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Original Research Article

Evaluation of clinical teaching quality in competency-based residency training in Lithuania

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ABSTRACT

Background and aim: In 2013, all residency programs at the Lithuanian University of Health Sciences were renewed into the competency-based medical education curriculum (CBME). In 2015, we implemented the validated EFFECT questionnaire together with the EFFECT-System for quality assessment of clinical teaching in residency training.

The aim of this study was to investigate the influence of characteristics of the resident (year of training) and clinical teacher (gender, age, and type of academic position) on teaching quality, as well as to assess areas for teaching quality improvement.

Materials and methods: Residents from 7 different residency study programs filled out 333 EFFECT questionnaires evaluating 146 clinical teachers. We received 143 self-evaluations of clinical teachers using the same questionnaire. Items were scored on a 6-point Likert scale. Main outcome measures were residents' mean overall (MOS), mean subdomain (MSS) and clinical teachers' self-evaluation scores. The overall comparisons of MOS and MSS across study groups and subgroups were done using Student's t test and ANOVA for trend. The intraclass correlation coefficient (ICC) was calculated in order to see how residents' evaluations match with self-evaluations for every particular teacher. To indicate areas for quality improvement items were analyzed subtracting their mean score from the respective (sub) domain score.

Results: MOS for domains of "role modeling", "task allocation", "feedback", "teaching methodology" and "assessment" valued by residents were significantly higher than those valued by teachers ($P < 0.01$). Teachers who filled out self-evaluation questionnaires were rated significantly higher by residents in role modeling subdomains ($P < 0.05$). Male teachers in (sub)domains "role modeling: CanMEDS roles and reflection", "task allocation", "planning" and "personal support" were rated significantly higher than the female teachers ($P < 0.05$). Teachers aged 40 years or younger were rated higher ($P < 0.01$). Residents ratings by type of teachers' academic position almost in all (sub)domains differed significantly

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($P < 0.05$). No correlation observed between MOS of a particular teacher and MOS as rated by residents (ICC = 0.055, $P = 0.399$). The main areas for improvement were “feedback” and “assessment”.

Conclusions: Resident evaluations of clinical teachers are influenced by teachers' age, gender, year of residency training, type of teachers' academic position and whether or not a clinical teacher performed self-evaluation. Development of CBME should be focused on the continuous evaluation of quality, clinical teachers educational support and the implementation of e-portfolio.

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1. Introduction

High quality and safe patient care can only be assured if physicians receive high-quality clinical teaching during their residency training [1–4]. Residency training aims to educate physicians through acquiring necessary clinical skills, knowledge, and competencies and thus being able to provide evidence-based health care services [5–7]. Therefore, medical schools are increasingly focused on improving clinical teaching implementing competency-based learning, with subsequent assessment of the quality in residency training according to accreditation and quality assurance standards [8–10]. Ultimately, societies need to know how, where and by whom physicians were trained [4].

Following the standards of medical training in Europe, the Lithuanian University of Health Sciences (LSMU) renewed its residency programs into competency-based medical education (CBME) curricula. These changes set new demands for residents' teachers and requirements for the assessment and assurance of quality. To guide the realization of CBME in practice, in 2015 we implemented the validated EFFECT questionnaire (Evaluation and Feedback For effective Clinical Teaching) together with the EFFECT-System (EFFECT-S) for quality assessment of clinical teaching in residency training in LSMU [11–13].

To enable such assessments to be properly interpreted and used for the improvement of clinical teaching quality, it is essential to understand what might influence the outcomes of residents' evaluations and clinical teachers' self-evaluations [14]. Previous studies showed that resident evaluations of clinical teachers with the EFFECT questionnaire are influenced by teachers' gender, year of residency training and type of hospital. Taking into consideration the fact that the findings of the original study may not generalize beyond the Dutch healthcare and training system [15], and following the characteristics of the residency studies organization model in Lithuania, we aimed to investigate the influence of characteristics of resident (year of training) and clinical teacher (gender, age, and type of academic position) on teaching quality, as well as the relation between clinical teachers' self-scores and residents' scores and to assess areas for teaching quality improvement.

2. Materials and methods

2.1. Medical education in Lithuania

After a six-year undergraduate medical education program, graduates apply for residency study programs in one of 57 medical specialties (3–6 years). Two universities have a right to conduct residency study programs in Lithuania, i.e. Lithuanian University of Health Sciences and Vilnius University. During residency training, residents complete a theoretical course that is delivered by university lecturers and conduct clinical practice, being supervised by a clinical teacher in the University Hospital or in the residency bases, which are accredited by the university for the certain cycles of respective residency program. Residents are supervised by clinical teachers who can either have an academic position (professor, associate professor, lecturer or assistant) or non-academic position (i.e., non-academic teacher, who is a hospital employee having no employment contract with the University). CBME was implemented in 2013.

2.2. EFFECT evaluation system

The System for Evaluation and Feedback For Effective Clinical Teaching (EFFECT-S) contains 5 steps: (1) creating commitment in the department (2) filling out questionnaires (3) producing a feedback report (4) a dialog between a supervisor and two residents to discuss data, guided by a facilitator, and (5) a group discussion within the department about the overall teaching quality.

The validated questionnaire EFFECT is based on theories of workplace learning and clinical teaching and incorporates CanMEDS (Canadian Medical Education directives for Specialists) competences [11]. The EFFECT contains 58 items grouped to 7 domains of clinical teaching: (1) role modeling, (2) task allocation, (3) planning, (4) feedback, (5) teaching methodology, (6) personal support, and (7) assessment [16]. The role-modeling domain contains 4 subdomains such as clinical skills, CanMEDS competencies, academic research, and reflection, and the feedback domain contains 2 subdomains such as process and content. The items were scored on a six-point Likert scale (1, very poor; 2, poor; 3, intermediate; 4, satisfactory; 5, good; 6, excellent; and not (yet) able to evaluate). The option “not (yet) able to evaluate” was chosen

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