

Specialized health training in Pediatrics and its Specific Areas; a perspective from the resident medical intern

La formación sanitaria especializada en Pediatría y sus Áreas Específicas; una perspectiva desde el médico interno residente

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Summary: Our pediatric care model is a benchmark at a European level thanks to excellently trained specialists, who pay attention to child and adolescent health at all levels of care. However, an outdated training system in many aspects, together with other factors such as the shortage of paediatricians, can put the continuity of our model at risk. The objective of this study is to analyze different points of training and care work from the point of view of the pediatric resident. For this, a descriptive study has been carried out through the collection of data through a direct form, obtaining responses from the majority of the main national training centers, with an equitable disposition of the responses between the different years of residence. The residents who have answered our form consider, in general, the current 4-year training to be insufficient and demand the recognition of pediatric subspecialties. In turn, most of them aim to work in Hospital Care, which contrasts with current care needs. The data exposed and argued in this study, show the need to adopt changes from training to resource planning, so that they adapt to the new needs of national paediatrics.

Keywords: Specialized Health Training; Pediatrics; Official Program of the Specialty; Specific Training Areas

Abstract: Our pediatric care model is a benchmark in Europe thanks to excellently trained specialists, who pay attention to child and adolescent health at all levels of care. However, an outdated training system in many aspects, also with other factors such as the shortage of paediatricians, can put the continuity of our model at risk. The objective of this study is to analyze different points of training and care work from the point of view of the pediatric resident. For this, a descriptive study has been carried out through the data collection conducting a direct form, with the majority of the main national training centers being represented, with an equitable disposition of the answers between the different years of residence. Residents who have answered our form generally consider the current 4-year program insufficient and demand the recognition of

pediatric subspecialties. In turn, most of them aim to work in hospital care, which contrasts with current healthcare needs. The data exposed and argued in this study, show the need to adopt changes from training to resource management, so that they adapt to the new needs of national Pediatrics.

Keywords: Specialized Health Training; pediatrics; Official Specialty Program; Specific Training Areas

1. Introduction

The pediatric care model in Spain is a benchmark at a European level, since children and adolescents in our country are cared for by pediatric specialists at all levels of care (primary and hospital). Thus, Spain is part of the select group of 25% of European countries with paediatricians specializing in Primary Care (1). This model improves all health indicators in terms of care quality and safety, in addition to being observed with respect to neighboring countries where care by pediatric specialists is reserved for hospitals (35% of them), better vaccination rates, early detection of serious diseases, rational use of antibiotics and lower rate of hospital admission (2-3). However, the continuity of this model may be at risk if the training and working conditions do not change. Pediatric scientific societies have been denouncing for years the lack of paediatricians in Spain (4), especially at the first level of care. It is estimated that one in four pediatric positions in Primary Care is not occupied by a pediatric specialist, or what amounts to the same thing, 25% of children and adolescents in our country will not receive assistance from a paediatrician in the first care level. These deficiencies are also highly variable and unequal between provinces and Autonomous Communities (CCAA) (5). Primary Care pediatric associations have publicly denounced this serious problem on several occasions (6), an example of which is the Region of Murcia (30% of pediatric PC positions are not occupied by paediatricians), Castilla la Mancha (41.18%) or the Balearic Islands (in this case, up to 50% of the places).

It is noteworthy that, despite this manifest lack, the increase in the offer in MIR (Resident Internal Medicine) positions in Pediatrics has not been in line with the deficit of paediatricians at the national level. In the last 5 years, although the global increase in places in FSE has been 32%, that of Pediatrics and its specific areas has been only 16.8% (7). In 2022, the total offer by the Ministry of Health published in Order SND/948/2021 (8) (Official State Gazette), is 10,634 places in specialized health training (FSE), 494 of these being for Paediatrics. It represents an increase of only 0.6% compared to 2021 (491 places offered). This increase in the places offered is obviously insufficient to alleviate the deficit of paediatricians at the national level, and is also increased by a retirement rate that exceeds the rate of incorporation of new specialists.

The common training program for the specialty of Paediatrics is included in the Official Specialty Program (POE), published in 2006 in the Official State Gazette (9). This training period is 4 years in our country, in contrast to nearby countries such as Germany, France or the United Kingdom, where the duration of specialized pediatric training is 5 years. Each Teaching Unit or training center for pediatric specialists establishes its own Type Training Itinerary Guide (GIFT), that is, an itinerary where the care and teaching work of the MIR is established, with their corresponding rotations and their duration. These GIFT, although they may be different from each other, must all comply with the POE, where mandatory and optional rotations are collected. The POE establishes a minimum duration of 3 months for the rotation in Primary Care, leaving the duration of the rest of the rotations at the discretion of the training centers. The medical shifts, as in the rest of the specialties of the FSE, are considered teaching and compulsory, recommending in this case the POE between 4 and 6 monthly shifts.

During the last year of residency, it is possible in most training centers to choose a specific pediatric subspecialty to complete the training, although it should be noted that these subspecialties are not officially recognized or accredited by the National Health Service. The 24 societies of pediatric specialties have been claiming for years the need for recognition of these Specific Training Areas (ACE) (10). We are not the only country without legal recognition of these subspecialties, as surrounding countries such as Italy, France or Germany do not recognize them either. It contrasts, however, with other countries with full recognition of the pediatric subspecialist such as the Netherlands or the United Kingdom (11).

For its part, the labor regulations of the resident doctor with their rights and obligations, supervision and responsibility, are included in Royal Decree (RD) 1146/2006 (12) and the subsequent RD 183/2008 (13). The maximum ordinary working day is established at 37.5 hours per week on average in six-monthly computation, and the possibility of agreements or conventions that modify it is included in the BOE, as is the case in some Autonomous Communities (14). A maximum of 7 shifts per month are established, with a continuous break after them of a minimum of 12 hours. It is also worth remembering the right to 36 hours of rest per week or 72 uninterrupted hours in a period of 14 days as an alternative regime (15). The maximum working day will be an average of 48 hours per week in six-monthly computation, having been limited by Agreement to a maximum of 4 shifts per month in some Autonomous Communities, such as in the Catalan Health System, to meet this objective (16).

The training organization is carried out in the Teaching Commissions of each Teaching Unit or training center, as regulated in Order SCO/581/2008 (17). This Teaching Commission will be made up of the tutors (specialist doctor who collaborates in the teaching function), head of studies (figure in charge of clinical management in the organization of teaching) and resident representatives. Among the functions of said Teaching Commission is the preparation and supervision of compliance with the Resident Supervision Protocol (in compliance with Articles 14 and 15 of Chapter V of Royal Decree 183/2008). In turn, these Teaching Units and, therefore, Teaching Commissions, will be approved according to teaching and care requirements that are evaluated by the advisory body of the Ministry of Health: the National Specialty Commission.

The well-being and health of children and adolescents must be a State priority, and this implies an increase in pediatric specialists in our country. Although the increase in vacancies for MIR training in paediatrics is necessary, it is true that many of the Teaching Units and training centers are reaching their maximum training capacity. Having a global vision of pediatric training in our country, also knowing the impression of its future specialists as intended in this study, is essential to be able to develop future lines of improvement. Thus, this study aims to analyze different training-care aspects in specialized health training in Pediatrics and its specific areas, drawing conclusions with possible measures and suggestions for improvement.

2. Methods

This is an observational, cross-sectional and descriptive study, which aims to analyze different aspects related to teaching and care in residents of Pediatrics and its Specific Areas at the national level. To obtain this data, a form has been used through the open platform Google Drive®, with different variables that have been considered relevant as a multiple response. In addition, an open response option was enabled to collect opinions and incidents. The dissemination has been carried out by means of email, contact with

heads of studies of Pediatric Teaching Units, as well as instant messaging applications. The form remained open for responses from November 19 to December 16, 2021.

The variables analyzed were the following:

- Teaching Center or Unit.
- Year of residence (MIR 1-4).
- Average number of guards per month.
- If you consider this number of guards adequate.
- If the supervision protocol is correctly followed in your center.
- For what reason do you think the supervision protocol is not being followed?
- If you believe as a priority the recognition of pediatric subspecialties.
- If the last year of residency at your center is dedicated to training in a specific pediatric subspecialty.
- If you think it is good for training, dedicate this last year to training in a specific subspecialty.
- If you think the duration of the 4-year pediatric residency is appropriate.
- Preferred place of work at the end of the residency.
- Perceived stress scale during residency (from 1 to 5).

The descriptive analysis was carried out using the Google© forms tool, obtaining responses in a spreadsheet, using circular graphs and bar charts. A total of 121 responses were collected, calculating a target population of 1,838 pediatric residents currently throughout the national territory (6.5% of responses). All data was collected voluntarily and anonymously, and was treated confidentially in compliance with Organic Law 3/2018 and Article 5.1.f) of Regulation (EU) 2016/679.

Among the limitations of this study is the type of survey or form used, since validated surveys have not been used, for example, when evaluating the level of stress. The number of responses is very limited, being far from being representative at the national level, and certain Teaching Units and training centers are also left without representation. The UDMP of the Region of Murcia obtains a significantly higher number of responses than the rest, so it is likely that the results are influenced in this regard. On the other hand, responses from the vast majority of pediatric training centers have been recorded, including those hospitals with the largest number of residents. All the years of residence are represented, from R1 to R4, fairly evenly.

3. Results

A total of 121 responses have been recorded from:

- Multiprofessional Teaching Unit of Pediatrics in the Region of Murcia: 22 responses.
- Hospital Universitari i Politècnic La Fe: 5 responses.
- Cruces University Hospital: 10 responses.
- University Hospital October 12: 7 responses.
- San Juan de Alicante University Hospital: 3 responses.
- Sant Joan de Déu Maternity and Child Hospital: 4 responses.
- Multiprofessional Pediatric Teaching Unit of the Balearic Islands (Illes Balears, Son espases): 3 answers.
- Insular Maternal and Child University Hospital Complex of Las Palmas de Gran Canaria: 7 responses.
- Torrecárdenas Maternal and Child University Hospital: 2 responses.
- University Hospital of Salamanca: 2 responses.
- Marqués de Valdecilla University Hospital (HUMV): 2 responses.

- Vega Baja Hospital in Orihuela: 1 answers.
- Albacete University Hospital Complex: 9 responses.
- La Paz University Hospital: 2 responses.
- Vall d'Hebron University Hospital: 4 responses.
- River Ortega Hospital: 1 response.
- Virgen del Rocío University Hospital: 1 response.
- Doctor José Molina Orosa Hospital (HDJMO): 1 response.
- University Hospital of Vigo: 1 response.
- Regional Hospital of Alcañiz: 1 response.
- Maternal and Child Hospital of Malaga: 1 response.
- General University Hospital of Elda: 1 response.
- Burgos University Hospital: 1 response.
- Doctor Peset University Hospital: 1 response.
- Virgen de los Lirios Hospital: 1 response.
- Torrecárdenas Maternal-Child HU: 3 answers.
- Río Hortega University Hospital: 1 response.
- Basurto University Hospital: 1 response.
- Germans Trias i Pujol Hospital: 3 answers.
- Family and Community Medicine Bizkaia: 1 response.
- Hospital Clínic Universitari de Valencia: 1 response.
- Hospital del Mar: 2 answers.
- General University Hospital of Elche: 1 response.
- Hospital Verge de la Cina Tortosa: 2 answers.
- Virgin of the Snows Maternal and Child H. (HUVN): 8 responses.

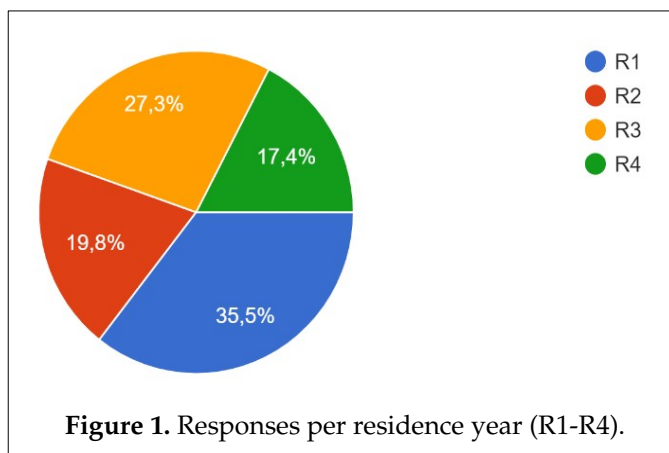


Figure 1. Responses per residence year (R1-R4).

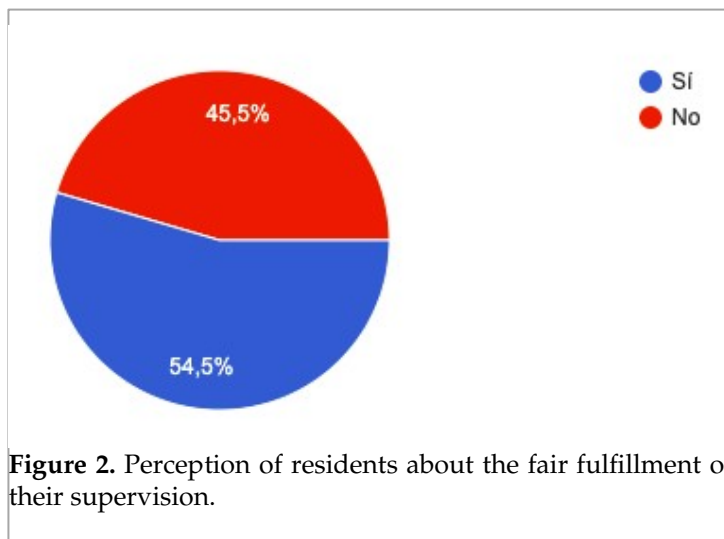
The distribution of responses between the different years of residence resulted in 35.5% of R1 (43 responses), 19.8% of R2 (24 responses), 27.3% of R3 (33 responses) and 17.4% of R4 (21 responses).

3.1. Medical guards.

The number of shifts performed per month varies between 3 and 6 depending on the answers obtained; 61.2% (74 responses) of the residents surveyed perform 5 shifts per month on average, 19.8% (24 responses) perform 6, 18.2% (22 responses) perform 4, and 0.8% (1 response) performs 3. Regarding what the respondents think about this number of guards, 64.5% (78 responses) find it adequate, 34.7% (42 responses) believe that they are too many, and to 0.8% (1 response) it seems that they are few.

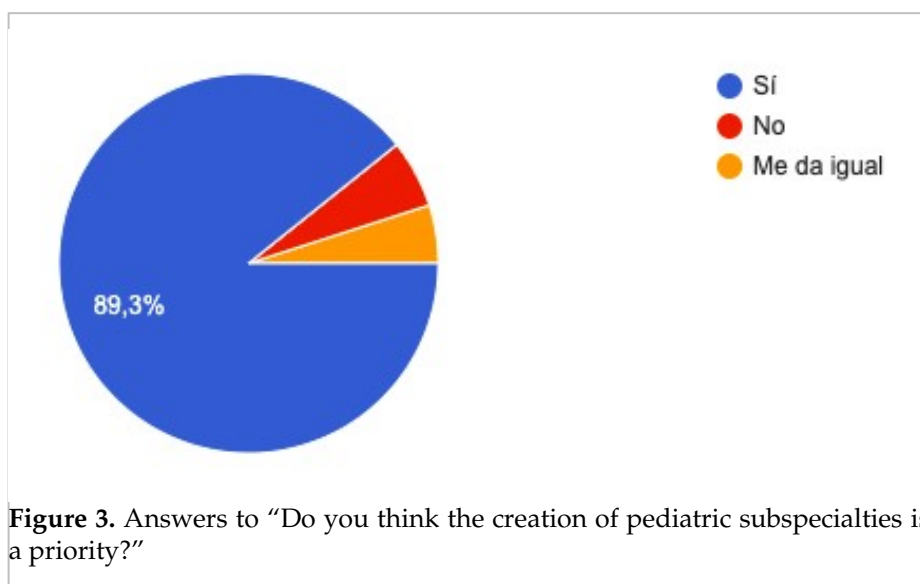
3.2. Resident Supervision Protocol.

The residents' perception of the resident's adequate compliance with supervision reveals an affirmative response in 54.5% of the cases (66 responses), and a negative response in the remaining 45.5% (55 responses).



3.3. Pediatric subspecialties.

Regarding the creation and recognition of pediatric subspecialties, 89.3% of the participants (108 responses) consider that it is necessary, 5.8% (7 responses) believe that it is not, and the remaining 5% (6 responses) is indifferent to him.



In 73.6% of the cases (89 responses), the last year of residency training is devoted to a specific subspecialty, while in 26.4% (32 responses), it is not. Regarding the residents' perception of whether it is good for their training to dedicate the last year of residency to a subspecialty, 76.9% (93 responses) believe so, 13.2% (16 responses) believe no. ; the remaining 9.9% (12 responses) have nuanced opinions, such as the need to extend the residency to five years in order to optimize both general training and that of the chosen subspecialty.

3.4. Duration of specialized health training.

Regarding the duration of specialized health training in Paediatrics, 84.3% (102 responses) would extend it to a fifth year, while 13.2% (16 responses) consider that the current duration (4 years) is adequate. 0.8% (1 response) would extend to a fifth year with the requirement that there be recognition for subspecialties; 0.8% (1 response) state that four years is sufficient, provided that they dedicate the entire last year to the subspecialty.

3.5. Work outings.

To the question about where they would like to work when they finish their residency, 62% of those surveyed (75 answers) state that in a public hospital, 25.6% (31 answers) in Primary Care, and 5% (6 answers) in a private hospital. The remaining 7.4% (9 responses) provided less precise answers, doubting between the three options presented, especially between a public hospital center and Primary Care.

3.6. Perceived stress.

To analyze the stress perceived by the residents, a Likert scale from 1 (minimum stress) to 5 (maximum stress) is proposed. 47.9% of the responses (58) correspond to a stress level 4, 33.1% (40 responses) to a level 3, 13.2% (16 responses) to a level 5, and the 5.8% (7 answers) with a level 2. The weighted average is 3.68.

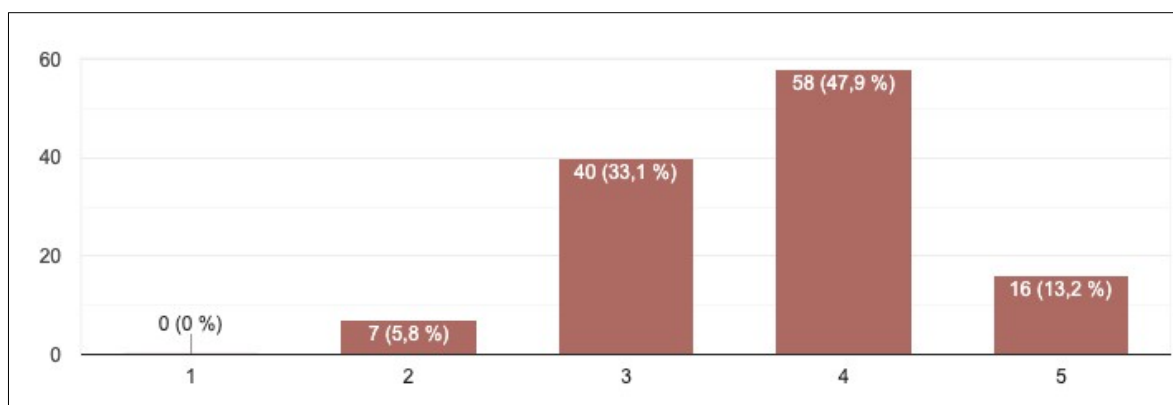


Figure 4. Perceived stress scale during residency (0 no stress, 5 maximum stress).

4. Discussion

Having a global perspective of the teaching and care situation of pediatric residents is a starting point to address, from the base, part of the problems that can put our health care model for children at risk. Among the responses found to the form, a fairly equal distribution is observed between the different years of residency (R1-R4). This makes it possible to avoid large biases regarding the subjectivity of some responses, such as perceived stress, since this increases exponentially with the years of residence (18). We also found answers from paediatricians in training from both reference and regional and county hospitals. However, more extensive subsequent studies with a greater number of responses are necessary, which allow a national representation of the different points collected.

At the care level and in terms of medical shifts, most of the residents surveyed reported an average of 5 monthly shifts. In the case of residents who reported performing 4 shifts per month, these are responses collected from devices of the Catalan Health Service, as a result of the agreement previously mentioned in this study. Overall, most

residents considered their number of shifts adequate, however, and if we stratify the data, almost 70% of residents with 6 monthly shifts considered it excessive. Despite the fact that the Pediatric POE recommends 4 to 6 shifts, establish a maximum of 5 per month and since 4 is the optimal number that allows compensatory breaks and the maximum weekly shift of 48 hours according to RD 1146/2006 is an option to consider.

In reference to the supervision protocol, a significant percentage considers that the legal duty of supervision and progressive responsibility of the resident is not fulfilled in their training center. Among the possible reasons proposed for this non-compliance, the most indicated in the short answer form turned out to be the excess care burden. There is an obvious and important deficiency in this sense that the Teaching Commissions of each center must work on. Although data has not been disaggregated in this study to assess where and when this protocol is most frequently breached (type of hospital, shifts, ordinary shift, sections or services...), it would be interesting to consider it for future studies.

The duration of specialized health training in Paediatrics and its Specific Areas in our country contrasts with the 5-year duration of this training in many of our neighboring countries, as well as other medical specialties such as Internal Medicine or Cardiology. The increase in pediatric training to 5 years is a historical claim and this is reflected in our answers, since a large majority considers 4 years as insufficient for adequate training. Institutions such as the European Union of Specialist Physicians (UEMS) are added to this claim, which see in the project of the new Royal Decree on Specialties an opportunity to be placed in the European standard of 5 years (19). However, this increase to 5 years would not be without risks, since it would represent an organizational challenge since Primary Care assistance would remain one year without the incorporation of new professionals, as stated by the Spanish Association of Primary Care Paediatrics (20).

In reference to pediatric subspecialties, among those surveyed it was observed that in most training centers the fourth year is dedicated to training in a specific area of paediatrics, and that this distribution of training is considered adequate. However, it is worth mentioning other opinions expressed by the respondents, who would consider it more appropriate to carry out 5 years of specialty with a final year dedicated to it. The legal recognition of pediatric subspecialties (or "Specific Areas") is another demand of Pediatrics that is shown among the responses obtained, and that could come to an end with the new Royal Decree of Specialties that the Ministry of Health intends to approve throughout this year (21). This recognition would be carried out through the Specific Training Areas (ACE), whose design is currently under development, but which aims to include all pediatric specialties, including Primary Care.

Finally, a large majority of those surveyed express the desire to work in Hospital Care once their residency is over. Only 1 in 4 respondents wants to work in Primary Care, in line with the latest published studies (22). Therefore, it contrasts with the current requirements of the country, since 60% of the places offered are in Primary Care, and 25% of these places are not occupied by pediatric specialists. Among the reasons for this, there is a predominantly hospital training, with only 3 months of rotation by Primary Care recognized in the POE. In addition, there is obsolete planning by public institutions, with overcrowded quotas, underfunded resources, poor coordination with Hospital Care (23), difficulties in releasing guards or vacation permits...

Saving our pediatric care model inevitably involves changing the foundations of specialized healthcare training, renewing an Official Specialty Program dating back to 2006, and which recognizes the new training concerns in childhood care (such as caring for

patients complex chronic or palliative care), consistent with the care needs of the National Paediatrics, and that serves as a guide for the specific programs of each training center. It also implies providing Primary Care with the resources it needs and the value it deserves, channeling the exit of new professionals to vacant positions, facilitating quality care and the hospital-health center link (24).

There is no doubt that the expectations of an uncertain and frequently unstable employment future, associated with the high demand for care and the frenetic pace of a very extensive training in 4 years that remain scarce, are probably part of the reasons for a mixed bag that it leads the respondents to express, for the most part, a very important level of stress.

5. Conclusions

- Most of the residents surveyed perform 5 medical shifts per month. Overall, the residents consider this number of shifts to be adequate, although the majority of those who carry out 6 shifts consider it excessive. Establishing a maximum of 5 shifts per month is an option to consider both for work and teaching reasons.
- 54.5% of the residents surveyed consider that the Resident Supervision Protocol is not properly complied with in their training centre. The main reason referenced is care overload.
- 84.3% of the residents surveyed, in line with the historical claims of the different pediatric associations, consider a 4-year specialized health training to be insufficient.
- In most of the training centers among the responses received, the last year is dedicated to training in a specific pediatric subspecialty, this fact being evaluated positively by almost 77% of the residents interviewed. The vast majority consider the creation of pediatric subspecialties a priority.
- 62% of those surveyed would like to work in Hospital Care when they finish their training period, while only 25% want to do it in Primary Care. It contrasts with the current care needs, and demonstrates the need for a new approach both in training and investment of resources .
- According to the results obtained, Pediatric residents show medium-high levels of stress during their training period, with level 4 out of 5 being the most reported among those surveyed. This referred stress, of multifactorial origin, needs to be studied more precisely, and likewise, addressed comprehensively.

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