than 100,000 nurses working in the public sector and 60,000 in the private sector earn up to R\$3,000.00, with only 1.6% earning more than nine times the minimum wage. The Supreme Federal Court (STF) established that, starting at the end of 2023, the minimum working week will be 44 hours, linked to the new national minimum wage of R\$4,750.00, with provision for pay adjustments in the event of reduced working hours⁽⁹⁾.

The results regarding nurses' employment status indicate that the higher prevalence of PICS training was significantly associated with being self-employed and not contributing to social security. However, there was not such association for workers with formal employment or unemployment, suggesting a lower propensity of them to seek this type of PICS training. This evidence may indicate that nurses often invest in PICS training in the final stages of their professional careers as a way to secure a source of income, since self-employed workers without social security contributions do not have access to retirement benefits.

The nursing job market is saturated and marked by professional devaluation. Among the main challenges faced by newly graduated nurses when entering the job market are the scarce or nonexistent practice, low pay, the requirement for specialization courses, high competitiveness and the reduced offer of vacancies, factors that may explain the search for specializations and training in PICS as a strategy for more autonomous professional practice⁽²⁷⁾.

The difficulty of nursing professionals entering the job market can be influenced by several factors, the main ones being lack of experience and specialization. In an increasingly competitive professional environment, employers tend to value candidates with greater technical qualifications and practical experience in the field⁽¹⁰⁾.

When characterizing the workload of the nurses participating in the study, it was observed that the probability

of having PICS training was significant among professionals with 20- and 40-hour workweeks. However, among those with a 44-hour workweek, there was no association with PICS training.

Nursing is recognized as one of the most stressful professions in the healthcare sector, due to factors such as overload and long work hours. A literature review identified studies that highlighted overload, task accumulation, excessive work hours, staff shortages, the accelerated pace of activities, and double or triple shifts as detrimental to mental health. These conditions make it difficult for nurses to balance their work routine with training courses and continuing education initiatives to improve their professional autonomy⁽²⁸⁾.

This result can be understood in light of the structural limitations faced by the PNPIC in PHC. Prioritizing quantitative targets and biomedical procedures in work routines reduces the time allocated to comprehensive approaches and discourages the incorporation of new practices into daily care. The lack of institutional incentives and the overload of administrative tasks make the adoption of PICS largely dependent on individual engagement, which may explain the higher prevalence of training among nurses working outside traditional settings^(2,3).

Multivariate analysis using adjusted Poisson regression confirmed significant associations between PICS training and some specific variables. Employment status demonstrated a significant association with PICS training. Salaried professionals with formal employment contracts were less likely to have training (adjusted PR = 0.76; $p = 0.008$), which may be related to the rigidity of institutional routines, the limited appreciation of PICS in predominantly biomedically oriented environments, and the lack of incentive policies aimed at integrative training.

On the other hand, self-employed nurses without access to social security were more likely to have completed training (adjusted PR = 1.60; $p < 0.001$), which can be explained by the search for autonomy, flexibility, and diversification of practice, aspects frequently associated with the profile of self-employed workers. This finding reinforces the hypothesis that less formal ties enable the organization of the work process focused on more humanized and subject-centered care practices, as is the case with PICS^(27,29).

Regarding legal status, working in private institutions was associated with a lower likelihood of having PICS training, with an adjusted Prevalence Ratio (PR) of 0.72 ($p = 0.007$). This means that nurses employed by these institutions were 28% less likely to have PICS training compared to those working in other legal statuses, such as public or philanthropic institutions. This statistically significant association indicates that the private institutional environment may, in some

way, discourage or limit access to this type of professional qualification, or even reflect the lack of opportunities for PICS integration into the work process, possibly associated with the institution's greater task prescription and reduced professional autonomy. Factors that may explain this finding include the prioritization of traditional biomedical models, the focus on productivity goals, and the low integration of PICS into these organizations' care protocols. Furthermore, many private institutions do not offer financial or institutional incentives for professionals to seek training focused on expanded care, which reinforces the devaluation of integrative practices in this scenario.

Regarding weekly workload, it showed a statistically significant association with PICS training. Nurses working 20 hours (adjusted PR = 1.81; $p < 0.001$) had a higher prevalence of training, suggesting that intermediate workloads may facilitate access to courses and additional training. This finding may reflect greater availability of time for training activities, stronger connections with institutions that support continuing education, or integration into contexts that value expanded care. Nurses working 40 hours (adjusted PR = 1.40; $p = 0.002$) also had a higher prevalence of training. Interestingly, professionals working longer than 44 hours also showed a positive association (adjusted PR = 1.41; $p = 0.009$), which may reflect a more engaged, autonomous, or multi-tenured professional profile, seeking to diversify their practice to expand their performance and autonomy.

These findings reinforce the hypothesis that more favorable working conditions, characterized by autonomy, time availability, and institutional incentives, enhance nurses' investment in PICS.

■ CONCLUSION

The results of this study showed that PICS training among Brazilian nurses is associated with multiple professional and institutional factors, revealing a complex scenario of adherence and professional qualification. The significant prevalence of professionals with PICS training indicates a growing movement toward practices that expand care and promote greater autonomy in nursing practice. It was observed that female professionals, with higher education levels, belonging to economically active age groups, and linked to regions with greater training opportunities, showed greater engagement with these practices.

The adjusted analysis demonstrated that the nature of the employment relationship and the weekly workload directly influence adherence to PICS. Being self-employed, especially without a social security contract, proved to be a positive factor for training, reinforcing the association

between professional autonomy and the adoption of integrative approaches. In contrast, formal employment in private institutions or with a formal employment contract showed a lower prevalence.

It is recommended that public policies and institutional actions strengthen access to PICS training, integrating these practices in a structured manner into the SUS, especially in PHC. Training institutions, administrators, and professional councils should consider these determinants when planning educational initiatives and consolidating PICS as a structuring component of nursing practice in Brazil.

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■ Availability of data and material

Access to the dataset may be granted upon request to the corresponding author.

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