Journal of Population Therapeutics & Clinical Pharmacology

RESEARCH ARTICLE
DOI: 10.53555/jptcp.v30i5.6208

ASSESSING PERSPECTIVES ON RESEARCH-BASED TRAINING IN GENERAL PRACTICE: A SURVEY STUDY AMONG TRAINEES, PRACTITIONERS, AND TRAINERS

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Abstract
There are many opportunities for young physicians to work in general practice departments as trainees and researchers. In most cases, trainees combine university work with clinical work part-time. A survey was conducted among trainees, department heads, and trainee trainers for general practitioners to find out how they view research-based training. Online surveys were conducted with general practitioners, trainees, and trainers. In the questionnaires, questions were both open-ended and closed-ended. Statistical analysis was carried out using both qualitative and descriptive methods. There were 56 trainees and 40 trainees who responded. Generally, trainees were satisfied with their training situation. Research and general practice training proved to be difficult for trainees. Research on general practice is lacking credibility and has problems with multitasking. A solution advocated is training that enables research. There is a perception that it is difficult to combine medical training with scientific research. It is still possible to improve the quality of the combination by well-designed and well-organized programs.

Keywords: General Practices, Trainees, Multitasking challenges, Research based training, Program improvement

Introduction
As General Practice becomes more academized, its position within the health care system changes [1]. Research on General Practice was also more valuable for countries with well-established primary care systems [2]. In a health care system, General Practice benefits from a broad representation at medical schools [3].

There has been an expansion of academic General Practice in recent years [4], [5]. General Practice departments are steadily increasing in medical schools [3]. It is necessary to train and research in General Practice and Family Medicine [6], [7]. For the future of medicine, dual-qualified doctors are needed [8]. Alternatively, trainees in internal medicine can qualify both clinically and research. Consequently, specialty training and research can be combined without experiencing any delays or only experiencing a short delay [9]. General practice is characterized by the separation of scientific

and clinical activities between different employers. Specialist training is usually significantly prolonged when combined with research [10].
It is estimated that there are only a few university department heads in the field of general practice who are authorized to train GPs [11]. Scientific activities are allowed only in a few composite specialty training programs [12, 13]. Research involvement among GP trainees is little known so far, it is unknown how many trainee GPs conduct research or whether departments offer research and specialist training together. Further, it is unclear whether the involvement in scientific activities is considered a path toward becoming a doctor. Furthermore, the perspectives of GP trainers are unknown.

Methods

We conducted a three-arm cross-sectional study. The general practice departments were surveyed, as were GP trainees and their GP trainers.

Questionnaires

In order to develop a questionnaire for each group (e.g., department heads, trainees, and trainers), study developed one questionnaire jointly. A closed-ended question was evaluated quantitatively, and an open-ended question was evaluated qualitatively in the questionnaires.
The questionnaire for the department heads asked them about their own training as GP trainers, how much practical clinical work they did, and how many trainees they had in their department. A question about training programs was also included. Study discussed barriers, solutions, and future visions for combining scientific activity with specialist training. No demographic information was collected to ensure anonymity.

GP trainees were asked demographic questions as well as questions about research, teaching, and clinical activities. In addition to asking trainees about their satisfaction with their training situation, study also asked them what they planned to do in the future. Similar questions were asked in the departmental heads' questionnaire. Department heads and trainees were surveyed online. In addition, three open-ended questions were asked to trainees involved in research.
The questionnaires were pre-tested with regard to comprehension, acceptability, technical problems, and time requirements: a group of seven scholars who are in leadership roles evaluated the question-naire for heads of departments. Nine researchers in General Practice without training evaluated the questionnaire for trainees.

Sampling and recruitment

The number of medical schools is 36. To find out how these schools represent General Practice. Using the universities' websites, study found the email addresses of department heads. 34 schools were contacted.

The heads of departments provided us with contact information for their trainees. A further recruitment method was to email GP trainees' email lists. GP trainers are not known to train scientists. For this reason, we requested that all trainees print out the questionnaire and give it to their trainers. Two reminders were sent by email to department heads and trainees.

Analysis

As our aim was to reach all relevant persons, no sample size was calculated. Using descriptive statistics, IBM SPSS Statistics, version 20.0, was used to analyze the quantitative responses. Median measures central tendency, and range measures dispersion [14]. Coding and categorizing qualitative free-text responses was conducted. In joint meetings, the three researchers coded each line of the material. The codes were compared and clustered consensually.

Results

Results in quantitative terms

A survey was sent to 68 general practice department heads, and 56 responded. There are 30 out of 56 with a training authorization, which is more than half. A majority of participants (62%) with training authorizations or who have applied for them reported difficulty dealing with the state medical board in this context; scientific activity, for example, was not considered as part of the GP specialist training. The median number of GP trainees employed per department is 4.5 (range: 1-5), with 4/6 of department heads employing GP trainees. Trainees may be able to conduct research in some departments (see Table 1).

Table 1: Composite specialist training programs involving departments of General Practice.

Questionnaires	Answer yes/all answers
Involvement of the departments of general practice in composite specialist training programs	32/48
Scientific activity possible within composite specialist training programs	20/32
Involvement in composite specialist training programs planned for the next year	12/16

The survey was completed by 40 of 68 potential GP trainees. A majority (almost 82%) lived in a couple with children, and over half were women. They were on average 33 years old (range: 28-46). Approximately 22.5 hours were spent on research, teaching, or patient care each week, with a median of 17.5 hours. Nine trainees haven't decided whether they'll complete a postdoctoral lectureship, and six said they didn't intend to do so. The training situation of 26 out of 40 GP trainees is very or very satisfactory. In this survey, no clinical trainers completed questionnaires.

Results qualitative

There were 50 out of 56 department heads who answered the open questions, as well as 34 out of 40 trainee GPs who participated.

Perspectives of GP trainees

Three areas can be identified in GP trainees' responses to effective integration of scientific activity:

- Frustration
- Recognition
- Promotion

As one of the biggest obstacles for medical students, substantive questions and the organizational reconciliation of hospital and outpatient care were cited as the main concerns. Focusing on one of these areas poses a conflict with the demand for further development in both. The problem with finding a part-time job hinders the organizational effect of reconciliation. As a result of multiple jobs, GP trainees face lower salaries in research compared with those in patient care.

In addition, scientific activity is not recognized, which is a major barrier for GP trainees. The problem isn't just that the federal state medical board does not hold specialist training in line with scientific activity, but also that colleagues in the practice or hospital do not acknowledge, or do not understand, scientific activity; A lack of appreciation for trainees' work creates a stressful feeling for them In particular, trainees pointed to organizational improvement strategies that were already in place. Research and patient care should be rotated every week or just one full-time day per week during training. Programs that combine GP specialist training with turnover management are additional comprehensive strategies. There is clear structure and agreement as to when patient care and research should take place. Alternatively, separate patient-care and research activities. Research accountability should be a focus of future reconciliation actions for GP trainees. This should be clearly regulated. Trainee GPs want to do research and patient care. It is, however, important to maintain a flexible ratio between full-time equivalents by adjusting the ratio of patient care to research activity in case of excessive workloads. It is believed that both activities will be supported and coordinated by the Head of Department of General Practice. In light of their multi-employment situations, general practice trainees declined ongoing unpaid overtime. As viewed by the Heads of

Departments, integrating training and science is a major challenge: "Hazard employees can work in research for a year and still receive a certificate; however, it cannot be done in a primary care practice." Because of both part-time work and research activity, it appears difficult to achieve a successful implementation of systematic research education in a part-time position: "Practical part-time positions can only provide limited opportunities for good scientific practice". Combining these two tasks can lead to high workloads, scheduling conflicts, family conflicts, and conflicting employer requirements. “It is sometimes difficult to bring together interests and requirements from research and patient care when they are from different employers; organizational efforts are particularly important. A further obstacle is cited as the extension of the training period and the lack of scientific accountability of the federal medical board. Non-scientific and non-GP practices seem to be less open to research because of financial difficulties. One participant, however, stated that "no" obstacles existed.

GP trainees are regarded by Department Heads as of particular importance when it comes to providing them with personal and professional support. A composite specialist training program, the collaboration between university hospitals, and so the realization of research and patient care under one umbrella, supports the effective reconciliation of training and science. According to department heads, a nationwide mechanism for counting research periods towards specialist training is the primary goal for the future. During the survey, scientific activity is held accountable for periods varying from six to 18 months. In order to address organizational barriers associated with composite specialist training programs or collaboration between General Practice departments and hospital- or university-affiliated medical centers, long-term contracts are needed: "Combining universities with departments of general practice for composite specialist training!"." Doctors' tariffs apply here. It would be beneficial to expand programs that are relevant to young scientists. Insurers, medical associations, state medical boards, and universities, are reminded that they have a duty to promote science. Preventing a gap between science and patient care is thus an important task for General Practitioners. One participant demanded that research periods would not dillute training by conflicting with accountability. According to him, "Science doesn't underpin general practice!" "We aren't internal medicine specialists!", expressing a skepticism against scientific activity as part of training."

A comparison of GP trainees' and departmental heads' perspectives

GP trainees expressed list issues such as the inability to focus on professional topics and the lack of recognition / appreciation, but Department Heads cite organizational and financial difficulties when asked how to balance advanced training with science.

Discussion

There are more than half of General Practice department heads with training authorizations to include 6-24 months of scientific activity as part of their GP specialty training. As a result, lack of accountability is one of the major obstacles to a job in General Practice. Thus, department heads and GP trainees call for consistent, reliable, and nationwide accountability for scientific activity.

General practice trainees are satisfied or very satisfied with their current training situation almost two thirds of the time. However, the free-text responses reveal a great deal of confusion about the conditions for combining science and clinical activities. It appears to be due to a lack of recognition in both senses.

It is possible that the disparity in quantitative and qualitative results between the department heads' answers and those from the GP trainees is due to variations in departmental practices [3]. As a result of our results, some departments already provide GP specialist training with good conditions for scientific activity: a doctor's tariff for payment, practical clinical training in the same house or within the context of composite training or rotational programs designed by the department, and intensive mentoring including promotion of methodological skills, networking, and publishing research results. In many places, these conditions do not exist at all or only partially [12], [13], [16],

and some departments take the lead [12], [13], [16]. It seems that the main reason for this is either a lack of resources or a restrictive approach to accountability. Scientific activity during GP specialist training has also raised questions about its utility within the community. Scientific activity should be accountable to specialist training, as argued by medical associations [17-18]. Many other countries cannot engage in scientific activity without extending the length of specialized training.

Future research and implications

Results confirm the importance of a consistent, reliable assessment of general practice departments' scientific activity in regard to the training of general practitioners as specialists. A composite specialist training program, anchorage in specialist training rules, could promote continuing scientific activity, in other countries. During training, parallel scientific and clinical activities would be possible. As scientific activity is not recognized or accepted, departments of general practice should pay attention to clinics and practices that provide scientifically active general practitioners with flexible working conditions and training.

Research trainees' frustrations and lack of recognition should be addressed through systematic promotion. Research and networking among GP trainees can be promoted by a junior academy, which is composed of a manageable number of scientifically active GPs. Future studies should examine the effectiveness of such measures in encouraging young doctors to engage in research as well as specialist training. An analysis of such studies should determine how many successful jobs are created in general practice departments, how many scientific publications are authored by authors still undergoing specialty training, and postdoctoral lecturing qualifications in General Practice.

Conclusion

Respondents perceive scientific activity as a barrier to GP specialist training. Although both activities were well organized and arranged, combining them could enrich the training of GP specialist doctors. According to respondents, scientific activity in General Practice departments should be accountable to specialists, organizational barriers to parallel research and practice activities should be reduced (such as integrating scientific activity into composite programs), doctors should be paid according to their tariff, and capacity building should be systematic."

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