Evaluation of specialized training in hospital pharmacy

Evaluación de la formación especializada en farmacia hospitalaria

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Abstract

Objectives: To analyze the degree of satisfaction of hospital pharmacy residents and identify areas of improvement in their training.

Method: A survey (5-point Likert scale) was administered among fourth-year hospital pharmacy residents due to complete their residency in 2018. Bivariate and multivariate logistic regression analyses was performed to identify the association of each independent variable with overall satisfaction.

Results: 67.4% (91/135) of residents filled out the questionnaire. The mean overall satisfaction rate was acceptable-good (3.52 ± 0.92). The 63.7% considered their unit had a supervision and progressive empowerment protocol in place. With respect to the level of on-call responsibility bestowed on them, 81% of residents considered it to be adequate; 69.2% considered the supervision they received to be adequate. As many as 96.7% of residents had received an individualized training program, with 50% of them considering their individualized training program to be very well attuned to their day-to-day professional practice. The work of the tutor and other staff members involved in resident education was rated as positive by 63.7% and 72.5% of residents, respectively. A total of 15.4% of residents considered the association of each independent variable with overall satisfaction rate was acceptable-good (3.52 ± 0.92). The 63.7% considered the supervision they received to be adequate; 69.2% considered the supervision they received to be adequate. As many as 96.7% of residents had received an individualized training program, with 50% of them considering their individualized training program to be very well attuned to their day-to-day professional practice. The work of the tutor and other staff members involved in resident education was rated as positive by 63.7% and 72.5% of residents, respectively. A total of 15.4% of residents said that their units had a supervision and progressive empowerment protocol in place. With respect to the level of on-call responsibility bestowed on them, 81% of residents considered it to be adequate; 69.2% considered the supervision they received to be adequate. As many as 96.7% of residents had received an individualized training program, with 50% of them considering their individualized training program to be very well attuned to their day-to-day professional practice.

PALABRAS CLAVE

Satisfacción; Residenes; Farmacia hospitalaria; Formación.
residents dedicated less than 10 hours per week to teaching or research activities; 35.2% of residents had produced five or less articles or congress presentations as first authors. Residents that had defended or were in the process of writing their PhD dissertation were 30.8%; 45.1% were involved in an Research project. Finally, 89% of residents rated the training received as positive, with 75.8% of them stating that they would select the same hospital again. In the statistical analysis, an association was found between overall satisfaction and several variables, with the work done by the main tutor being independently related to overall satisfaction.

Conclusions: Overall satisfaction with the training received by fourth-year residents was acceptable. The work of the tutor and other staff members involved in resident education were the variables with the greatest influence on overall satisfaction, albeit only the tutor’s work achieved statistical significance. The supervision of residents’ progress, the coaching provided by other staff members during clinical rotations, and research were identified as areas for improvement.

Introduction
The evaluation of the training of health science specialists in accredited training units and centers is regulated by Royal Decree 183/2008. The development and implementation of the royal decree leads to a Teaching Quality Management Plan, conceived to ensure that training programs meet the requirements set out by the Hospital Pharmacy Specialty Committee.

The Tutors Working Group of the Spanish Society of Hospital Pharmacists (SEFH), made up of both tutors and residents, was created in 2016 with the aim of assisting instructors in discharging their functions more efficiently. The Group’s goals include encouraging the formulation of proposals and development of projects that could improve the quality of training of specialist pharmacists in the future.

Satisfaction surveys of residents provide information regarding residents’ opinion about the quality of the training they receive. These surveys are useful in that they help detect potential shortcomings in training programs, identify areas of improvement and establish corrective measures. Such surveys are normally organized at a local level (by teaching units or accredited centers), at a regional level, or at a national level by the Ministry of Health, Consumer Affairs and Social Welfare.

In 2002, a survey was supplied among both specialist hospital pharmacists and residents to gain an in-depth understanding of their perception about the training imparted in pharmacy departments and the possibility to successfully implement the contents of the fourth-year residency program. According to the survey, factors influencing the quality of training included the availability of material and human resources, the motivation of tutors and staff pharmacists, and the importance given to the training programs by the department.

The purpose of the present article is to analyze the satisfaction of fourth-year hospital pharmacy residents with the training they receive and identify potential areas of improvement.

Methods
SEFH’s Tutors Working Group designed a survey intended for fourth-year hospital pharmacy residents due to complete their training in 2018. The Working Group thought that the residents about to complete their training were the ones that had a clearer grasp of the training program. An online questionnaire was designed based on Google Docs, which comprised 51 questions divided up into several sections: general information, educational structure, tutoring, rotations, on-call shifts, training and research (Appendix I). There were some questions which participants rated their responses on a five point Likert scale: “very good”, “good”, “acceptable”, “insufficient”, and “very insufficient” (1 was the lowest grade and 5 was the highest). There was also a group of closed (yes/no) questions and a group of multiple-choice questions. The final question gave respondents the possibility to include additional comments or suggestions about the training received. The questionnaire, which was anonymous, was distributed throughout Spain during the months of February and March 2018 using SEFH’s mailing list.

On reception, all questionnaires were reviewed and checked for completeness. A descriptive analysis was carried out of the demographic variables included in the study. The STATA (v12) software was used to conduct the statistical analysis. Central tendency and dispersion measures were calculated for numerical variables, while absolute and relative frequencies were calculated for qualitative variables. Bivariate and multivariate analyses were conducted to identify the association between each independent variable and overall satisfaction by calculating their corresponding crude odds ratios (ORs). A multivariate logistic regression analysis was performed to calculate the adjusted odds ratios (ORa) and determine the extent to which associations could be explained by the effect of the other variables included in the study. A 95% confidence interval (CI) was obtained for both the crude and the adjusted odds ratios.

Results
Ninety-one of the 135 fourth-year residents concluding their training in 2018 filled out the questionnaire (67.4% of the sample). After reviewing the questionnaires, a decision was made to include all of them in the study.

The demographic characteristics of the surveyed population are presented in Table 1. All respondents were SEFH members, 70% were female and 91% were aged from 26 to 30 years. Of the 91 questionnaires received, the possibility to include additional comments or suggestions about the training received. The questionnaire, which was anonymous, was distributed throughout Spain during the months of February and March 2018 using SEFH’s mailing list.

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received this information obtained it from multiple sources: 38.5% from their
given information about the grades obtained every year. Residents who did
about the criteria used to evaluate their performance and 35.2% were not
annual meetings with their tutor. Nearly 30% (29.7%) were not informed
of other staff members. A total of 42.8% of respondents had at least three
journals, books and databases.

As regards on-call shifts, although significant disparity was observed in the
number and type of on-call shifts worked, most of them were worked in the
afternoon on weekdays and in the morning or afternoon on weekends.
Eighty-one percent of respondents considered the level of responsibility
assigned to them during their on-call shifts appropriate and 69.2% believed
that they had received adequate supervision. Their supervisor during their
on-call shifts could either be physically present (25.3%), working remotely
(25.3%) or both (partly on site and partly off-site) (49.4%).

When asked about the time devoted to clinical work (including on-
call stints) during their work day, 53.8% of respondents said they devoted
30-35 hours a week and 28.6% said they devoted more than 35 hours a
week, which means that 96.7% had less than 10 hours a week for educa-

Table 2. Satisfaction of the surveyed population with different aspects of their residency

<table>
<thead>
<tr>
<th>Variable</th>
<th>n</th>
<th>Mean ± SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall satisfaction</td>
<td>91</td>
<td>3.52 ± 0.92</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>27</td>
<td>3.41 ± 1.01</td>
</tr>
<tr>
<td>Females</td>
<td>64</td>
<td>3.56 ± 0.89</td>
</tr>
<tr>
<td>Age (years)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>26-30</td>
<td>83</td>
<td>3.45 ± 0.91</td>
</tr>
<tr>
<td>31-35</td>
<td>7</td>
<td>4.29 ± 0.76</td>
</tr>
<tr>
<td>&gt; 35</td>
<td>1</td>
<td>4.00</td>
</tr>
<tr>
<td>Welcome received</td>
<td>91</td>
<td>3.97 ± 0.92</td>
</tr>
<tr>
<td>Usefulness of intranet/educational website</td>
<td>91</td>
<td>3.00 ± 1.02</td>
</tr>
<tr>
<td>Access to resources</td>
<td>91</td>
<td>4.04 ± 0.89</td>
</tr>
<tr>
<td>Individualized training plan</td>
<td>86</td>
<td>3.40 ± 0.96</td>
</tr>
<tr>
<td>Main tutor</td>
<td>91</td>
<td>3.12 ± 1.27</td>
</tr>
<tr>
<td>Tutoring by other staff members</td>
<td>91</td>
<td>2.97 ± 0.87</td>
</tr>
<tr>
<td>Rotations schedule</td>
<td>91</td>
<td>3.63 ± 1.17</td>
</tr>
<tr>
<td>Supervision of rotations by staff members</td>
<td>91</td>
<td>3.10 ± 1.03</td>
</tr>
<tr>
<td>Training for clinical rotations</td>
<td>91</td>
<td>3.69 ± 0.94</td>
</tr>
<tr>
<td>Level of on-call responsibility</td>
<td>91</td>
<td>3.41 ± 0.99</td>
</tr>
<tr>
<td>On-call supervision</td>
<td>91</td>
<td>2.90 ± 1.17</td>
</tr>
<tr>
<td>Service sessions</td>
<td>91</td>
<td>3.35 ± 0.94</td>
</tr>
<tr>
<td>In-hospital cross-specialty training</td>
<td>91</td>
<td>2.93 ± 0.95</td>
</tr>
<tr>
<td>SEFH-sponsored training activities</td>
<td>91</td>
<td>3.86 ± 0.75</td>
</tr>
<tr>
<td>Information on research activities</td>
<td>91</td>
<td>2.98 ± 0.94</td>
</tr>
<tr>
<td>Encouragement to do research or publish</td>
<td>91</td>
<td>2.60 ± 1.28</td>
</tr>
</tbody>
</table>

Grades were as follows: 5 “very satisfied”, 4 “satisfied”, 3 “acceptably satisfied”, 2 “dissatisfied” y 1 “very dissatisfied”.

SD: standard deviation; SEFH: Spanish Society of Hospital Pharmacists.
tional or research activities. A total of 82.4% of respondents participated in at least three sessions a year, with 69.2% considering that an adequate number. The anticipation with which the sessions were convened was thought appropriate by 91.2% of respondents, while 84.6% said they were satisfied with the quality of the sessions organized.

As for the cross-specialty scheme organized by each hospital, 70.3% of respondents were satisfied with the activities organized, and as regards SEFH-sponsored activities for residents, 74.7% considered them good or very good.

When asked about research, 69.2% of respondents claimed that the information received on research activities was adequate, while 52.7% stated that they received the necessary encouragement and support to participate in them. A total of 35.2% of respondents had produced five or less publications or oral communications for congresses as first authors; 30.8% had completed (or were working on) their PhD dissertation during their residency, and 45.1% were involved in a research project.

Lastly, 89% of respondents were positive about the training received in their hospital, and 75.8% of them claimed they would choose the same hospital again.

Tables 3 and 4 present the results of a bivariate and multivariate analysis of demographic, training and satisfaction variables, related with overall satisfaction. The analysis revealed a statistically significant association between overall satisfaction and the following variables: supply of information on research activities; availability of a tutor during rotations; on/off-site availability of a staff member during on-call shifts; participation in research projects; welcome received on arrival; usefulness of hospital’s intranet/educational website; attunement of the residents’ individualized training plan to the characteristics of the specialty; work of the main tutor; tutoring provided by other staff members; frequency of structured interviews; compliance with rotations schedule; supervision by staff members during rotations; training provided during rotations; empowerment during on-call shifts; service sessions; in-hospital cross-specialty training activities; and SEFH-sponsored training activities. The multivariate analysis performed showed that the work done by the main tutor was independently related with overall satisfaction.

### Discussion

Garnering feedback from specialist trainees is a prerequisite for improving the quality of any health system. The percentage of responses in our sample (67.4%) is within the range reported in the literature (50-90%). Previous reports have usually related the percentage of responses received with whether questionnaires were self-replied or not, and with the respondents’ motivation level. Such methodologies might introduce a bias and lead to erroneous conclusions.

In the present study, the respondents’ overall satisfaction was high, as was their satisfaction with the training they received. Moreover, a high percentage of residents said that they would choose the same hospital if they had to start their residency again.

Individual training plans are prepared by each resident’s tutor based on the specialty’s official curriculum, taking into consideration each hospital’s characteristics and the needs and interests of every resident. This plan makes a huge contribution to the residents’ expertise as it allows tutor and resident to jointly define the competencies to be acquired, the mechanisms

### Table 3. Bivariate and multivariate analysis of the association between demographic and training variables, and resident satisfaction factors

<table>
<thead>
<tr>
<th>Variables</th>
<th>Categories</th>
<th>n (%)</th>
<th>ORc</th>
<th>CI 95%</th>
<th>ORa</th>
<th>CI 95%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Demographic</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td>Female</td>
<td>64 (70.30)</td>
<td>0.907</td>
<td>0.367-2.239</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age (years)</td>
<td>&gt; 30</td>
<td>8 (8.80)</td>
<td>1.477</td>
<td>0.331-6.587</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt; 6</td>
<td>49 (53.90)</td>
<td>0.934</td>
<td>0.408-2.135</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nr residents in the unit</td>
<td>&gt; 6</td>
<td>49 (53.90)</td>
<td>0.934</td>
<td>0.408-2.135</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Training-related</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TP includes rotations schedule</td>
<td>Yes</td>
<td>72 (79.10)</td>
<td>5.111</td>
<td>0.963-27.133</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>21 (23.10)</td>
<td>0.450</td>
<td>0.149-1.363</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TP includes research activities</td>
<td>Yes</td>
<td>25 (27.50)</td>
<td>5.639</td>
<td>1.714-18.551</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>21 (23.10)</td>
<td>0.450</td>
<td>0.149-1.363</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TP includes training activities</td>
<td>Yes</td>
<td>67 (73.60)</td>
<td>1.885</td>
<td>0.570-6.226</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Department has a protocol</td>
<td>Yes</td>
<td>38 (41.70)</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>21 (23.10)</td>
<td>0.450</td>
<td>0.149-1.363</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes, but unexplained</td>
<td>18 (19.80)</td>
<td>2.333</td>
<td>0.476-11.441</td>
<td></td>
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<tr>
<td>Rotations-specific tutor</td>
<td>Yes</td>
<td>56 (61.54)</td>
<td>3.046</td>
<td>1.267-7.321</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do you do external rotations?</td>
<td>Yes</td>
<td>64 (70.33)</td>
<td>0.907</td>
<td>0.367-2.239</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staff member present during on-call shifts?</td>
<td>On-site</td>
<td>23 (25.27)</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Off-site</td>
<td>23 (25.27)</td>
<td>2.494</td>
<td>0.745-8.342</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attendance at CDP activities</td>
<td>Yes</td>
<td>78 (85.70)</td>
<td>0.693</td>
<td>0.208-2.305</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>21 (23.10)</td>
<td>0.450</td>
<td>0.149-1.363</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Publications or oral communications</td>
<td>&lt; 5</td>
<td>32 (35.16)</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>5-10</td>
<td>29 (31.87)</td>
<td>0.945</td>
<td>0.346-2.586</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>11-15</td>
<td>15 (16.48)</td>
<td>1.324</td>
<td>0.381-4.595</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>16-20</td>
<td>9 (9.89)</td>
<td>0.706</td>
<td>0.160-3.122</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt; 20</td>
<td>6 (6.59)</td>
<td>1.765</td>
<td>0.282-11.044</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Participation in research projects</td>
<td>Yes</td>
<td>41 (45.05)</td>
<td>3.625</td>
<td>1.505-8.731</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PhD dissertation during residency</td>
<td>Yes</td>
<td>28 (30.77)</td>
<td>1.497</td>
<td>0.606-3.701</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Supervision and progressive empowerment protocol. As first author.
CDP: cross-discipline plan; CI: confidence interval; ORa: adjusted odds ratio; ORc: crude odds ratio; TP: training program.
El estudio también muestra que 35.2% de los residentes no fueron informados sobre las calificaciones que obtuvieron cada año. Para que el aprendizaje sea eficaz, los residentes deben recibir retroalimentación de sus tutores sobre los objetivos establecidos en lugar de las calificaciones que obtuvieron.

Un de los hallazgos de este estudio fue que 29.7% de residentes no fueron informados sobre las calificaciones que obtuvieron cada año. Para que el aprendizaje sea eficaz, los residentes deben recibir retroalimentación de sus tutores sobre los objetivos establecidos en lugar de las calificaciones que obtuvieron.

Además de un año extra en el programa de residencia de Farmacia Hospitalaria, que se estableció en 1999, se han implementado cambios en el sistema de supervisión de residencia, especificando los métodos y prácticas a ser utilizados en el proceso de evaluación, y el nivel de supervisión a ser proporcionado a cada año. En vista de estos hallazgos, el Grupo de Trabajo de Tutores del SEFH trabajará en las cuestiones mencionadas con un enfoque estadísticamente significativo.

Los resultados de este cuestionario pueden utilizarse para detectar áreas para mejorar, y también para ayudar a los tutores a identificar prioridades y compartir sus experiencias con otros centros. En el futuro, se deberán mejorar estas áreas, ya que 95.7% de residentes indicaron que necesitaban más de 10 horas a la semana para actividades educativas o de investigación. Esto también se puede conectar con el hecho de que solo 30.8% de residentes habían completado (o estaban trabajando en) su tesis doctoral.

El régimen de residencia actualmente contempla actividades de investigación, lo que también se refleja en el hecho de que 30.8% de residentes habían completado (o estaban trabajando en) su tesis doctoral. Se espera que este enfoque se mantenga para mejorar la calidad del entrenamiento recibido por los residentes de farmacia hospitalaria.
Evaluation of specialized training in hospital pharmacy

Contribution to the scientific literature

The need to understand the way future specialists in hospital pharmacy were being trained led the Tutors Working Group of the Spanish Society of Hospital Pharmacists to prepare a questionnaire to be filled by the fourth-year residents in 2018. The literature search conducted in preparation for drafting the questionnaire revealed the absence of publications on the subject. Only one study was identified that shared the results of a satisfaction survey administered among hospital pharmacy residents, hospital pharmacists and managers prior to the implementation of a new hospital pharmacy training program that included the addition of a fourth year to the residency program. The publication emphasized the importance of making available suitable instructors and adapting the current infrastructure but made no assessment of the new training program or the residents’ satisfaction with its implementation.

This paper seeks to analyze the current situation regarding the training of hospital pharmacy residents, with specific emphasis on their level of satisfaction with the training program they receive and with the instructors imparting it. It also includes an analysis of the available resources and an identification of areas for improvement.

The Tutors Working Group intends to focus their future work on addressing the areas for improvement identified in the study.

Bibliography

1. Real Decreto 183/2008, de 8 de febrero, por el que se determinan y clasifican las especialidades en Ciencias de la Salud y se desarrollan determinados aspectos del sistema de formación sanitaria especializada. Boletín Oficial del Estado, n.º 45 (21 de febrero de 2008).


SURVEY FOR FOURTH-YEAR HOSPITAL PHARMACY RESIDENTS

We would like to ask you to give us your opinion about the training you have received over the past four years, and to tell us how satisfied you are with your residency program. Please fill out the brief questionnaire below (your answers will remain anonymous).

*Required field

1. Date *

2. Age *
   Please tick one answer only.
   - 26-30
   - 31-35
   - >35

3. Sex
   Please tick one answer only.
   - Male
   - Female

4. Are you a member of SEFH? *
   Please tick one answer only.
   - Yes
   - No

5. Number of residents in your department during the 2017-2018 academic year *
   Please tick one answer only.
   - 4 or less
   - 5-6
   - 7-8
   - More than 8

6. Rate the way you were welcomed to the hospital when you first arrived (1 is the worst possible rating, and 5 is the best). Please tick one answer only.

   1 2 3 4 5
7. Do you have a good understanding of the teaching structure of your hospital? (teaching committee, evaluation committees, head of studies...) *

* Please tick one answer only.

☐ Yes
☐ No

8. How would you rate the usefulness of the hospital’s educational intranet/educational website? *

* Please tick one answer only.

1 2 3 4 5

☐ ☐ ☐ ☐ ☐

9. How would you rate ease of access to resources such as the library, books, journals, databases, etc. in your hospital? *

* Please tick one answer only.

1 2 3 4 5

☐ ☐ ☐ ☐ ☐

10. Were you assigned a personalized education plan? *

* Please tick one answer only.

☐ Yes
☐ No

11. Your personalized education plan:

If your answer to the previous question was “Yes”, please tick one answer in every row.

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<th>Yes</th>
<th>No</th>
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<td>Were you assigned an individualized training program?</td>
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<td>Does it include a rotation schedule?</td>
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<td>Does it include information on on-call shifts?</td>
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<td>Does it include research activities?</td>
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<tr>
<td>Does it include training activities?</td>
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12. How would you rate your individualized training plan adapted to the realities of your specialty?

* Please tick one answer only.

1 2 3 4 5

☐ ☐ ☐ ☐ ☐

13. How would you rate the support and tutoring provided by your main tutor? *

* Please tick one answer only.

1 2 3 4 5

☐ ☐ ☐ ☐ ☐
14. How would you rate the tutoring you received from other staff members in your department? *  
*Please tick one answer only.*

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15. How often do you have structured interviews with your main tutor? *  
*Please tick one answer only.*

- [ ] 0 times a year
- [ ] Once a year
- [ ] Twice a year
- [ ] 3 times a year
- [ ] 4 times a year or more

16. Are you familiar with the criteria applied to evaluate the work done by residents? *  
*Please tick one answer only.*

- [ ] Yes
- [ ] No

17. Are you informed about the grades you obtain every year? *  
*Please tick one answer only.*

- [ ] Yes
- [ ] No

18. Who informs you of the grades you obtain?  
If your answer to the previous question was “Yes,” You may select as many answers as you wish.

- [ ] Your tutor
- [ ] Head of studies
- [ ] Hospital Teaching Committe
- [ ] Other:

19. Where do you record all the different clinical, educational and research activities you carry out? *  
*You may select as many answers as you wish.*

- [ ] Resident’s logbook
- [ ] Annual report
- [ ] Resident’s portfolio
- [ ] None of the above
- [ ] Other:

20. How would you rate the compliance of your rotation schedule? *  
*Please tick one answer only.*

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21. How would you rate the supervision received from your tutor during your rotations? *  
*Please tick one answer only.

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22. Does your department have a protocol for supervising and progressively empowering residents? *  
*Please tick one answer only.

- Yes
- Yes, but I nobody has explained to me how it works
- No
- I don’t know

23. In which of the following departments have you done rotations during your residency? *  
*You may select as many answers as you wish.

- Internal medicine
- Intensive care
- Oncohematology
- Pediatrics
- Hospital Infection Control Unit
- Other: [ ]

24. Did anyone supervise your work during your rotations in the different clinical areas? *  
*Please tick one answer only.

- Yes, in all clinical areas
- Only in some clinical areas
- I never had anyone supervising my work during a rotation
- I don’t do rotations

25. Who is responsible for your training during those rotations? *  
*Please tick one answer only.

- A pharmacist
- A physician
- Both
- I don’t know

26. How would you rate the training received during your rotation in those clinical areas? *  
*Please tick one answer only.

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27. Have you done rotations outside your hospital during your residency? *  
*Please tick one answer only.

- Yes
- No
28. If your answer to the previous question was “Yes,” please state whether your external rotations were national or international and how long your external rotation(s) lasted.

29. How many on-call shifts do you work a month on average? *

30. What kind of on-call shifts do you do in your department? *
   You may select as many answers as you wish.
   - 24-hour on-call shifts
   - Afternoon on-call shifts on weekdays
   - Morning on-call shifts on weekends
   - Morning and afternoon on-call shifts on weekends
   - Home call shifts

31. Do you consider the level of responsibility given to residents on call to be appropriate? *
   Please tick one answer only.
   - 1
   - 2
   - 3
   - 4
   - 5

32. Do you consider that residents are appropriately supervised during their on-call shifts? *
   Please tick one answer only.
   - 1
   - 2
   - 3
   - 4
   - 5

33. The person in charge of supervising residents during on-call shifts is usually … *
   Please tick one answer only.
   - On site
   - Off site
   - Both (on site for some time, and off site for some time)

34. How many hours a week do you devote to clinical work (excluding on-call shifts)? *
   Please tick one answer only.
   - 20 hours or less
   - 21-25 hours
   - 26-30 hours
   - 31-35 hours
   - Over 35 hours
35. How many hours do you devote to educational or research activities within your weekly work schedule? *
   Please tick one answer only.
   - Less than 5 hours
   - 5-10 hours
   - 11-15 hours
   - 16-20 hours
   - Over 20 hours

36. How many clinical or bibliographic sessions do you teach on average within one year? *

37. Do you consider this number to be appropriate? *
   Please tick one answer only.
   - Yes
   - No

38. Do you think that you are given enough notice of when your sessions will be taking place? *
   Please tick one answer only.
   - Yes
   - No

39. How satisfied are you with the sessions held in your department? *
   Please tick one answer only.
   1 2 3 4 5

40. Do you attend any of the training sessions of the Cross-Specialty Resident Training Plan? *
   Please tick one answer only.
   - Yes
   - No

41. How satisfied are you with cross-specialty training activities organized by your hospital? *
   Please tick one answer only.
   1 2 3 4 5

42. Please rate the training activities for residents sponsored or organized by SEFH *
   Please tick one answer only.
   1 2 3 4 5
43. How would you rate the information sent to you on research activities? *
   Please tick one answer only.
   1  2  3  4  5
   
44. How would you rate the support and encouragement you get from your tutors to carry out research and produce publications? *
   Please tick one answer only.
   1  2  3  4  5
   
45. How many publications or oral presentations for conferences have you produced as a first author? *
   Please tick one answer only.
   ☐ 5 or less
   ☐ 5-10
   ☐ 11-15
   ☐ 16-20
   ☐ Over 20

46. Are you currently participating in a research project? *
   Please tick one answer only.
   ☐ Yes
   ☐ No

47. Have you been working on your PhD dissertation? *
   Please tick one answer only.
   ☐ Yes
   ☐ No

48. Do you normally attend additional training activities such as courses, lectures and conferences within your working hours? *
   You may select as many answers as you wish.
   Courses  Congresses  Other  No
   R1
   R2
   R3
   R4

49. How would you rate the standard of specialized healthcare training you have received in your hospital? *
   Please tick one answer only.
   1  2  3  4  5
50. If you were asked to select a center to do your residency, would you still choose the same hospital? *

Please tick one answer only.

☐ Yes
☐ No

51. Please share with us any other aspect you consider relevant with respect to your specialized education: *