

Original article

Significant difference in knowledge between English and Danish psychiatrists

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Abstract

Purpose. – The purpose of the study was to investigate if differences in levels of knowledge existed between Danish and English training and specialist psychiatrists. This is important in the context of the free (and growing) movement of the medical workforce across European Union (EU) countries' borders.

Methods. – A complete balanced two-way factorial study design was used. Ten training and ten specialist psychiatrists were recruited in each country from reputable, university hospitals. They answered 50 multiple choice questions (MCQs), translated into the appropriate language, consisting of four subcategories of questions: psychology (15 MCQs), psychopharmacology (10 MCQs), neuroscience (five MCQs) and psychopathology (20 MCQs). No memory or other types of aids were allowed at the knowledge test. A two-way analysis of variance was used to analyse the total knowledge score (number of correct answers) and the component subscores. Levene's test of equality of error variances was used to test for variance homogeneity.

Results. – There were significant differences in total knowledge and psychology knowledge by country and level of training. UK doctors scored 3.10 points higher than Danish doctors, with 95% confidence interval (0.97, 5.23). The knowledge of the specialists was also significantly superior to that of the training psychiatrists, with 2.30 higher score, 95% confidence interval (0.17, 4.43). In the sub-categories only the scores in the psychology section were significantly different. UK doctors scored 2.30 higher than Danish doctors, with 95% confidence interval (1.15, 3.45). Specialists scored 1.20 higher than non-specialists with 95% confidence interval (0.05, 2.35).

Conclusions. – The results indicate that there is a significant difference in level of knowledge between psychiatrists in these two EU-countries, England and Denmark. This difference seemed to be chiefly the result of different knowledge of psychology. The disparity could be a result of the fundamentally different post-graduate training system in psychiatry in the two countries. Surprisingly, the differences in total knowledge and psychology knowledge between countries were larger than the differences between levels of training. The difference in knowledge is worrying taking into consideration that there is free movement of the workforce, including doctors, across the EU. The results here need further confirmation in future studies with greater numbers, more countries involved and perhaps additional measurements to MCQs.

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1. Introduction

At the specialist level it is possible to be recognized across all member states in the European Union (EU) in accordance with the principle of free movement of labour. While this is not the case for training doctors, certain aspects of each country's training are usually recognized within the EU. Because of lack of doctors in several European countries, especially at

specialist level, competing between countries in attracting senior doctors has become a regular feature of modern medicine. In spite of this free flowing movement of doctors within the EU, little is known about the differences in level of competency of doctors trained in different countries.

The major differences between the individual countries' training programmes in post-graduate psychiatry are, however, well documented [1–3]. Many countries within the EU do not have a post-graduate exam while others have an exam

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either during or at the end of the training period. The time spent receiving tutorials, going on courses, doing research, length of working hours and even length of actual training varies greatly between countries.

The UK is unique within the EU by having two competitive exams with passing rates well below 50% during the basic training (senior house officer level) followed up by regular assessments at higher training level (specialist registrar level) [2]. These exams must be passed before proceeding to higher training. This encourages the trainee to study intensely during the training period. Teaching is prioritized and structured so that the junior doctor attends a whole day of teaching weekly in conjunction with a compulsory, personal tutorial of 1 h weekly with the responsible consultant. The UK is furthermore unique by having the longest working hours for doctors in the EU.

Denmark differs by having no exams and only relatively recently having introduced a tutor system—not necessarily consultant led—working with much less frequent intervals than the British. Denmark also has a 37 h working week, including on-calls, for doctors. The doctor must complete two psychiatric training courses during their specialization. The first course is a basic training course divided into blocks of teaching days during the first introductory year in the speciality. The following higher training course also consists of teaching days with written assignments run on a national level. The courses are not followed by an exam and provided that the assignments are handed in, it is unusual not to obtain a certificate. The training in Denmark does however, unlike the British system, include one year of working as a senior house officer in neurology. The overall time spend in post-graduate training is similar in the two countries, approximately 6 years. The average age of the individual doctor, however, differs considerably; the British graduate is on average 31 years of age when he completes the MRCPsych-exams [2] while the Danish doctor is 50 when he becomes a specialist in psychiatry (personal communication, Professor Tom Bolvig).

It therefore seems relevant to compare the level of psychiatrists' knowledge in two EU-countries with two so fundamentally different approaches to post-graduate training in psychiatry. The aim of this article is to compare the differences in knowledge between specialists and training psychiatrists and differences between countries. Finally, the questionnaire administered allowed for breaking down the knowledge into four categories; psychopathology, psychology, psychopharmacology and neurosciences. Individual differences between these areas of knowledge were also investigated.

2. Methodology and statistics

A questionnaire containing 50 multiple choice questions (MCQS) were administered to 20 British psychiatrists, 10 specialists and 10 trainees, working in a university hospital in England (Southampton, Department of Psychiatry). The participants were told about the purpose of the study. Thirty minutes were allowed to complete the questionnaire. A power calculation had been made in advance.

The questionnaire was then translated into Danish (and back into English by an independent person to verify the translation) and administered to 20 Danish psychiatrists, 10 specialists and 10 trainees, working in a university hospital in Denmark (Copenhagen, Rigshospitalet). Also here 30 min were allowed to complete the questionnaire.

The subscales were composed of a variable number of questions (items). The composite score is the simple sum of correct answers. The possible scores ranged from 0 to 10 for psychopharmacology, from 0 to 15 for psychology, from 0 to 20 for psychopathology and from 0 to 5 for neuroscience. The questionnaire was comprised from mock exams for British MRCPsych candidates, hence was not standardized. It was felt that topics, e.g. psychopathology compared to neuroscience, deserved more weight than others. The possible total knowledge score ranged from 0 to 50. Table 1 presents the minimum, maximum, mean, median and standard deviation for the total knowledge score, the subscale scores for neuroscience, psychopathology, psychopharmacology and psychology. Also presented in Table 1 is the sum of neuroscience, psychopathology and psychopharmacology subscale scores. (Questionnaire can be requested from the first author, examples in Table 2.)

A complete balanced two-way factorial study design was used. There were 10 observations for each possible combination of the levels of the factors Country (United Kingdom vs. Denmark) and Level of Training (specialist vs. non-specialist). A two-way analysis of variance (ANOVA) assuming a normally distributed error term was used to analyse

Table 1

The minimum, maximum, mean, median and standard deviation (S.D.) for the total knowledge score, the subscale scores for neuroscience, psychopathology, psychopharmacology and psychology. Also presented under the heading of Non-psychology is the sum of neuroscience, psychopathology and psychopharmacology subscale scores

	Minimum	Maximum	Mean	Median	S.D.
Total	23	40	30.35	30	3.78
Neuroscience	1	5	3.07	3	0.97
Psychopathology	8	17	12.63	13	2.01
Psychopharmacology	2	9	6.15	6	1.49
Psychology	4	13	8.50	8	2.18
Nonpsychology	17	29	21.85	22	2.60

Table 2

Examples of statements from each of the four categories. Each statement must be answered by the participant by a (T) true or (F) false

Psychopharmacology	Neuroscience	Psychopathology	Psychology
Tardive dyskinesia is normally a reversible phenomenon (F)	Lithium can produce delta activity on the EEG (T)	Women are generally diagnosed with schizophrenia earlier than men (F)	Habituation is a complex form of learning (F)

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