

Satisfaction and Perceived Barriers of General Practice Residents in Relation to Their Educational Needs Coverage During Residency in Greece

Emmanouil K. SYMVOULAKIS^{a, b}, Apostolos TSAPAS^{a, c}, Emmanouil SMYRNAKIS^{a, d}, Athina TATSIONI^{a, e}, Evangelos DROSOS^{a, f}, Eleftherios THIREOS^{a, g}, Michail DOUMAS^{a, h}, Spyridon GALANIS^{a, i}, Pigi PERDIKAKI^{a, j}, Athanasios SYMEONIDIS^{a, k}, Nikolaos PAPANIKOLAOU^{a, l}, Ioannis KARAGEORGIOU^m, Stamatios KOKKINAKIS^m, Neofytos MALIOTIS^m, Alexis BENOS^{a, d}, Christos LIONIS^{a, b}

^aWorking Group in General practice, Central Board of Health (ΚεΣΥ, CBH), Ministry of Health, Greece

^bClinic of Social and Family Medicine, School of Medicine, University of Crete, Greece

^cClinical Research and Evidence-Based Medicine Unit, Second Medical Department, Aristotle University Thessaloniki, Greece

^dLaboratory of Primary Health Care, General Practice and Health Services Research – Faculty of Medicine, Aristotle University of Thessaloniki, Greece

^eFaculty of Medicine, School of Health Sciences, University of Ioannina, Ioannina, Greece

^fSiatista Health Centre, Region of West Macedonia, Greece

^gVari Health Centre, Region of Attica, Greece

^hSecond Propaedeutic Department of Internal Medicine, Faculty of Medicine, School of Health Sciences, Aristotle University of Thessaloniki, Greece

ⁱPrivate Primary Care Unit, Corfu, Greece

^jAstros Health Centre, Region of Peloponnesus, Greece

^kHealth Centre of Nea Michaniona, Region of Central Makedonia, Greece

^lHealth Centre of W. Fragista, Region of Sterea Hellas, Greece

^mSchool of Medicine, University of Crete, Greece

Address for correspondence:

Emmanouil K Symvoulakis, Assistant Professor of Primary Health Care
Clinic of Social and Family Medicine, School of Medicine, University of Crete, Greece,
P.O. Box: 2208, 71003
Tel.: +30 2810 394621; Fax: +30 2810 394614
Email: symvouman@yahoo.com; ORCID: 0000-0002-5650-5513

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ABSTRACT

Objectives: This study aimed to assess satisfaction and report on perceptions of General Practice (GP) residents during residency in Greece, through an online questionnaire at a national level.

Material and methods: A mixed type method study was shaped. Both quantitative analysis and a quasi-qualitative approach were used, while information from an open-ended question was processed. The study included answers of GP residents recruited with a national sample pool technique.

Results: There were 177 responders from 430 registered residents. Using a grading system from 1 to 10, the median value showing how much satisfied the participants were during their training was 4.48 (95% CI 4.16-4.79), while GP logbook was regarded as useful (median value 6.29, 95% CI 5.84-6.73). The training program was reported as insufficient to prepare residents for their future work as primary health care physicians, with a median rating of 4.09 (95% CI 3.78-4.41). The overall educational gain was regarded as poor compared to residents' expectations, with a median rating of 4.71 (95% CI 4.38-5.07). From free text responses of 83 participants, an organized educational program based on logbook skill acquirement with interaction between coordinator and resident emerged as a priority.

Conclusions: Understanding general practitioners' perceptions, satisfaction level and expectations may help to design reform initiatives and cover their educational needs during residency in a holistic manner. Experience from local settings may be useful to offer more comprehensive messages. In a rapidly changing health environment, quickly collecting and analyzing emerging data appears to be a practical way for correcting decisions and avoiding previous errors.

Keywords: primary care, decision making, ethics/attitudes, curriculum infrastructure, postgraduate.

INTRODUCTION

Current job commitments of general practitioners/family doctors (GPs/FDs) differ significantly from those of the previous decade. Changes in patients' demographics and expectations, in conjunction to technological progress in the field of healthcare, seem to have redirected needs towards community-based health services, driven by the principles of quality improvement and cost-effectiveness (1-5). Based on previous experience, one might expect that GPs would have a daily routine in a relatively protected environment, especially in terms of a predictable workload (6). In our troubled times, it is more likely that GPs will be asked to work in multiple health sites or facilities, with different primary care needs and demands from each patient or different population groups (4).

In UK, a country with years of experience in GP training, the current medical training trend, Shape of Training Review (7), aims to reshape postgraduate medical training in order to make sure that medical personnel will be able to serve the future needs of the NHS (National Health System), with fewer restrictions and more focus on each individual's skills rather than responsibilities

(8). This is in complete alignment with the recommendation of the Royal College of GPs to extend GP training to 24 months of training in primary care facilities (9).

In Greece, at the time of this study, there was a four-year residency program in GP that is hospital and primary health care (PHC) settings oriented, with a time duration rate of 3:1 for each mentioned educational environment respectively. During training in hospital, GP residents rotate through five different clinical placements (Internal Medicine – six months; Pediatrics – four months; Cardiology – three months; Dermatology – two months; Psychiatry – three months), six different surgery units (Surgery – four months; Obstetrics & Gynecology – three months; Orthopedics – three months; Ophthalmology – two months; ENT – two months; Intensive Care Unit – two months) and two different laboratory units (Biopathology – two months; Radiology – one month). GP residents follow a four-week seminar in public health and a 10-month rotation in PHC Centers. In each training hospital, there is a GP training coordinator who is responsible for both the educational program and supervision of all GP residents according to the Greek GP Logbook.

In Greece, after a brief and narrative literature review, no structured plan concerning training ef-

efficiency remodeling within PHC services was systematically discussed until the moment of the current initiative. Attempts of reforming should take into account previous experiences, so that future policy design does not repeat errors of the past. The level of difficulty of this task increases if one considers the radical changes that occurred in Greece in such a short time due to budgetary rigor. Health services depend on the viability of the system not only in financial terms but also by investing in human resource training and specializing, in order to maintain quality and continuity of care. Our goal is to extract up-to-date, broad-based primary information, based on past experience, in order to draw a clear picture of GP specialty training routine in our country with the aim to improve it.

Study objectives include, among others:

- satisfaction level of residents from training facilities personnel and infrastructure;
- level of coverage of educational needs;
- analysis of possible gaps of the educational program in a quantitative as well as a qualitative manner;
- analysis of information pertaining to the perspective of training improvement, by recognizing current barriers and limitations. □

MATERIAL/PATIENTS AND METHODS

Study planning

A mixed type method study was shaped. Both quantitative analysis and a quasi-qualitative approach were used, while information from an open-ended question was processed.

Participants

GP residents from all years of residency participated. Specifically, all active residents whose details were available in digital registers and accessible by healthcare district training coordinators of the country during October 2017 were invited to participate.

Inclusion criteria

In order to be eligible for inclusion, a resident ought to:

1. be registered with an email address in the coordinating residency center registers;

2. be an active resident at a training facility (hospital/health center).

Sample

For study sampling, a digital message (email) was sent in two different time points. This study was conducted in association with training coordinators (one from each healthcare district). The digital invitation was sent twice to all residents in October 2017. This national study was designed with the aim of ensuring that residents who reply to digital invitation exceed 20% of the number of residency positions of the country.

Tools/procedures

Participants were required to answer a digital questionnaire and its mailing was supported by REDCap, a digital platform designed for online surveys (10). The questionnaire was developed for the needs of the Working Group of the Central Board of Health (CBH) of the Ministry of Health in order to reflect the current situation in GP residency training. It was based on GP residents' self-reported data, and consisted of 27 fields which were designed to record information using structured and semi-structured questions. The information was related to participants' spatial-temporal data, previous experience, level of satisfaction, use of tools, training procedures, educational skills and activities and finally, expectations. In the last field (the 28th), each participant was allowed to freely express himself/herself with a comment. The questionnaire was commented and modified before being uploaded on the online platform with the consent of all members of the Working Group. The digital platform automatically collected participants' answers and included them in a digital file for analysis. The Working Group in GP of the CBH was appointed by the Ministry of Health, with the duty to report on and revise the educational and training program in GP residency (ΑΙβ/Γ.Π.: οικ. 28218, 11-04-2017).

The Working Group ensured that all participants were informed about the study by an introductory note after a formal written notice by the CBH. Answering the digital questionnaire was equivalent to a signed consent, concerning data use and elaboration that took place in this study. The Working Group ensured that information management was conducted in accordance to the

rules of bioethics and deontology as well as personal anonymity.

Quantitative analysis

Data were analyzed using the SPSS software package (IBM SPSS Statistics for Windows, version 25.0. Armonk, NY: IBM Corp.). Frequency distributions of participants' descriptive characteristics were initially evaluated and 95% confidence intervals (CIs) or the binomial test have been used in comparisons of different responses.

Quasi-qualitative analysis approach

For the qualitative part of the study, data were analyzed using a thematic analysis procedure. Comments were read several times to enable researchers to familiarize themselves into codes. For the analysis, the answers of eighty-three GPs were used. The thematic grouping results from the analysis and saturation observed across the individual conceptual formulations of participants' quotes (11). The final analysis and interpretation were discussed with the wider team through electronic meetings. □

RESULTS

Quantitative part of the study

Contact information was collected from ten of the 13 Health Care Districts of the country. Of the 468 residents registered in the database, 430 had an active and functioning email address. One hundred seventy-seven (41.2%) residents responded by completing the questionnaire at a national level.

Invitation messages were sent at 9/10/17 and 16/10/17, and the participation rate of the 177 GP residents in relation to their invitation dates was 3 to 1, respectively. Participants were residents from 47 out of 81 hospital units offering training position. In terms of distribution of participants based on their residency year, 8.8% were first year residents compared to 39.7% who were fourth year residents. When asked about the departments in which they had rotated, the vast majority of participants had completed a rotation in internal medicine (94.4%), cardiology (85.3%) and general surgery (83.6%), while almost half of participants had attended an intensive care unit (ICU) (51.4%), a PHC unit (53.7%) and a psychiatry department (54.8%). During internal medicine rotation, only

24.9% of participants reported that a physician was responsible for their training by monitoring their progress and teaching skills, as described in the GP Residency Logbook. In ICU and Radiology Department rotation, an even lower percentage of supervision (9%) was reported, while the respective frequency of supervisor availability within a PHC Center rotation was 17.5%. Using a grading system from 1 to 10 (Table 1A), the median value showing participants' satisfaction level during their training was 4.48 (95% CI 4.16-4.79), while GP logbook was regarded as useful (median value 6.29, 95% CI 5.84-6.73). The training program was not reported as sufficient to prepare the residents for their future work as PHC physicians, with a median rating of 4.09 (95% CI 3.78-4.41). The frequency of regular educational activities was 54.3%, with a median time-fold of 3.1 (SD 1.1) monthly (Table 1B). The most commonly mentioned activities included clinically significant topics (57.1%) and discussion of clinical cases (45.2%). On the other hand, the least reported activities were examining real patients (7.9%) and studying video recording cases (1.1%). Progress examinations were reported in 24.1% of participants, with a median time-fold of 3.1 (SD 2.1) annually, while trainer evaluation was reported in 5.4%, with a median time-fold of 2.4 (SD 1.6) annually (Table 1C). About 15% of participants had experience of an oral or poster presentation in a Greek conference, while less than 5% had published a paper in a Greek or an international peer-reviewed journal. More than half of participants reported that there was no organized textbook library with GP content in their hospitals or health centers, while only 4.3% had journal subscriptions and medical search engine access within health centers (Table 2A). In Table 2B, the training 'atmosphere' was reported as mostly positive, with a median rating of 6.81 (95% CI 6.30-7.29), while overall education was deficient compared to residents' expectations, with a median rating of 4.71 (95% CI 4.38-5.07) in a 10-grade scale. In Table 2C, fewer than half of participants would choose the same hospital for their training again (42.8%), while a significant number of them (58%) would choose the same health center for training again.

Quasi-qualitative part of the study

An open-ended question was asked: 'Would you like to add any other comment regarding your training in the hospital or PHC Center in the con-

Table 1A. Level of satisfaction with the training program and logbook use (177 participating GP residents)

Question	Mean value	95% CI	
<i>How satisfied are you with the residency training program for GPs up to this point?</i>	4.48 †	4.16	4.79
<i>Have you already used your logbook to monitor your training?</i>	4.19	3.72	4.65
<i>How useful do you find the GP logbook?</i>	6.29	5.84	6.73
<i>Do you think the clinic / department education program supports the appropriate preparation of the GP for their future employment in primary health care units?</i>	4.09	3.78	4.41

Minimum scale rating is 1 (=not at all) and maximal is 10 (=very much).

Table 1B. Frequency of implementing a regular program of GP educational activities in the institution offering specialization (177 participating GP residents).

Parameter	n	%	
<i>Implementation of a regular program of GP educational activities</i>	No	79	45.7
	Yes	94	54.3
Times/month	$\bar{x} \pm SD$ (min.-max.)	3.1±1.1 (1-6)	

Binomial control (50% control): p=0.287.

Table 1C. Frequency of progress exams across 177 GP residents and evaluation of their trainers

Parameter	n	%	
<i>GP resident progress exam participation</i>	No	132	75.9
	Yes	42	24.1
Times/year	$\bar{x} \pm SD$ (min.-max.)	3.1±2.1 (1-10)	
<i>Trainer evaluation regarding their educational work with questionnaires</i>	No	159	94.6
	Yes	9	5.4
Times/year	$\bar{x} \pm SD$ (min.-max.)	2.4±1.6 (1-5)	

Binomial control (50% control): p<0.001 on both controls

TABLE 1. Satisfaction among GP residents, regular educational activities reporting and evaluation issues

text of your residency in GP?’ From a quasi-qualitative analysis of this material (11), findings are described below. As mentioned in the method section, answers of eighty-three GPs were used.

More specifically, it is obvious from the analysis that during the educational process, GP residents need to be involved for a more extended period within Internal Medicine placement, outpatient clinics, and Emergency Department settings.

Some characteristic answers include:

- ‘It would be useful if during first-year rotation across clinics such as Internal Medicine and Cardiology, GP residents had the

chance to work and be trained in the outpatient settings of these clinics’ [Participant Numbering (PN): 9],

- ‘...a modification of our training program by increasing our rotation time in Internal Medicine, and by adding an Emergency Medicine semester...’ (PN: 14)

An equally important factor affecting the educational model during the hospital training period is the absence of a training coordinator and structured educational program in the fields of internal medicine, pulmonology, neurology, as well as lack of preparation for the PHC rotation.

Table 2A. Responses of the 177 GP residents to queries related to services provided in the institution offering specialization

Questions about facilities	Yes	No	I do not know
	%		
<i>Do you have access to the Internet in the Hospital?</i>	93.7	4.0	2.3
<i>Do you have access to the internet in the primary care health center (PCHC)? (Answer only if you have already practiced in a PCHC)</i>	83.3	4.2	12.5
<i>Does the hospital provide an organized library of textbooks and content related to general medicine?</i>	13.7	54.9	31.4
<i>Does the PCHC provide an organized library of textbooks and content related to general medicine? (Answer only if you have already practiced in a PCHC)</i>	12.5	61.7	25.8
<i>Does the hospital feature subscription to medical journals (printed or online) or other online medical search engines?</i>	22.4	41.8	35.8
<i>Does the PCHC feature subscription to medical journals (printed or online) or other online medical search engines? (Answer only if you have already practiced in a PCHC)</i>	4.3	52.5	43.2

Table 2B. Level of satisfaction of the participants related to placement, expectations and skills

Questions rating satisfaction	Mean value	95% CI	
<i>Was the atmosphere positive during the in-hospital training of the residents?</i>	5.16 [‡]	4.82	5.50
<i>Was the atmosphere positive during the in-PCHC training of the residents? (Answer only if you have already practiced in a PCHC)</i>	6.81	6.30	7.29
<i>Do you believe that the overall training you received met your expectations?</i>	4.71	4.38	5.07
<i>Do you believe that the overall training you received provided you with the necessary skills to become a GP?</i>	5.12	4.81	5.45

[‡]Rating scale: minimum rating of 1 (= not at all) and maximum of 10 (= very much).

Table 2C. Responses of the 177 GP residents to queries related to the level of satisfaction with overall education received.

Questions	Yes	No	I am not sure
	%		
<i>Would you choose the same hospital for your training again?</i>	42.8	15.6	41.6
<i>Would you choose the same PCHC for your training again? (Answer only if you have already practiced in a PCHC)</i>	58.0	21.5	20.5

TABLE 2. Responses related to offered services, placement issues, expectations and skills

A typical example:

- ‘...for the largest part of our training, there was no training coordinator for GPs and there was definitely no coordinator in each one of the clinics we worked. Furthermore, we are not prepared sufficiently to handle pulmonology and neurology cases, because our rotation in internal medicine (where such cases are handled) was minimal. Training in outpatient setting (Internal Medicine, Diabetes, Cardiology, Pulmonology,

Neurology, General Surgery and Orthopedics), which is the primary care aspect of each clinic, was an important deficiency of our program’ (PN: 129)

Based on participants’ answers, it is accepted that there is an absence of an organized educational program, both at the level of primary care and hospital settings, in regard of logbook skill acquirement and in relation to coordinator–resident interaction. The result of this absence is the lack of updates on ‘what is new’ in GP from specialized

GPs, as well as the fact that any effort of enriching and developing a resident's skill arises solely from their personal actions and eagerness to learn.

Here are some characteristic comments:

- '...Hospitals, due to the fact that they are tertiary health care units, do not offer the required level of training in GP' (PN 14),
- '...My training is based more on my efforts, observations, interest, and persistence, rather than on my organized training by the specialists in every clinic' (PN 16),
- '... Unfortunately, the education at the PHC Centers is inadequate' (PN 18),
- '... Unfortunately, no training is provided in either hospitals or PHC Centers, and as time passes... it gets even worse e.g., educational tasks such as presenting a case study or writing and publishing a scientific paper are not achieved, while many of the skills in our logbooks are not even provided in regional hospitals. Coordinators are getting involved with the residents only when we have to rotate between clinics, but when it comes to our education, they are not interested at all. Regardless of the skills written in the logbook, the clinic director decides the direction of our educational path without involving the coordinator. Lastly, the substandard training that the resident receives bears no resemblance to PHC' (PN 22)

Unfortunately, this apparent dissatisfaction is an aspect of the deficient model of education that potentially leads to a 'downgrading' of the quality of medical services provided. Evaluation is an important link in the educational process chain. In all forms of education, evaluation functions as a catalyst for improvement. Therefore, the participants in this study emphasized the need for two types of evaluation: one in which educational centers will be evaluated for their ability to provide residency over time, and the other one, a bi-directional evaluation path between trainer-trainee.

Two typical answers are presented:

- '...Firstly, PHC Centers should be evaluated in terms of capability for providing residency (checking if quality criteria are met) – for example, a study could be conducted using questionnaires, addressing former and current residents to provide an overview of

their educational quality in PHC Centers' (PN 88),

- *'It would be better to have an allocated trainer for clinical skills, a GP trainer at the hospital that we report, a two-way evaluation process, where the trainer records the trainee's progress and vice versa, to participate in health education programs and gain an easier access to educational leave schemes, informative workshops and conferences. The PHC Center should consider speculating the capacity of their services through studying the population size they can manage ...' (PN 149)*

By gathering responses to our questions, another fact became evident: GP residents' frustration with the 'rejection' and 'downgrading' of their role by other specialty doctors. This existing form of 'bullying' can inhibit the completion of their specialty, exerting a psychological pressure that in many cases can lead to the point of specialty change.

- *'There is a bias regarding GPs' level of medical educational, which is expressed by the depreciation and degradation of their role. Thus, it undermines the relationship of GPs with colleagues in other specialties, both residents and specialists' (PN 39),*
- *'...I am neither satisfied nor happy with the way a hospital is treating GPs and so, I think I will change specialty' (PN 145).*

The most important findings of the qualitative part of the study are summarized in the box below.

Main points from open-ended answers to the question: *'Would you like to add any other comment regarding your training in a hospital or PHC Center in the context of your residency in GP?'*

- Practicing within emergency care and chronic disease ordinary management is strongly recommended to be extended in terms of time duration training.
- The physical presence of a training coordinator and the availability of a structured educational program, feasibly connected to logbook skill acquisition, are ingredients to be added to any effort of educational model re-shaping.
- A bi-directional evaluation process between training coordinator and resident is necessary to offer an action-reaction input towards quality improvement.
- GP residents should be reinforced by investing into their clinical self-esteem, leading to considerations for a better career appreciation.

DISCUSSION

Overall, this study recorded many deficits in the context of GP training offered in Greece. Residents described numerous ways by which training can be reshaped, by providing better GP knowledge and skills to consequently improve patient care and familiarize with integration concepts. Our study suggests that GPs during residency training need to be trained for longer periods of time in hospital outpatient or emergency department settings, as it resulted in an enhanced manner of interaction between primary care and urgent/emergency care training framework. This is also supported by another recent study (8). The range of learning 'exposure' and the length of training time is also of paramount importance as GPs training on 'chronic diseases' becomes more demanding.

It is widely recognized by participants that the educational model needs to be restructured by 'calibrating' the period of training in different hospital departments – for example, introducing or removing weeks of training in various hospital placements, without forgetting that more GP academic departments are needed and more involvement is required in undergraduate training through GP rotation for all (12). Simultaneously, there is a need to introduce a residency work plan that it is sustainable and effective during the period of in-PHC education and in-hospital education. The presence of an allocated GP trainer in each hospital is essential for a better and guided training. However, it is not easy to obtain effective training when time availability and 'mood' pressure due to administrative burdened duties or selfish attitudes is part of daily routine (13). GP trainers should communicate and cooperate with GP coordinators in implementing an optimized PHC logbook/skill-book based on primary care practice needs. It is also remarkable that participants point out the initiation of evaluation procedures as a necessity. PHC Centers should be evaluated for their ability to provide resident training; also, they should conduct surveys for residents in order to monitor the quality of their educational gain. Quality assurance, quality improvement and institutional collaboration are difficult tasks and much work is needed, not only for the preparation phase but also for enactment (14). The relationship between trainer-trainee is complex and a two-way evaluation

can guarantee quality for both sides. GP training organizations should involve themselves to support practices and help develop supportive supervision and a learning culture (15). Moreover, an attempt to upgrade specialty's prestige and credibility (16, 17) was also clearly proposed in the context of the present study.

Short-term placement of resident GPs in different training positions outside the typical configuration of GP for a few months during specialization would be a key option of obtaining specific skills (4, 18, 19). Designing mentoring programs for residents inside the broader context of specialization training, or assignment of leading roles and responsibilities to residents, within a team that aims to improve the quality of care and provide technical skills is also a promising pathway. An increase in medical school clinical placements in GP and the introduction of new competence outlines offer an important opportunity to further inform how 'systematic' input can support increased educational activity in GP (20).

Besides these, shadowing opportunities for all residents to work with clinical and non-clinical professionals would be welcome, as residents will be able to develop capacity in business management. It could ensure all trainees having experience of business, finance, and leadership roles (4).

Limitations

For the interpretation of results, some limitations need to be considered. The use of web-based questionnaires ensures immediate and easy real-time data collection and processing, but has the disadvantage of low 'responsiveness', given that the process is impersonal. The use of out-of-date data bases can result in loss of delivery due to typographical errors in email addresses or inactivity of email accounts. Finally, we speculate that the extent of response to such studies in Greece is influenced by four factors, including the level of familiarity with web-based services, thoroughness in registering correct electronic data, inactivity due to participating in an impersonal process and limitation in responders' expression related to the given anonymity. In addition, this study was a mixed method type study. We have processed free text answers with a qualitative methodological approach in terms of thematic analysis simulation.

Impact of the study

The findings of this effort may contribute to the formulation of proposals for a better GP training in Greece, in combination with information from the existing literature. In Greece, failure of reforms is mostly related to implementing 'discomfort' rather than planning or designing efficiency. A choice of a five-year training program, with one-year extension, in contrast to the current four-year one, was on the table of discussion at the moment of this study by the above-mentioned Working Group. Part of the obtained information from both quantitative and quasi-qualitative result branches has been introduced in the proposals of this Working Group in regards to the content and duration of each educational component suggested. □

CONCLUSIONS

This is the first study attempting to address key issues in GP residency training in Greece. Sub-

stantial gaps involving most aspects of a resident's education were pointed out and some modifications, including a better distribution of rotation duration, the appointment of a supervisor and education evaluation, were suggested by Greek GP residents. More studies of this kind are needed, in order to confirm our data and lead to improvement in GP training in the future. □

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