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The EAACI-AAAAI-WAO Junior Members joint survey: a worldwide snapshot of Allergy and Clinical Immunology Specialty.

Short Title: a global survey on Allergy/Clinical Immunology Specialty

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Abstract

Background: Education and training in Allergy and Clinical Immunology (A/I) is characterized by a great variability worldwide. However, objective and worldwide data regarding this topic are lacking.

Methods: To investigate Personal information, Education and Involvement in scientific societies of Juniors engaged in A/I field, a questionnaire was developed by representatives from the JMs boards of the European Academy of Allergy and Clinical Immunology (EAACI), the American Academy of Allergy Asthma and Immunology (AAAAI), and the World Allergy Organization (WAO).

Results: 543 questionnaires were collected from 76 regions of all continents. The geographical distribution of responders was as follows: Africa-Middle East 3.0%, Asia-Pacific 21.4%, Europe 48.2%, Latin America 12.1%, North America 15.3%. 59.0% of responders declared that A/I is recognized as a separate specialty in their country, Europe mostly accounting for that proportion. Primary interest in the field represents the main motivation for choosing A/I specialty. Concerning involvement in scientific societies, 41.1% of responders ever attended an EAACI congress, 20.6% an AAAAI congress and 20.4% a WAO congress. According to 40.3% of responders, scientific societies do not provide enough opportunities for young members, and 96.4% believes in a more intensive cooperation between the A/I Societies.

Conclusions: The survey provides the first worldwide perspective about A/I Specialty. It represents the first ever example of a structured collaboration between the junior members (JMs) of the three main A/I Societies. The findings suggest the need for harmonization, at least in terms of training and formation in the field of A/I worldwide.

KEY WORDS: American Academy of Allergy Asthma and Immunology (AAAAI), education, European Academy of Allergy and Clinical Immunology (EAACI), training, World Allergy Organization (WAO).

Introduction

Professional education and training in the field of Allergy and Clinical Immunology (A/I) is characterized by a great variability worldwide. Scientific Societies and UEMS (Union Européenne des Médecins Spécialistes - European Union of Medical Specialists) have produced some documents stating the requirements that should be fulfilled by a resident in order to become an allergist/clinical immunologist [1-7] but the way the education and formation pathways are provided are other than standardized in the different countries and continents. All international Allergy Societies have been making efforts to promote opportunities for a better education and up-to-date scientific knowledge for the new generations of allergists / clinical immunologists in order to ensure the future of the specialty [6-10]. However, objective and worldwide data regarding the formation, the

job/research/grants opportunities and the insertion/involvement of junior members (JMs) into the Scientific Societies are lacking.

In this article we present the results of a survey aimed at collecting data about Allergy and Clinical Immunology Specialty in the world, and at highlighting the key differences as well as the unmet needs in terms of academic training and research, job and career opportunities for the young specialists. We consider these data as the basis for future changes, including improvements in the education and possible harmonization through the scientific societies' activities as first. In order to provide a truly global perspective, the three main academies in the field of A/I in the world, and their Junior Members in particular, have been involved in the survey project. It is also intended, as a secondary objective, to enhance the collaboration between JMs of the main Allergy and Clinical Immunology Societies, and provide them the opportunity of becoming more actively involved in the future of the specialty.

Methods

A core-working group (WG) involving representatives from the JMs boards of the European Academy of Allergy and Clinical Immunology (EAACI), the American Academy of Allergy Asthma and Immunology (AAAAI), and the World Allergy Organization (WAO) was established. After an item generation process within the core group, the most voted items were selected for the inclusion in the survey. Following the same methodology, a number of questions for each item were first proposed and subsequently selected through a voting process. A 26 multiple choice and free text questionnaire was finally developed by the WG and subsequently reviewed and approved by the JMs Boards serving at the time the project was launched. The initiative was also approved by the three involved academies' leaderships; no ethical issue was raised. The questionnaire was uploaded on an online platform and covered the following items: 1) Personal information; 2) Education; 3) Involvement in scientific societies. The full questionnaire is available as Appendix 1 and has been built up in the online Google® platform. In April 2015, the headquarters of the three societies sent across all their JMs a mass-email explaining the aims of the initiative, and

inviting them to complete the survey by providing the direct link to the online platform. Reminders were spread out in May, October and November 2015. The survey closed in January 2016.

The results are reported and analysed by the geographic origin of responders, according to the WAO regional areas classification (<https://www.worldallergy.org/about-wao/member-societies>).

For descriptive statistics and graphic representations Excel software was used. For the multiple response questions, the absolute and relative frequency (expressed in %) of each response was reported in tabular form, with confidence intervals of 95%. The similar open answer questions have been clustered in order to produce summary statistics similar to those taken in the multiple responses. The Chi square test was used to analyse a potential association between the results and the geographic origin of responders and between the results and the current professional position (research vs clinical activity). In case of statistically significant association, the Cramer's v test and the standardized residual analysis were implemented. All tests have been performed with a significance level of 5 %. R software (3.2.5, 2016) has been used.

Results

Overall, 543 complete questionnaires were collected from 76 countries of all continents. Females accounted for 64.2 % of the responders and the mean age of all responders was 31.4 years, with 49.6% of responders between 30 and 34 years old. The geographical distribution of responders was as follows: Africa-Middle East 3.0%, Asia-Pacific 21.4%, Europe 48.2%, Latin America 12.1%, North America 15.3%. A detailed list of countries and the number of responders from each one of them has been included as Appendix 2. Figure 1 describes the Scientific Society the responders were affiliated to. 2.4% (N. 13) of responders declared a different affiliation: Brazilian Association of Allergy and Immunology (ASBAI), 3 responders; American College of Allergy Asthma and Immunology (ACAAI), 4 responders; Korean Association of Allergy and Clinical Immunology (KAACI), 1 responder; American College of Chest Physicians (ACCP), 1 responder; Mexican College of Clinical Immunology and Allergy (CMICA), 2 responders; American Thoracic Society (ATS), 2 responders.

Table 1 describes the level of education completed by the responders. Significant differences worldwide concerning this topic could be observed. In particular, a slightly significant association ($p < .05$, Cramer's $v = 0.2$) has been detected between: 1) Asiatic origin and Fellowship; 2) North American, Latin American origin and Residency.

The main professional interests of responders were reported in Table 2. Undergraduate responders have been excluded from the analysis. Overall, 79.8% of the responders is active in clinical practice while 20.2% in the field of research. Of note, not negligible differences could be observed between interest areas and in different geographic districts.

Among researchers, 56.1% were working in the field of allergy only, 22.3% of them in immunology only, 5.6% in immunotherapy only and 5.2 % in urticaria only; 3.1% and 3.1 % were active in the fields of both allergy and immunotherapy, and both allergy and immunology respectively. Overall, 71.7% of responders were primarily interested in allergy, 15.2% in clinical immunology, 8.8% in basic immunology and 4.3% declared other interests.

As shown in Table 3, about half of responders (59.0%) declared that A/I was recognized as a separate specialty in their country, Europe mostly accounting for that proportion.

The main reason for being engaged in the A/I specialty was primary interest in the field for 71.3% of responders, while, for only 0.7% of them, A/I was a second choice. Good professional / academic / research opportunities were the main reasons for 5.2%, 1.5% and 10.1% of responders respectively; 6.4% chose the specialty mainly because clinical activity is in the outpatients' clinic.

Tables 4 and 5 summarize the satisfaction rate with studies and current employment respectively, by country of origin and by current job position (research versus clinical activity). Concerning satisfaction rate about current job position, a significant association between Africa-Middle East origin and a negative response could be observed ($p < .05$, Cramer's $v = 0.1$). Figures 2 and 3 report the reasons for poor satisfaction. Only the responders who have already completed their training were asked to complete the question regarding the current job position.

Overall, a financial burden due to residency / post-graduate formation was experienced overall by 47.6% of responders (clinicians/researchers respectively 47.9%/46.3%), without significant differences among countries. On average it lasted 2 to 5 years.

Obtaining a PhD took on average 2 years for 6.0%, 3 years for 26.2%, 4 years according to 34.1% of responders, 5 years for 22.8% and more than 5 years for 10.9%.

Among responders who were going to spend a period abroad, the most common expectation was improving the knowledge (42.7%), but also a job/research perspective (29.9%), initiating new collaborations (9.1%), comparing different approaches (16.5%) and finding financial resources (1.8%). Among responders who have already spent a period abroad, overall 17.9% and 18.9% declared their expectations have not been fulfilled or not completely respectively. The same proportion of responses were observed both in the clinicians and researchers sub-groups. The reasons for poor satisfaction were: lack of time (32.1%), lack of services/research perspective (28.6%), lack of practice (14.3%), lack of grant (10.7%), lack of job perspective (10.7%), lack of collaboration (3.6%). The response rate for this question was 5.2%.

Concerning involvement in scientific societies, surprisingly overall only 41.1% of responders (37.6% of clinicians, 54.6% of researchers) ever attended an EAACI congress, 20.6% an AAAAI congress (22.8% of clinicians, 12.0% of researchers) and 20.4% a WAO congress (22.5% of clinicians, 12.0% of researchers). As shown in Figure 4a, from 2007 to 2014, no increasing trend in terms of JMs participation rate was observed for the annual congresses of the three academies.

According to 40.3% of responders (41.1% of clinicians, 37.0% of researchers), scientific societies do not provide enough opportunities for young members. No significant differences among the three Academies could be observed (Figure 4b). However, 96.4% of responders think that more intensive cooperation between the A/I Societies would provide more opportunities for specialization improvement. The list of proposals for actively involving young members has been summarized as follows: more financial support (40.2%), more courses/meetings (17.8%), more collaboration (17.2%), more research opportunities (11.5%), more web courses (8.0%), more attention to low income countries (4.0%) and more job perspectives (1.1%). The response rate for this question was 32.6%. The list of suggestions for new activities not included in the EAACI, AAAAI and WAO Congresses is summarized as follows: more courses/meetings (31.8%), more collaboration (21.2%), more web courses/forum (15.2%), more financial support (15.2%), more attention to low income countries (13.6%) and more research opportunities (3.0%).

Discussion

To our knowledge, the hereby-presented survey provides the first worldwide perspective about A/I Specialty, as depicted by the young members of the three main scientific societies in the field (EAACI, AAAI, WAO). Equally important, is the fact that the initiative itself represents the first ever example of a structured collaboration between the JMs of the three main A/I Societies, which has been conceived and finalized by an inter-societies working group involving representatives from the JMs boards of the same societies.

As a main result, the survey highlights a great variability among different countries affecting all the items: formation, job/research/grants opportunities and the involvement of JMs into the Societies' activities. Some differences can be observed in terms of opportunities, also when analysing separately the sub-groups of clinicians and the researchers sub-groups. These findings indicate the need for harmonization, at least in terms of training and formation in the field of A/I worldwide and could be considered as a "call for action". Scientific societies should share a joint effort, in order to assure a standardised basic knowledge in the field of A/I worldwide besides providing the top scientific updates for leading countries.

Of note, a major drawback emerging from the survey concerns JMs attendance to the annual scientific congresses. In fact, the rate of responders who attended at least one of the annual congresses organized by the academies in the last 7 years is quite low, and not increasing at all during the considered timeframe. In particular, clinicians seem to have more chances to attend scientific meetings; only in the case of EAACI congresses the trend is opposite. The overall attendance rate seems to be independent of scientific affiliation and geographic distribution. It may not sound so surprising if we consider how difficult it can be, in terms of logistics and economic resources, to make intercontinental travels or even travels within big continents like America, Asia or Africa. Much easier should be moving within Europe, even if low-income European countries do not yet have enough support. More opportunities for those countries are suggested as a room for improvement by the responders. Furthermore, around half of the responders, again independently of their geographic distribution and

scientific society affiliation, share poor satisfaction rate towards the opportunities scientific societies provide for young members. Although scientific societies have been doing efforts in that direction, increasing the number of active JMs and the representation of low-income countries could be helpful in order to re-discuss and improve the current opportunities for JMs. Overall, most of responders suggest a more intensive cooperation between the A/I Societies as a strategy to provide more opportunities for JMs and for specialization improvement. Of note, 32.5% are members of more than one society.

However, besides the difficulties concerning training and job opportunities, a very positive attitude emerges among the responders with 71.3% of them identifying their major interest in A/I as the main reason to choose the specialty. In other words, it seems that passion and enthusiasm for the specialty remains the strongest motivation for being active in the A/I field, although many critical aspects can't be avoided. Interestingly, this finding can be similarly observed both in the clinicians and researchers subgroups. In the same direction, a substantial lack of association between the different status of Allergy specialty in different countries and the level of satisfaction about studies/job position can be overall observed. Also, the involvement in the A/I field as a first choice seems to be independent of the Allergy specialty status in the different countries. Under this perspective, the recently proposed training curricula for Allergy or Paediatric Allergy subspecialties [6,7], once implemented and translated into local practice, should easily improve the level of expertise of the new specialists in the field.

When investigating the reasons for poor satisfaction rate about experiences abroad, the response rate was extremely low (5.2%). The survey included the item as an open question; this may account for the low response rate, as multiple-choice questions are easier and quicker to fill. Furthermore it could be difficult reporting in few words the reasons for a not brilliant experience in a different country.

As a main limitation of the study, the different response rate by regional area deserves to be mentioned (Appendix 2). Although it affects the overall data analysis, it may suggest the need for A/I implementation in the areas where the number of responders was low. Furthermore, despite the specific response rate, the survey represented a unique opportunity to give the voice to 76 countries. Although we had discrepancies in number of responses from some regions, we considered the quality of these responses. In some

countries, such as China, even being the most populated of the world, we received fewer responses than other countries. We hypothesized that in some specific countries the respondents could not access the survey due to national regulations which does not allow Google® accounts. Also, factors which may have influenced the low response rate in some regions may be related to: A/I not recognized as a full specialty (Table 3), absence of national allergy training program making JMs to have their education/training abroad, lack of national allergy society, allergy national society not affiliated to EAACI or WAO, few national young professionals affiliated to the JMs groups of the academies leading this survey, absence of national or regional JMs groups, limitation to access the online questionnaire, difficulties with the English language. Therefore, we highlight the need of recruiting more responses from non-European/American countries in future studies.

Our survey did not specifically address Clinical Immunology and Immunodeficiency societies, such as Clinical Immunology Society (CIS), European Society for Immunodeficiencies (ESID), Asian Pacific Society for Immunodeficiencies (APSID). It may also represent a potential limitation, as young physicians and researchers exclusively devoted to Clinical Immunology and not members of EAACI, AAAAI or WAO have been excluded and their specific perspective is not part of our picture. Our survey could be considered as a model for future investigations in different fields and support more structured Junior Members organization and activity plan if needed.

In conclusion, this joint project provided original data regarding the formation, the job/research/grants opportunities and the involvement of JMs into the societies as well. It allowed bringing up the key differences among countries and gaps, and potentially paves the way to improvements in the education/formation process and possible harmonization in order to strengthen the specialty.

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CONFLICTS OF INTEREST

The authors have no specific conflicts of interest in relationship to this paper.

AUTHOR CONTRIBUTIONS

MC, DAA, BB, MC, RD, FF, BK, AS and LKT conceived the project and the questionnaire. MC and LKT provided the data analysis. MC drafted the paper. All the authors contributed to the manuscript structure, discussion of data, final draft of the manuscript and finally approved the submitted version.

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Tables

Table 1: Level of education completed by the responders in different regions. [N=543]

Region	Fellowship (N=76) (%)	PhD studies (N=109) (%)	Postgraduate studies (master, postgraduate medical training) (N=.158) (%)	Residency (N=172) (%)	Undergraduate (bachelor) studies (N=28) (%)
Africa-Middle East	6.3	31.3	43.8	6.3	12.5
Asia-Pacific	23.7	21.9	33.3	14.0	7.0
Europe	8.6	26.7	34.1	23.9	6.7
Latin America	13.6	7.6	33.3	45.5	0.0
North America	19.3	4.8	2.4	73.5	0.0
Total	14.0	20.0	29.2	31.6	5.1

Table 2: Current professional activity in different regions [N=507, Undergraduate responders have been excluded from the analysis]

Region	Research		Clinical activity			Clinical activity and research		
	Basic exclusively (N=84) (%)	Clinical exclusively (N=20) (%)	with adults (N=49) (%)	with children (N=52) (%)	with children and adults (N=121) (%)	with adults (N=47) (%)	with children (N=51) (%)	with children and adults (N=83) (%)
Africa-Middle East	28.6	7.1	21.4	14.3	7.1	7.1	7.1	7.1
Asia-Pacific	12.3	4.7	13.2	9.4	27.4	4.7	9.4	17.0
Europe	20.2	3.4	8.0	10.5	22.7	10.5	8.8	14.3
Latin America	15.2	1.5	9.1	7.6	25.8	6.1	16.7	18.2
North America	10.8	6.0	8.4	10.8	22.9	13.3	8.4	19.3
Total	16.6	3.9	9.7	10.1	23.7	9.1	9.9	16.0

Table 3: Allergy and Clinical Immunology specialty status in different regions [N=543]

Region	Not recognized as a specialty (N=31) (%)	Recognized as a specialty (N=320) (%)	Recognized as a sub-specialty (e.g: after Dermatology, Pulmonology, ENT formation) (N=165) (%)	Recognized just as an area of postgraduate study (Master, Postgraduate medical training, Research) (N=27) (%)
Africa-Middle East	37.5	31.2	18.7	12.5
Asia-Pacific	10.5	29.8	49.1	10.5
Europe	3.9	71.8	20.0	4.3
Latin America	3.0	63.6	31.8	1.5
North America	0.0	61.4	38.5	0.0
Total	5.6	58.9	30.5	4.9

Table 4: Satisfaction rate about studies by regions (A) and by current job position (research vs clinical activity) (B). [N=543]

A

Region	No (N=23) (%)	Not completely (N=119) (%)	Yes (N=401) (%)
Africa-Middle East	12.5	56.3	31.3
Asia-Pacific	7.9	29.8	62.3
Europe	3.9	19.6	76.5
Latin America	1.5	25.8	72.7
North America	1.2	8.4	90.4
Total	4.3	21.9	73.8

B

Are you mostly Involved in	Are you satisfied with your studies?		
	No (N=23) (%)	Not completely (N=119) (%)	Yes (N=401) (%)
Research	3.7	13.0	83.3
Clinic	4.5	24.2	71.4
Total	4.3	21.9	73.8

Table 5: Satisfaction rate about current employment by regions (A) and by current job position (research vs clinical activity) (B). [N=365. Only the responders who have already completed their training where asked to complete this question]

A

Region	No (N=40) (%)	Not completely (N=86) (%)	Yes (N=239) (%)
Africa-Middle East	45.5	18.2	36.4
Asia-Pacific	10.8	25.8	63.4
Europe	10.5	24.3	65.2
Latin America	9.3	22.2	68.5
North America	3.8	15.4	80.8
Total	11.0	23.6	65.5

B

Are you mostly Involved in	If you have already completed your training, are you satisfied with your job position?		
	No (N=40) (%)	Not completely (N=86) (%)	Yes (N=239) (%)
Clinic	11.5	23.4	65.1
Researcher	9.2	24.1	66.7
Total	11.0	23.6	65.5

Figure 1: Scientific Societies affiliation of responders. The overlapping areas represent multiple affiliation.

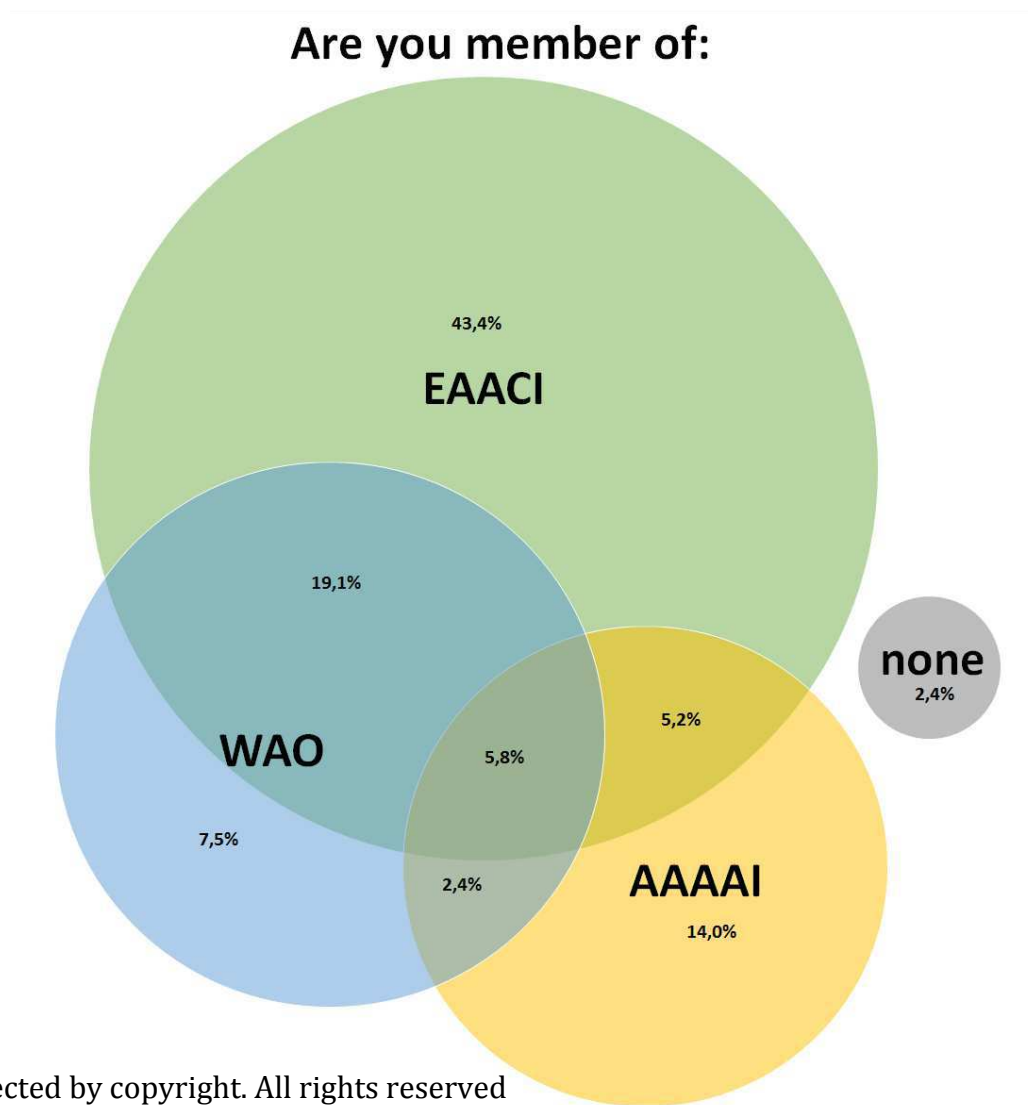


Figure 2: Reasons for poor satisfaction about studies

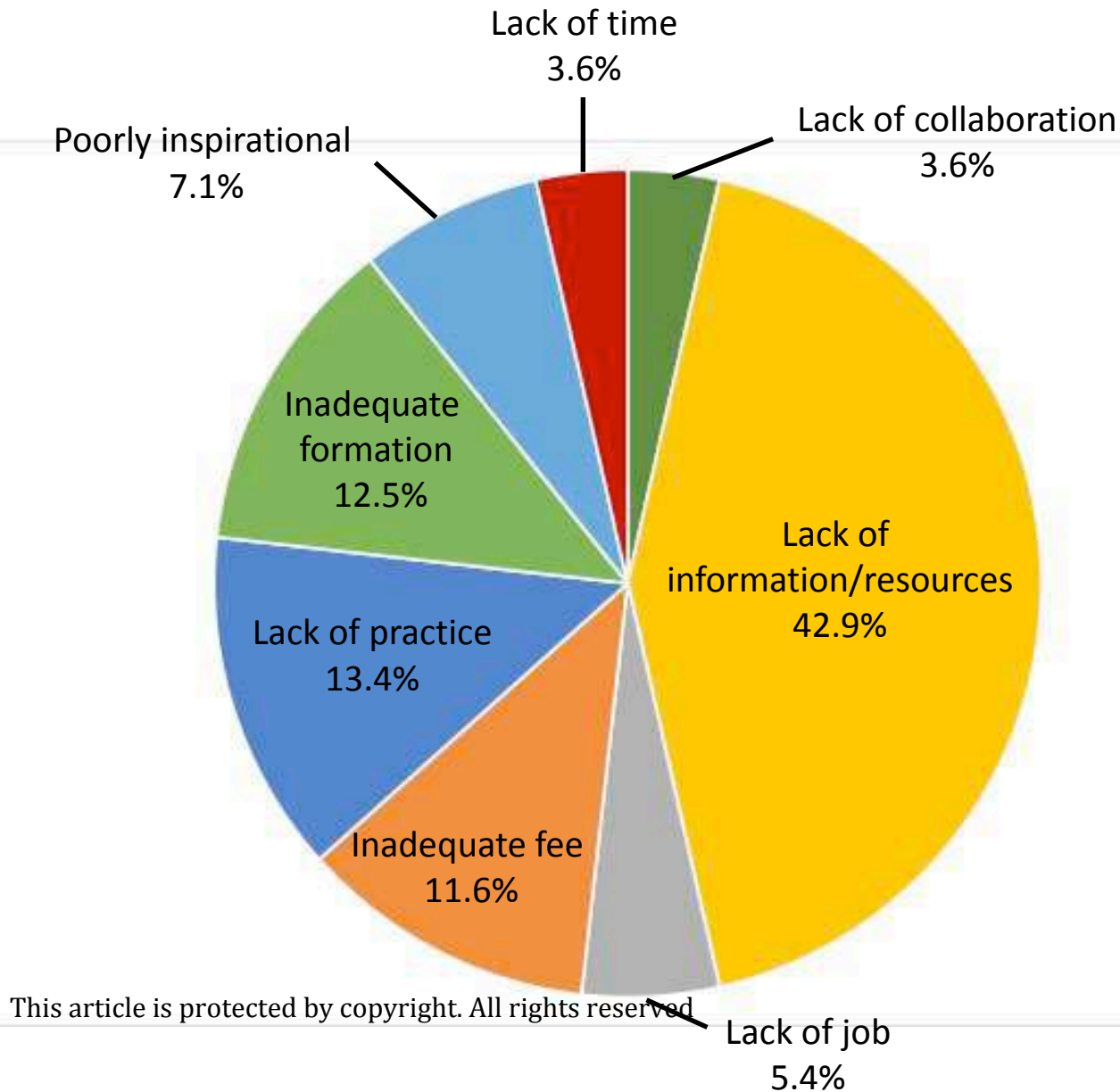


Figure 3: Reasons for poor satisfaction about current job position

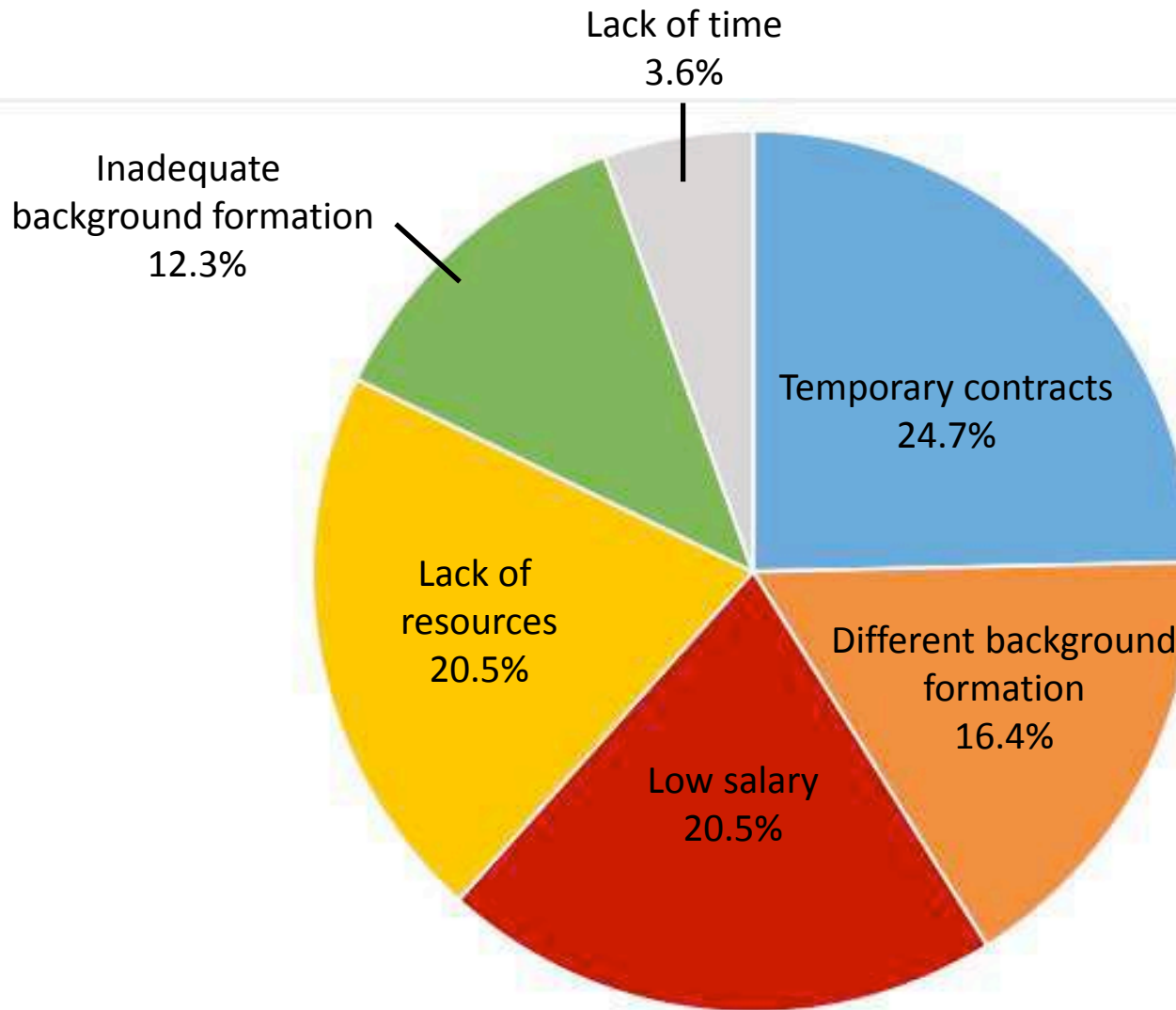
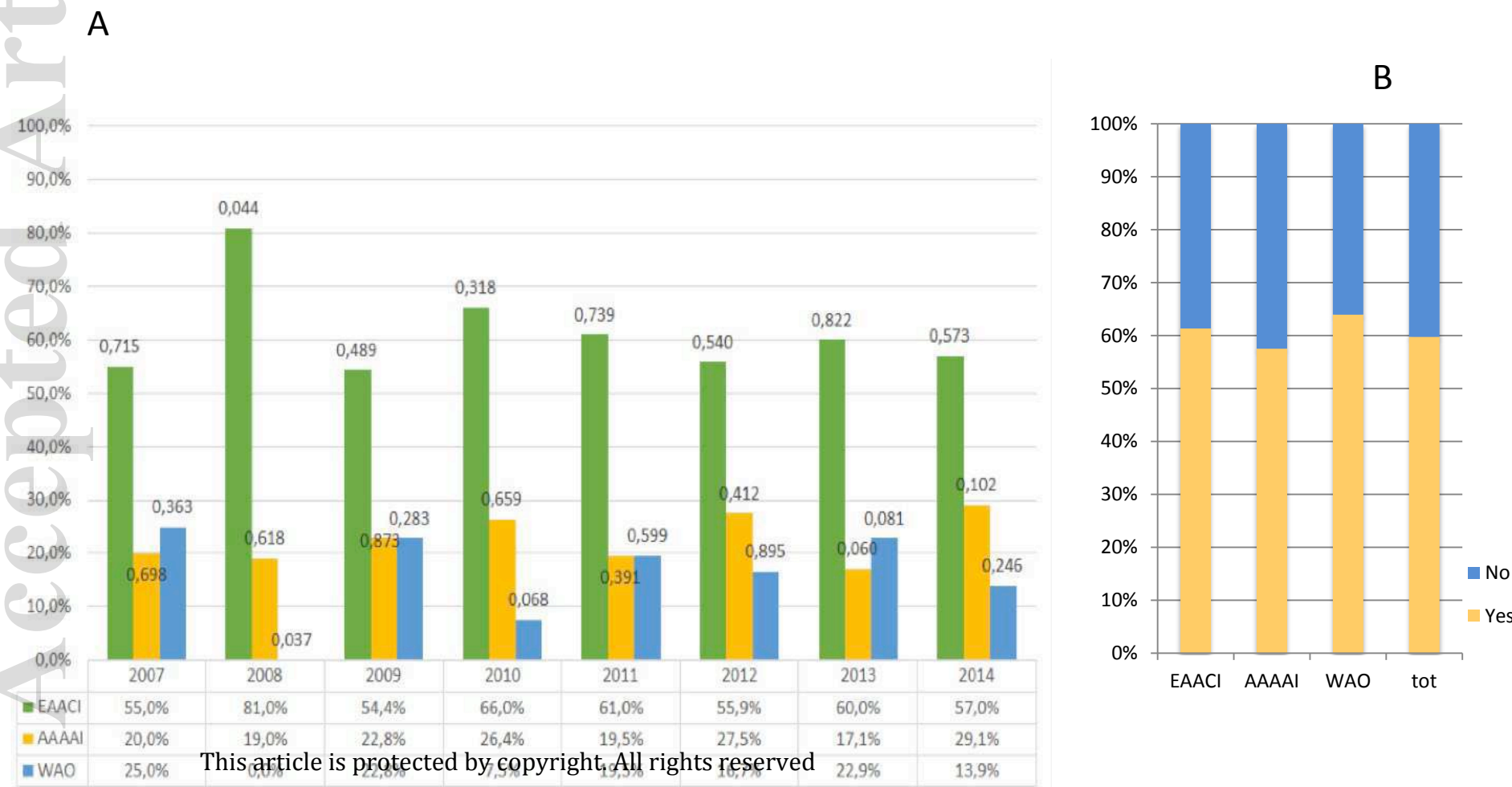


Figure 4: Proportion of congress participants, by Scientific Society (A) and opinion whether Scientific Societies provide enough opportunities to young members or not (B)-



EAACI-AAAAI-WAO Junior members joint survey on education and formation

Thank you for spending some time to fill in this questionnaire. For the first time EAACI-AAAAI-WAO Junior Members join forces to have a global view of the education and formation of the new generation of allergists, immunologists and members working in the A/I field. Replying this questionnaire, you will be supporting the specialty and providing data for future achievements.

*** Required**

Age (years) *

Gender *

- ☐ Female
☐ Male

Country *

Are you member of: *

- ☐ European Academy of Allergy and Clinical Immunology (EAACI)
- ☐ American Academy of Asthma, Allergy and Clinical Immunology (AAAAI)
- ☐ World Allergy Organization (WAO)
- ☐ Other:

Are you mostly involved in *

- ☐ Clinical activity with children
- ☐ Clinical activity with adults
- ☐ Clinical activity with both adults and children
- ☐ Clinical research
- ☐ Basic research
- ☐ Both clinical activity with children and research
- ☐ Both clinical activity with adults and research
- ☐ Both clinical activity with children and adults and research
- ☐ Other:

If you are involved in research, please specify in which field you are current working

Are you primarily interested in: *

- ☐ Allergy
- ☐ Clinical Immunology
- ☐ Basic immunology
- ☐ Other:

What level of education have you completed? *

- ☐ Undergraduate (bachelor) studies
- ☐ Postgraduate studies (master, postgraduate medical training)
- ☐ PhD studies
- ☐ Residency
- ☐ Fellowship

In your country, Allergy and Clinical Immunology is: *

- ☐ Recognized as a specialty
- ☐ Recognized as a sub-specialty (e.g: after Dermatology, Pulmonology, ENT formation)
- ☐ Recognized just as an area of postgraduate study (Master, Postgraduate medical training, Research)
- ☐ Not recognized as a specialty

Which is the main reason you chose this specialty?

- ☐ Major interest in Allergy and Clinical immunology
- ☐ Good professional opportunities
- ☐ Good academic opportunities
- ☐ Good research opportunities
- ☐ Specialty mainly with clinical activity in the outpatients' clinic
- ☐ Second choice
- ☐ Other:

Are/were you satisfied with your studies? *

- ☐ Yes
- ☐ No
- ☐ Not completely

If you replied NO or NOT COMPLETELY to the last question, please specify why

If you have already completed your training, are you satisfied with your current job position?

- ☐ Yes
- ☐ No
- ☐ Not completely

If you replied NO or NOT COMPLETELY to the last question, please specify why

Did you have a financial burden due to your residency/postgraduate formation? *

- ☐ Yes
- ☐ No

If you replied YES for the last question, for how long?

- ☐ 1 years
- ☐ 2 years
- ☐ 3 years
- ☐ 4 years
- ☐ 5 years
- ☐ more than 5 years

Which is the area you plan to dedicate to?

- ☐ Allergy
- ☐ Clinical Immunology
- ☐ Private practice
- ☐ Public hospital
- ☐ Academics
- ☐ Research
- ☐ Industry/Pharmaceutical companies
- ☐ Other:

How long does it take on average to obtain a PhD in your country?

- ☐ 2 years
- ☐ 3 years
- ☐ 4 years
- ☐ 5 years
- ☐ more than 5 years

Have you already applied for a research grant?

- ☐ Yes
- ☐ No

If YES, did you succeed in the grant application?

- ☐ Yes
- ☐ No

In case you have succeeded in the grant application, please indicate the average duration of a research grant

- ☐ Less than 6 months
- ☐ 6 months
- ☐ 1 year
- ☐ More than 1 year

How easy do you feel is obtaining a research grant from PUBLIC funding? (score the answer from 0 to 10) *

	1	2	3	4	5	6	7	8	9	10	
Easy	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Difficult

How easy do you feel is obtaining a research grant from PRIVATE funding? (score the answer from 0 to 10) *

	1	2	3	4	5	6	7	8	9	10	
Easy	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Difficult

How easy do you feel is obtaining a research grant from NATIONAL SCIENTIFIC SOCIETY funding? (score the answer from 0 to 10) *

	1	2	3	4	5	6	7	8	9	10	
Easy	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Difficult

If you are to spend a period of time abroad, as a research/clinical fellow, what are your expectations?

If you have already spent a period abroad as research/clinical fellow, have your expectations been fulfilled?

- ☐ Yes
- ☐ No
- ☐ Not completely

If you replied NO or NOT COMPLETELY to the last question, please specify why

Have you ever attended any EAACI Congress? *

- ☐ Yes
- ☐ No

If you replied YES for the last question, please indicate the years of congresses you have attended.

- ☐ 2007
- ☐ 2008
- ☐ 2009
- ☐ 2010
- ☐ 2011
- ☐ 2012
- ☐ 2013
- ☐ 2014

Have you ever attended any AAAAI Congress? *

- ☐ Yes
- ☐ No

If you replied YES for the last question, please indicate the years of congresses you have attended.

- ☐ 2007
- ☐ 2008
- ☐ 2009
- ☐ 2010
- ☐ 2011
- ☐ 2012
- ☐ 2013
- ☐ 2014

Have you ever attended any WAO Congress? *

- ☐ Yes
- ☐ No

If you replied YES for the last question, please indicate the years of congresses you have attended.

- ☐ 2007
- ☐ 2008
- ☐ 2009
- ☐ 2010
- ☐ 2011
- ☐ 2012
- ☐ 2013
- ☐ 2014

Do you think Scientific Societies provide enough opportunities for young members? *

- ☐ Yes
- ☐ No

Do you think that more intensive cooperation between the Allergy and Clinical Immunology Societies would provide more opportunities for your specialization improvement?

- ☐ Yes
- ☐ No

What would you propose to Allergy Academies for actively involving young members ?

Would you suggest new activities not included in the EAACI, AAAAI and WAO Congresses?

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Appendix 2: List of continents and regions and number (%) of responders

Continent - Region	N (%) of responders
Africa-Middle East	16 (3.0%)
Algeria	12.5%
Benin	6.3%
Egypt	25.0%
Nigeria	25.0%
Sudan	12.5%
Tunisia	18.8%
Asia-Pacific	116 (21.4%)
Armenia	3.4%
Australia	2.6%
Bangladesh	0.9%
Cambodia	0.9%
China	2.6%
Georgia	4.3%
India	24.1%
Indonesia	6.9%
Iran (Islamic Republic of)	9.5%
Israel	0.9%
Japan	1.7%
Kuwait	0.9%
Lebanon	0.9%
Malaysia	2.6%
Mongolia	3.4%
Nepal	1.7%
Pakistan	2.6%
Philippines	3.4%
Republic of Korea	7.8%
Saudi Arabia	0.9%
Sri Lanka	0.9%
Thailand	12.1%
Viet Nam	5.2%
Europe	262 (48.2%)
Albania	1.9%
Austria	0.8%
Belarus	0.8%
Belgium	3.8%
Bulgaria	3.8%
Croatia	1.5%
Czech Republic	0.4%
Denmark	1.1%
Estonia	1.1%
France	2.3%
Germany	4.6%
Greece	2.7%
Hungary	0.8%
Ireland	0.4%
Italy	14.5%
Latvia	1.1%
Lithuania	1.5%
Netherlands	2.7%
Poland	3.1%

Portugal	6.5%
Republic of Moldova	0.4%
Romania	3.4%
Russian Federation	7.6%
Serbia	1.1%
Slovenia	1.1%
Spain	14.9%
Sweden	1.5%
Switzerland	1.5%
The former Yugoslav Republic of Macedonia	0.4%
Turkey	2.7%
Ukraine	5.3%
United Kingdom	4.6%
Latin America	66 (12.1%)
Argentina	7.6%
Brazil	28.8%
Chile	3.0%
Colombia	13.6%
Costa Rica	1.5%
Cuba	4.5%
Dominican Republic	1.5%
Ecuador	1.5%
Mexico	27.3%
Nicaragua	1.5%
Paraguay	3.0%
Peru	4.5%
Venezuela (Bolivarian Republic of)	1.5%
North America	83 (15.3%)
Canada	8.4%
United States of America	91.6%
Grand Total	543