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Fellows' in intensive care medicine views on professionalism and how they learn it

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Abstract *Introduction:* The emphasis on the importance of professionalism in a recent CoBaTrICE-IT paper was impressive. However, insight into the elements of professionalism as perceived relevant for intensivists from the fellows' view, and how these are taught and learned, is limited. *Objectives and methods:* A nationwide study was performed in 2007–2008. All ICM fellows ($n = 90$) were sent a questionnaire containing the following questions regarding training in professionalism (7-point Likert scale (1 = very inadequate, 7 = very adequate)): which are the elements perceived to be important in intensivists' daily practice (38 items, cat. I)? Which methods of learning and teaching are recognised (16 items, cat. II)? Which methods of teaching and learning are considered especially useful (16 items, cat. III)? Finally, the perceived quantity and quality of formal and informal learning methods, as well as the responsible organisational body was studied. Data were analysed using SPSS 15.0. *Results:* Response was 75.5 % ($n = 68$), mean age 34 years. Regarding Elements, scores on virtually all items were high. The factor 'striving for excellence' explained half the variance. Two other aspects, 'Teamwork' and 'Dealing with ethical dilemmas', were identified. Regarding Methods, three dimensions, 'formal curriculum', 'private and academic

experiences' and 'role modelling', proved important. The factor 'formal curriculum' explained most of the variance. Regarding Usefulness the same factors, now mainly explained by the factor Private and academic experiences, emerged with variance. In both categories the items 'observations in daily practice' and 'watching television programmes like ER and House' were the highest- and lowest-scoring items (5.99 and 5.81, and 2.69 and 2.49, respectively). Mean scores regarding the quantity of formal and informal teaching were 4.06 and 4.58 (range 1.841 and 1.519). For the quality of teaching, the figures were 4.22 and 4.52 (range 1.659 and 1.560, respectively). 54 suggestions for improvement of teaching were documented. The need for some form of formal teaching of professionalism aspects as well as for feedback was most frequently mentioned ($n = 19$ and 16). The local training centres are considered and should remain pivotal for teaching professionalism issues ($n = 17$ and 28). *Conclusions:* Almost all elements of professionalism were considered relevant to intensivists' daily practice. Although formal teaching methods regarding professionalism aspects are easily recognised in daily practice, learning by personal experiences and informal ways quantitatively plays a more important, and more valued role. Qualitative comments, nevertheless,

stress the need for providing and receiving (solicited and unsolicited) feedback, thereby requesting expansion of formal teaching methods. The local training centres (should continue to) play a major role in teaching professionalism, although an additional role for the (inter)national intensive care organisations remains.

Keywords Professional behaviour · Professionalism · Intensive care · Residents · Fellows · Survey

Abbreviations

NVIC	Netherlands Association for Intensive Care Medicine
KNMG	Royal Dutch Medical Association
ESICM	European Society for Intensive Care Medicine

CoBaTrICE-IT	Competence based training in Intensive Care Medicine in Europe-Information transfer
MSRC	Medical Specialists Registration Committee

Introduction

Medical schools increasingly pay attention to formal instruction in and assessment of professionalism and professional behaviour [1]. Its cause is multifactorial in nature, to which societal changes including higher demands on doctors by peers and patient (organisations), quality assurance and improvement, and guarding of patient safety all contribute [2]. Evidence that physicians facing disciplinary action from medical licensing boards had a higher incidence of unprofessional behaviour in medical school [3] and internal medicine residency training [4] strengthens the need for this attention. Likewise, developmental shifts towards competency-based residency programs are observed [5–9], in attempts to “assist future specialists in responding to the innumerable challenges as health-care providers... while providing the best specialty care” [5–9]. All major organisational bodies, including the Accreditation Council for Graduate Medical Education (ACGME) in the USA [10], and the Royal College of Physicians and Surgeons in Canada [8], have developed such competency frameworks. The Central College for Training of Medical Specialists (CCMS) in the Netherlands adopted the latter Canadian Medical Education Directions for Specialists (CanMeds) competency domains [8] in 2005 [9]. Aspects of professionalism are therein mainly (but not solely) represented in one of the seven CanMeds competency domains (“the professional”). Competencies for an international training program in intensive care medicine (ICM) were identified in 2006 [11]. The emphasis on the importance of professionalism was impressive. It was given a prominence equal to technical ability, demonstrating the value accorded to attitudes and behaviours, particularly communication skills and self-regulation [11]. On this basis, reforms in postgraduate medical education have already taken place. Most reports on professionalism during residency training focus on aspects of implementation of teaching and assessment [6, 12], rather than investigating what

residents actually mean by professionalism and how they learn it [13]. Likewise, insight into the elements of professionalism perceived as relevant for intensivists from view of the ICU residents (also called fellows), and the way these are taught and/or learned in the intensive care unit, is currently limited [11]. Further elucidation of these elements and exploration of educational experiences and needs are prerequisites for (re-)designing residency training programs regarding this topic. A nationwide study among ICM fellows was therefore performed in the Netherlands.

Purpose of the present study

The present study investigates

1. the views of ICM fellows on the relevance of elements of professionalism and professional behaviour, and
2. how ICM fellows learn about professional behaviour and develop professional behaviour during their training

Methods

The Dutch Society for Intensive Care Medicine (NVIC) as well as the local chairs of the ICM training centres approved the study. At the end of 2007 and beginning of 2008 all ICM fellows ($n = 90$) were sent a letter of introduction outlining the purpose of the study, the methods used to assure confidentiality, an invitation to participate, the questionnaire, and instructions for returning the questionnaire. Non-responders were approached by mail, e-mail or telephone. Participation was voluntary. No financial compensation was provided for the time invested to complete the questionnaire.

Research tool

The initial questionnaire was developed by Brownell et al. [13]. Permission for its use was obtained from the author, after which it was translated into Dutch and expanded using literature-derived data [2]. Subsequently it was field tested on intensive care fellows (no longer in training at the time of the study) and faculty ($n = 4$) before being finalized. The questionnaire collected demographic and contextual data that included each fellow's training level, specialty, gender, and age. The subsequent questions were answered using a 7-point Likert scale (1, very inadequate; 7, very adequate). The first section studied which elements of professional behaviour were perceived to be important to an intensivist in his/her everyday practice (38 items, aspect I). Then, methods of learning and teaching professional behaviour as recognized during their program were explored (16 items, aspect II). The next section explored methods of teaching and learning which the respondents considered especially useful in their training programs (16 items, aspect III). Then, the respondents were asked to indicate their opinions regarding the quantity and quality of formal as well as informal methods of learning professionalism in their training programs and whether they perceived this time and quality adequate and sufficient. The respondents were finally asked to indicate their degree of comfort in explaining the meaning of professionalism to a more junior trainee. Ample space for comments was provided at the end of each aspect studied. The respondents were then asked to list suggestions by which teaching of professionalism issues could be improved in their programs, and to name the medical body they believed was and/or should be to be most concerned with matters of professionalism in the ICM programs in the Netherlands. An existing questionnaire was used; exploratory factor analysis was nevertheless used as a measure of construct validity. For each aspect in the questionnaire an

exploratory factor analysis with Varimax rotation with Kaiser normalization was performed for data reduction and to gain insight into the structure underlying the items. Internal consistency for the resulting scales was determined employing Cronbach α . The α -coefficient ranges from 0 to 1 [14]. The higher the score, the more consistent the scale is. Nunnally [15] indicated that 0.7 is an acceptable internal consistency coefficient, but lower thresholds are sometimes used. For our instrument, alpha thus ranges from satisfactory to excellent (see Table 1).

Analysis of the data

Descriptive statistics (means, standard deviations, and item variances) were computed for the quantitative data. One of the investigators (WvM) independently carried out an initial content analysis of the qualitative comments. In an iterative process, the investigators (WvM, WdG, SG) reached consensus regarding the classification and subsequently these data were rank ordered. The data were analysed using SPSS 15.0 [16].

Results

Demographics and contextual data

All (eight) Dutch training centres participated. The overall response was 75.5% ($n = 68$). The fellows' mean age was 34 years (range 29–44). 60% were males. 55.4% of fellows were primarily trained in internal medicine, 32.2% in anaesthesiology, 4.4% in surgery, and the remainder evenly divided over neurology, cardiology and paediatrics. Thirty-four percent of participants were in the first semester of their programs, and the other participants were

Table 1 Factors identified, number of items, and percentage of variance explained by each factor for the three aspects ['Relevant elements', 'Recognized methods', and 'Useful methods' (no. of cases = 67)]

Factor no.	Factor description	Percentage of variance explained by factor	Number of items per factor	Mean item score	Cronbach α
Elements of professionalism relevant for intensivists					
1	Striving for excellence	48.1	12	6.17	0.94
2	Communication and teamwork	5.4	8	6.39	0.92
3	Responsibility (towards patient care and teaching)	4.9	5	5.82	0.86
4	Ethical issues	4.4	6	5.80	0.84
Recognition of methods of teaching and learning professionalism					
1	Formal curriculum	26.7	6	4.08	0.79
2	Private experience and activities	14.2	6	4.19	0.78
3	Experiential learning and role modelling	11.1	4	5.54	0.64
Perceived usefulness of methods of teaching and learning professionalism					
1	Private and academic experiences	26.0	6	3.91	0.75
2	Formal curriculum	16.5	4	3.91	0.80
3	Experiential learning and role modelling	12.8	4	5.62	0.81

approximately evenly distributed over the remaining three semesters (the maximum duration of residency training in ICM is 2 years, depending on the primary specialty).

Factor and item analysis

The common interpretation of the items associated with a factor determined its description. The factors, the associated items and qualitative feedback received on each of the aspects, will consecutively be discussed in the sections below. The overall mean scores (over all items) and the highest and lowest scoring item per aspect are shown in Table 2.

Elements of professionalism relevant to intensivists

Three factors, Striving for excellence, Communication and teamwork, Responsibility and Ethical issues, were distinguished (see Table 1). Mean scale scores all exceeded 5.8. Communication and teamwork were considered most relevant for intensivists. Scores on virtually all items relating to this aspect were high (see Table 2). The highest mean score was on the item 'Displaying responsibility for example by admitting errors'. The lowest mean score was on the item 'Altruism, placing the interests of patient and family before one's own'.

Recognition of learning and teaching methods of professionalism

Three factors were identified, indicated as the Formal curriculum, Private and academic experiences and Role modelling (see Table 1). The most relevant factor was Role modelling. The other mean scale scores were relatively low. Observations in daily practice without formally scheduled discussion of the events was the highest scoring item within this factor (see Table 2). Among the qualitative comments, six related to role modelling and the informal curriculum, four to feedback. Furthermore, two respondents noted that norms and values are largely present at the start of ICM training, either due to prior upbringing or prior medical specialist training. Additionally, extracurricular learning (e.g. personal experience), formal teaching (e.g. courses), teaching of self-reflection skills, implementation of workplace based learning and professionalism assessment were each mentioned once.

Usefulness of learning and teaching methods of professionalism

Factor analysis revealed the same three factors as identified for the former aspect (see Table 1). Role modelling

was the most relevant factor, whereas mean item scores for the other factors were relatively low (see Table 2). Eight additional qualitative remarks were documented: three related to provision of feedback, two to the informal curriculum and role modelling, and one each to extra-curricular learning, upbringing and stimulation of self-reflection.

Explaining professionalism, and satisfaction regarding teaching

The degree of comfort in explaining the meaning of professionalism to a (more junior) trainee was expressed in a mean score of 5.24 (range 1.12). The mean scores regarding the quantity of the formal and informal teaching and learning curriculum regarding professionalism were 4.06 and 4.58 (range 1.84 and 1.52). For the quality of teaching, figures were 4.22 and 4.52 (range 1.66 and 1.56, respectively). 54 suggestions for improvement of teaching and learning of professionalism were documented. The need for some form of formal teaching of professionalism aspects as well as the need for feedback were most frequently mentioned ($n = 19$ and 16 , respectively). Some fellows suggested the need for assessment regarding professionalism ($n = 2$). More attention for role modelling, addressing the informal curriculum and institutional culture changes were other suggestions ($n = 6$, 2 and 4). Stimulation of self-reflection, mentoring, and (more frequent and thorough) use of error(s) were also mentioned ($n = 1$, 2 and 2).

Who should pay attention?

The organisations or institutions that are perceived to currently pay most attention to professionalism issues are the local training centres ($n = 17$), and the United Committee of Intensivists (GIC, committee organising the monthly training day, $n = 5$). Other national and international organisations (NVIC, ESICM, CoBaTrICE-IT, KNMG) are only occasionally, if ever mentioned. When fellows are asked about the preferable, ideal situation, the local training centres' responsibility would become even more pivotal ($n = 28$). The NVIC was also frequently mentioned ($n = 10$), followed by the KNMG ($n = 6$), and the MSRC ($n = 5$).

Discussion

So far, studies on professionalism have concerned groups of family medicine and paediatric [17], surgical and paediatric [18], and internal medicine, neurology and family practice residents [19]. To our knowledge, this is

Table 2 Overview of overall item score per aspect and items with the highest and lowest scores per aspect

Factor no.	Factor description	Item no.	Item	Mean score	item	Standard deviation
Elements of professionalism relevant for intensivists						
<i>All items</i>						
		10	Displaying responsibility for example by admitting errors	6.62		0.60
		9	Altruism, placing the interests of patient and family before one's own	4.32		1.61
1	Striving for excellence	25	Correct, non-falsified record keeping	6.17		0.71
		22	Adequate way of providing feedback	6.43		0.65
2	Communication and teamwork			5.79		1.18
		34	Explaining in a understandable way to the patient	6.39		0.62
		36	Adequate and respectful communication with nurses and other colleagues	6.50		0.61
3	Responsibility (towards patient care and teaching)			6.31		0.68
		35	Listening to the patients, and providing them with the opportunity to give their own opinions and thoughts	5.82		0.83
		41	Having knowledge of legal aspects of ICU care, and acting accordingly	6.31		0.76
4	Ethical issues			5.56		1.03
		12	Correctly dealing with medical issues regarding usefulness of admittance of a patient	5.80		0.73
		11	Making choices or decisions related to aspects of social justice	6.34		0.75
Recognition of methods of teaching and learning professionalism						
<i>All items</i>						
		53	Observations in daily practice (without formally scheduled discussion of the events)	5.99		0.95
1	Formal curriculum	58	Watching television programmes, e.g. ER, House	2.69		1.65
		49	Attending ICU symposia and congresses	4.08		1.24
		48	Reading articles regarding professionalism in medical education journals	4.59		1.69
2	Private and academic experiences			2.93		1.81
		55	Contacts with patients and their family	4.19		1.08
		58	Watching television programmes, e.g. ER, House	6.00		0.85
3	Role modelling and experiential learning			2.69		1.65
		53	Observations in daily practice (without formally scheduled discussion of the events)	5.54		0.90
		62	Contact with negative role models regarding professionalism	5.99		0.95
Perceived usefulness of methods of teaching and learning professionalism						
<i>All items</i>						
		71	Observations in daily practice (without formally scheduled discussion of the events)	5.81		1.22
1	Private and academic experiences	77	Watching television programmes, e.g. ER, House	2.49		1.57
		72	Reflection on personal functioning and development (stimulated by supervisor)	3.91		1.10
		77	Watching television programmes, e.g. ER, House	5.12		1.40
2	Formal curriculum			2.49		1.57
		67	Attending ICU symposia and congresses	3.91		1.39
		66	Reading articles regarding professionalism in medical education journals	4.39		0.74
3	Role modelling and experiential learning			3.06		1.79
		71	Observations in daily practice (without formally scheduled discussion of the events)	5.62		1.06
		80	Contact with negative role models regarding professionalism	5.81		1.22

the first study to address the relevance of different elements of professionalism, and the ways they are perceived to be (currently and preferably) learned during ICM training. The results are discussed below.

Elements of professionalism relevant for intensivists

All factors had high mean item scores (see Tables 1, 2). Striving for excellence related to having a knowledge base and good technical skills on the one hand, and to aspects of communication, feedback and record keeping on the other (see Table 2). Two other aspects, Teamwork and Dealing with ethical dilemmas, were identified in the remaining factors. Communication and Teamwork was identified as the most relevant factor (see Tables 1, 2). Residents indeed seem to develop their perception of the meaning of professionalism in the context they work in [13]. Intensivists also fulfil a pivotal role in the multidisciplinary team involved in intensively caring for patients in the ICU [6]. Teamwork, leadership, good communication and management skills become increasingly important with increasing complexity and size of organisations [20, 21]. Demonstrated professional excellence could thus potentially be used as one parameter contributing to selection of candidates for promotion (e.g. department leadership). Furthermore, ethical dilemmas, e.g. concerning end-of-life decisions and limitation of treatment, also form an essential part of the intensivists' daily practice [11].

A previous study of a group of internal medicine, neurology and family practice residents reported that most aspects of professionalism were valued [19]. Findings from this study also perhaps underscore that most of these elements are idealistic, difficult to challenge aspects of behavior [22]. The highest scoring item was Responsibility related to admitting errors. In a recent study, irresponsibility (e.g. unreliable attendance at clinic and not following up on activities related to patient care) and diminished capacity for self-improvement were aspects of unprofessional behaviour found to be predictive of subsequent disciplinary actions by US licensing boards [3]. Multidisciplinary discussion of (near) errors seems a useful method for in-depth discussions, relating both to medical and professionalism aspects of care. Sections on the use of error in renowned medical journals serve the same purpose [23].

In contrast to these high item scores, altruism was given a lower mean score. In a comparable study altruism was also not highlighted [13]. It is interesting to speculate whether this reflects changes in doctors' attitudes, for example caused by the increasing importance of their own quality of life outside medicine, more common part-time practice, and limitation of duty hours [2]. In this perspective the finding that time pressure and associated constraints present a barrier to the incorporation of

professionalism into daily practice gains importance [19, 20, 24]. On the other hand, duty hour changes may promote residents' well-being, personal development, reflection, and teamwork [19, 20].

Recognition of methods of teaching and learning professionalism

The factor identified as most relevant was Role modelling. The highest scoring item was related to informal, experiential learning through role modelling (Item Observation in practice, see Table 2). This is in accordance with the fact that in residency programs the 'professionalism rules' are mostly unwritten and discovered by trial and error, often by following examples [25]. This so-called "hidden" or "informal" curriculum, plays a more important role in the clinical compared to the pre-clinical training phases [26]. In the contemporary intensive medicine programs, ICU fellows less frequently recognise formally scheduled activities for teaching and learning professionalism.

Perceived usefulness of methods of teaching and learning professionalism

The identified factors were the same as for the former aspect. The factor Role modelling and experiential learning was perceived as the most useful method of learning professionalism. Role modelling is of paramount importance in the clinical setting, and aids developing values, attitudes and professional behaviour [27]. By acknowledging that we all can still name those physicians who played a pivotal exemplary role during our own training, the significance of role models becomes self evident. However, the act of role modelling alone is insufficient, it should be combined with reflection on action followed by discussion to truly learn about professionalism [28]. The highest scoring item, indeed, relates to the role of reflection on performance, and stresses the importance of a motivated and stimulating supervisor (see Table 2). In contrast, the low absolute mean scores for some of the other items resulted in an overall low mean item score for this factor.

Quantity and quality of formal as well as informal ways of teaching professionalism

The mean scores regarding the quantity as well as the quality of teaching methods of professionalism in contemporary intensivist training programs were somewhat higher for the informal than for the formal methods. This finding is supported by the finding that many fellows voiced the need for increasing formal training in

professionalism issues, as well as by the relatively low overall mean item score on the factor Formal curriculum for the aspect Recognition.

Who should pay attention to professionalism issues during intensive care medicine training?

In contemporary ICM training, the local training centres are perceived to be responsible for teaching and learning of professionalism, whereas national organisations play an additional role. The Dutch ICM fellows would, however, prefer an even greater role for the local training centres, whereas a minority sees a more limited, role for (inter)national organisations as well. Adaptation of the core competency framework as developed for an international training programme in ICM to national and local needs is thus a possibility [11].

Limitations of the study

Training in intensive care medicine in the Netherlands may differ from that in other European countries. Replicating the study elsewhere in Europe would be necessary to establish its generalisability. Awaiting these studies and despite this diversity, some of the current findings may nevertheless apply to other European settings as well.

Conclusions

The results from this nationwide survey among ICM fellows in the Netherlands can be used for designing and adapting those parts of the ICM training programs relating to professionalism. Almost all elements of professionalism were considered relevant for the intensivists' daily practice. Learning by informal ways in the so called 'hidden curriculum' qualitatively and quantitatively plays a more important role, and is more highly valued, than formal methods. Qualitative comments nevertheless stress the need for providing and receiving (solicited and unsolicited) feedback, thereby requesting expansion of formal methods of teaching and learning. The local training centres play a major role regarding teaching and learning professionalism aspects, and in the opinion of the trainees, this responsibility should be further expanded, although an additional role for the (inter)national intensive care organisations should remain.

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