

Pediatric Postgraduate Residents at the University of Carabobo, Venezuela: Navigating Stress Amid the COVID-19 Pandemic in Childcare

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Abstract

Introduction: Amidst the COVID-19 pandemic, healthcare professionals, particularly those in pediatric and childcare services, confront significant psychological challenges in adapting to a new normal. The constant risk of virus exposure and the potential to transmit it to others give rise to diverse psychological responses, often manifesting as stress or anxiety.

Objective: This study aims to assess stress levels related to anxiety disorders by applying DSM-IV diagnostic criteria to Pediatric and Childcare Postgraduate Residents.

Materials and Methods: A quantitative, cross-sectional evaluative study was conducted, involving 56 postgraduate residents in childcare and pediatrics. Data were collected through a multiple-choice questionnaire aligned with DSM-IV criteria.

Results: Findings indicate that 66.07% of participants exhibited symptoms of moderate stress or phobic disorders. Notably, first-year residents displayed the highest prevalence, with an incidence rate of 68.97% in this category.

Conclusions: As per DSM-IV criteria, resident physicians demonstrate symptoms indicative of moderate stress.

1. Introduction

Stress encompasses a range of physiological, psychological, and behavioral responses triggered by the presence of a real or perceived threat, prompting a primal alert response inherent across the animal kingdom. This reaction typically bypasses higher cerebral cortex areas, exclusive to the human brain [1,2]. While the terms “anxiety” and “stress” are often used interchangeably, it’s essential to distinguish them. Stress represents a primitive reaction to a stressor, while anxiety persists beyond the stressor’s removal, involving intricate responses encompassing thoughts, behaviors, and physiological reactions [1].

Anxiety manifests as a set of emotions and physical manifestations in novel or demanding situations, facilitating adaptation. However, when anxiety becomes excessive and

uncontrollable, it can disrupt daily activities, evolving into a pathological state [1]. Pathological anxiety takes various forms, including panic disorders, social phobia, generalized anxiety disorders, post-traumatic stress disorders, and obsessive-compulsive disorder [2]. Anxiety crises are marked by the sudden onset of fear or terror, accompanied by sensations like shortness of breath, palpitations, choking, suffocation, and fear of losing control [3].

Before the COVID-19 pandemic and in previous outbreaks, healthcare professionals, particularly postgraduate medical residents, were recognized as highly stressed individuals, often overlooked in studies focusing on patient experiences during pandemics [4-9]. These professionals, bound by ethical obligations and legal mandates, find themselves on the front line of community care, exposed to psychological challenges and the risk of contagion.

Despite facing a heightened risk of contagion and potential mental health repercussions, healthcare personnel, adhering to ethical principles, continue their dedication to patient care. This study aims to assess stress levels related to anxiety disorders among Postgraduate Residents of Puericulture and Pediatrics. The research seeks to describe their socio-demographic characteristics, identify positive COVID-19 cases, evaluate stress levels concerning anxiety disorders, and delineate stress levels based on the year of residence, utilizing modified DSM-IV diagnostic criteria.

2. Methodology

A quantitative, non-experimental, evaluative, cross-sectional study was conducted within the research line of anthropology in health and psychomotor development, as predefined in the specialization's curriculum. The study focused on residents of the Postgraduate Program in Puericulture and Pediatrics at the Central Hospital of Maracay, Aragua State, during the period of October-December 2021, following approval from the research and bioethics committee [10].

The total study population comprised 190 students enrolled in various clinical postgraduate courses at the University of Carabobo, with the sample consisting of 56 residents from the three levels of the postgraduate course in childcare and pediatrics.

Sampling was both random and intentional, with the sole inclusion criterion being enrollment in the postgraduate course during the specified period. Those expressing interest in participation were administered a test-type questionnaire, detailing the study's purpose, ensuring answer anonymity,

and stressing the importance of honesty. Questionnaires were distributed within the hospital during their routine work activities in different pediatric department areas.

The questionnaire, adapted from a prior investigation on respiratory symptomatic patients, incorporated criteria from the Modified Diagnostic and Statistical Manual of Mental Disorders IV, tailored to the COVID-19 pandemic. The questionnaire underwent modifications to suit the target population and was subsequently validated by expert judgment.

Structured into four parts with a total of 45 items, the questionnaire included:

1. Socio-demographic data collection
2. Identification of Mild Stress (Distress) - 09 items
3. Moderate stress (Social Phobia Disorder) - 09 items
4. Severe stress (Compulsive obsessions and anxiety crises) - 10 items

Following data collection, a Microsoft Excel 2007-generated database was created. Residents were diagnosed based on specific criteria:

- Distress or mild stress: Presence of at least 4 out of 13 somatic or cognitive symptoms.
- Social Phobia Disorder: Anxiety symptoms along with simultaneous occurrence of at least 2 specific anxiety symptoms on at least one occasion.
- Obsessive-Compulsive Disorder: Presence of obsessions and compulsions, with recognition of irrational behaviors impacting daily life.

Data analysis employed Epi Info 7, utilizing descriptive techniques presented in frequency tables and percentages. The chi-square test assessed qualitative variable associations, with statistical significance set at "p" value < 0.05 and a confidence interval of 95%.

3. Results

The study encompassed 56 residents across all three levels of the Pediatrics and Pediatrics Postgraduate program. The distribution between levels was as follows: 29 residents in the first year, 15 in the second year, and 12 in the third year. Predominantly, the participant demographic consisted of 86% females, with 95% falling within the age range of 26-31 years. Additionally, 86% of the residents reported having no children. Living arrangements indicated that 50% resided near the hospital, 36% in the homes of relatives, and 75% lived with relatives (Table 1).

Table 1: Number of cases and vaccination schedule for COVID-19 in residents of the Post-Grade Pediatrics and Pediatrics of the Autonomous Service of the Central Hospital of Maracay.

Variable	F (%)	IC95%
Covid test		
Yes	37 (66,07)	52,19-78,19
No	19 (33,93)	21,81-47,85
Result		
n=37		
Positive	18 (48,65)	31,92-65,60
Negative	19 (51,35)	34,40-68,08
Complications		
n=18		
Yes	5 (27,78)	9,69-53,48
No	13 (72,22)	46,52-90,31
Vaccination schedule		
Yes	56 (100)	93,62-100
No	0(0)	0-0

Table 2: Stress-related anxiety disorders in residents of the postgraduate childcare and pediatrics program of the Servicio Autónomo Hospital Central de Maracay.

Variable	F (%)	IC95%
Covid test		
Yes	37 (66,07)	52,19-78,19
No	19 (33,93)	21,81-47,85
Result		
n=37		
Positive	18 (48,65)	31,92-65,60
Negative	19 (51,35)	34,40-68,08
Complications		
n=18		
Yes	5 (27,78)	9,69-53,48
No	13 (72,22)	46,52-90,31
Vaccination schedule		
Yes	56 (100)	93,62-100
No	0(0)	0-0

Concerning COVID-19 cases, 66.07% of residents (37) underwent testing, with 51.35% (19) yielding negative results. Among the positive cases, 72.22% (13) reported no complications. Presently, 100% of residents are immunized against the virus (Table 2).

Table 3: Social phobia disorder according to year of residence.

Variable	R1	R2	R3
	n=29	n=15	n=12
	F (%)	F (%)	F (%)
Phobia			
Positive	20 (68,97)	9 (60)	8 (66,67)
Negative	9 (31,03)	6 (40)	4 (33,33)
P=0,83			

Analyzing the results based on DSM-IV criteria for anxiety disorders, 21.23% (12) exhibited symptoms of anxiety, while 66.07% (37) displayed symptoms of moderate stress or phobic disorders. Furthermore, 14.29% (8) reported symptoms indicative of obsessive-compulsive disorder or severe stress (Table 3).

Exploring stress levels during postgraduate years revealed a prevalence of moderate stress or social phobia symptoms. Notably, first-year residents experienced the highest incidence, with an affecting percentage of 68.97% (20) [11-14].

4. Discussion

The composition of the Pediatrics and Pediatrics postgraduate program, predominantly comprising 85.71% female residents aged between 26-31 years, aligns with previous studies by Medina Myriam et al. This demographic resemblance, characterized by most single residents, has been consistently reported in similar research contexts [14-16].

Regarding COVID-19 cases, the study observed a relatively low prevalence, with 66.07% of residents undergoing testing and only 48.65% testing positive. These findings differ from the study by A. Degraeve et al., where a lower percentage of positive cases (4.8%) was reported. Discrepancies could stem from the varied nature of the studies, as the latter focused on urology residents who were less frequently exposed to frontline Covid-19 patients [17,18].

Comparison with the study by Hummel et al. reveals a variance in stress levels, particularly in the prevalence of moderate stress or phobia. While Hummel et al. reported mild levels of depression, anxiety, and stress with only 14% experiencing moderate stress, our study showed a higher prevalence of moderate stress or phobia. The disparity could arise from differences in the study population, as their research included medical and non-medical personnel from various European countries, without specific consideration for the frequency of COVID-19 patient care on the frontline.19

Both our study and the one by Hummel et al. coincide in highlighting the absence of a prevalent occurrence of severe stress in medical personnel. Despite concerns about pandemic control, the risk of transmitting the infection to family members, and potential nosocomial spread, severe stress does not dominate among healthcare professionals.

Analyzing stress levels by postgraduate year, our findings align with Navinès et al., who reported that both the first and last years of residency present heightened stress levels due to the diverse activities undertaken by residents at different stages of their training [7]. This consistency emphasizes the need for targeted support and interventions, especially during the early and concluding phases of medical residency.

5. Conclusion

This study provides insights into the psychological well-being of pediatric residents during the Covid-19 pandemic. The typical pediatric resident is depicted as a young female, aged between 26-31 years, often in their first year of postgraduate studies, residing with their family. The fear of infecting loved ones, coupled with work and economic challenges, has led to symptoms associated with moderate stress. This impact is notably higher in first-year residents, who have shown symptoms of social phobia, likely related to concerns about possible contagion. The assessment based on DSM-IV criteria indicates that, despite the upheavals caused by the pandemic, heavy workloads, isolation, and job-related stress, pediatric residents exhibit symptoms of moderate stress. The observation suggests that, amid the chaos of a new lifestyle, this group of physicians has managed to maintain composure in situations that could otherwise be distressing. It's noteworthy that being vaccinated adds layer of immunological security, reducing the likelihood of complications in case of infection.

To enhance the well-being of pediatric residents, it is recommended to ensure a continuous supply of protective materials both within and outside health centers. Additionally, conducting training workshops on biosecurity norms can further empower healthcare professionals. Encouraging recreational activities to generate pleasant and relaxing emotions, along with organizing motivational talks by mental health professionals, can contribute to reducing symptoms of anxiety and stress.

Furthermore, the implementation of work plans that involve rotating residents in critical areas is suggested to prevent the perpetuation of mental, physical, and emotional exhaustion resulting from the high demands of COVID-19 areas, emergency rooms, and other patient-intensive areas.

Lastly, there is a call for the design and implementation of policies aimed at better preparing and supporting medical professionals in facing future crises. The study was self-funded, and the authors declare no conflicts of interest.

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8. Conflicts of Interest

The authors deny conflicts of interest.

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