Danish medical schools do not meet international recommendations for teaching palliative medicine

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ABSTRACT

INTRODUCTION: Denmark has been ranked low regarding the extent of teaching in palliative care (PC) at medical schools although the Danish Health Authority recommends that all doctors have basic knowledge of PC. The aim of this study was to investigate the contents of and time spent on teaching in PC at the four Danish medical schools and to compare results with recommendations from the European Association of Palliative Care (EAPC).

METHODS: Data were collected by examining university curricula, course catalogues, etc., using search words based on recommendations from the Palliative Education Assessment Tool and by a questionnaire survey among the university employees responsible for semesters or courses in Danish medical schools.

RESULTS: Teaching in palliative medicine at Danish medical schools is generally sparse and mainly deals with pain management and general aspects of PC. Compared to European recommendations, teaching in, e.g., ethics, spirituality, teamwork and self-reflection is lacking. Furthermore, PC training does not reach the recommended minimum of 40 hours, and examinations in PC are not held. As from the autumn of 2017, the University of Southern Denmark has offered a course that expands teaching in PC and thereby improves compliance with EAPC recommendations; the remaining three medical schools do not, to our knowledge, have any specific plans to increase the extent of teaching activities in palliative medicine.

CONCLUSIONS: Teaching in palliative medicine is sparse at all four medical schools in Denmark and should be strengthened to meet Danish as well as European recommendations.

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Despite a highly developed healthcare system, Denmark was recently ranked as number 36 out of 43 countries in Europe on quantity and quality of teaching in palliative care (PC) at medical schools [1]. This is in contrast to recommendations from the Danish Health Authority (DHA) stating that all doctors should have knowledge of PC [2].

Most patients receive basic-level PC from professionals who do not have PC as their core task (e.g., general practitioners, hospital departments). Patients with complex problems may be referred to PC specialists who have PC as their main task [2]. In Denmark, palliative medicine is not a formally recognised medical specialty, but doctors with another relevant specialty, an approved theoretical course in palliative medicine and a minimum of two tears of clinical experience in PC can obtain an official title of "Specialist in Palliative Medicine". Only 40 Danish doctors of the approximately 100 doctors who are working fulltime in specialist PC are certified "Specialists in Palliative Medicine" in addition to another medical specialty [3].

The European Association of Palliative Care (EAPC) recommends that the curricula at medical schools should cover six PC domains, achieving six overriding learning goals (**Table 1**) [4]. Thus, the curricula should include at minimum of 40 hours covering experiential learning, active techniques, multi-professional learning and clinical experience with PC. It should also include exams and teaching should be performed by PC specialists and professionals other than doctors (nurses, psychologists, chaplains, etc.) integrating ethical, psychosocial and existential aspects. Additionally, PC should be taught as an independent subject separated from, e.g., oncology and anaesthesiology.

The aim of this study was to examine the existing contents of PC education at medical schools in Denmark, and to compare these data with recommendations from the EAPC.

METHODS

We used a multi-method approach to examine the contents of PC education at all four medical schools in Denmark: University of Copenhagen (UC), Aarhus University (AU), University of Southern Denmark (USD) and Aalborg University (AAU).

Data collection

Data were collected by: 1) examining educational descriptions (academic regulations, curricula, study/course descriptions, etc.) and 2) conducting a question-

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TABLE 1

The six domains and six overriding learning goals according to The European Association of Palliative Care recommendations for the bachelor and master level curriculum in palliative medicine [4] and search words from Palliative Education Assessment Tool [5].

The European Association of Palliative Care recommendations
Domains
I Basics of palliative care
II Pain and symptom management
III Psychosocial and spiritual aspects
IV Ethical and legal issues
V Communication
VI Teamwork and self-reflection
Learning goals
1. To show that medical treatment is far beyond diagnostic investigations and healing, the patient is meant to be considered, cared for and treated holistically
2. To show how to relieve symptoms (pain and others) by pharmacological and non-pharmacological means
3. To show that palliative care of patients and their relatives is a process that does not only include crisis intervention but also includes anticipatory treatment and attention
4. To show that care and treatment have to be adopted to meet the individual needs, wishes and values of individual patients and their relatives
5. To show that the quality of end of life care for patients will only succeed if the attending doctors are able to reflect upon their own attitude towards disease, dying, death and mourning
6. To show that the quality of medical treatment cannot only be improved by enlarging knowledge but also by the competence of team-working, communication and the willingness to discuss ethical issues
Search words from Palliative Education Assessment Tool
Relieve/relief/relieving
Life-threatening, life-sustaining, quality of life, end of life
Nurse, care of
Pain, pain management
Relatives, next of kin
Support, supportive care
Palliative, palliative care, terminal, hospice
Religion, faith
Symptom management
Communication
Dead, death, decease, dying
Sorrow, grief, loss, suffering
Neurophysiological symptoms
Consent
Ethics

naire survey among university employees responsible for courses/semesters. The data collection was performed from May to July of 2017.

Examining educational programmes

From each of the four medical schools, academic regulations covering the autumn of 2016 and the spring of 2017 were obtained from both bachelor and master level programmes [5-11]. Any new academic regulation that came into force from the autumn of 2017 were included in the analysis. Publicly accessible course catalogues (AU and UC) and curricula descriptions (AAU) were retrieved. Any missing curricula descriptions and study programmes were obtained by direct contact to administrative bodies (AAU and USD).

Retrieved materials were examined electronically for occurrences of search words based on the topics in the Palliative Education Assessment Tool (PEAT) [12], which is an assessment tool facilitating curricular mapping of PC education (Table 1). When a search word was located, the description of any teaching contents was taken into consideration.

Courses starting after our search period were also examined. These results were reported as Future teaching.

Questionnaire survey

All university employees responsible for courses or semesters at each university were identified and contacted. In total, 100 employees were identified (UC: 54, AU: 19, USD: 15, AAU: 12) and invited to respond to a questionnaire about PC education at their course/semester. If no response was received within six weeks, a reminder was sent out. The questionnaire dealt with current PC education (learning method, number of hours, teaching, curriculum/course descriptions) and plans for future teaching (the questionnaire can be obtained by contacting the corresponding author).

Comparison with the European Association for Palliative Care recommendations

Data collected from questionnaires and descriptions of the programmes were compared with the EAPC's recommendations for PC education (Table 1) [4].

Credibility of findings

Finally, we contacted the deans of the medical schools by email for comments before publication. Based on their responses, future teaching in PC at the USD is highlighted, and teaching provided by the Copenhagen Academy of Medical Education and Simulation has been added [13].

Trial registration: not relevant.

RESULTS

At all four medical schools, extensive educational materials were retrieved and examined (approximately 400 pages).

A total of 73 university employees who were responsible for courses or semesters responded to the email after one reminder; but 28 answered the mail, without filling out the questionnaire. In total, 45 questionnaires were filled out (response rate: 45%). Among these, 13 faculty/staff members confirmed teaching in PC at their course/semester. The results are listed in **Table 2**, **Table 3** and **Table 4**.

TABLE 2

Bachelor level education programmes in palliative care at the four medical schools in Denmark.

Medical school	Semester	Subject	Learning goal	Direct or indirect[a] teaching, lecturer	Method and type of teaching[b]
UC	2	Medical and health psychology	Account for psychological conditions in case of serious diagnoses and chronic illness	Indirect, by psychologist	Lecture, class teaching[c]
AU	1	Medical philosophy and theory of science	Ethical theories and their importance in medical practice and healthcare in general	Indirect, by philosopher	Lecture, class teaching[c]
	4	Health psychology	The role of psychology in ... pain, ... sadness and crisis, chronic disease, the patient in the hospital	Indirect, by psychologist	Lecture, class teaching[c]
	6	Pharmacology	Analgesics	Indirect	Lecture, class teaching, symposia[c]
USD	3/5	Oncology	Palliative care	Direct	Course[d], 30 h, only in autumn semester
	6	From health to disease	Based on medical records of patients with cancer, investigation, stage distribution, treatment: curative and palliative, and prognosis will be discussed	Direct, by oncologist	Class teaching, 2 lessons[c]
AAU	3	Clinical psychology	Describe how individuals react to and process grief	Indirect	-
	4	Basic pathology	Explain the extent and organisation of palliative treatment in Denmark Explain focus points in fast-track cancer pathways: information, screening, diagnosis, treatment guarantees, multidisciplinary team, palliative treatment, rehabilitation, relatives' involvement	Direct	Lecture, 45 min.[c]
			The student receives communication training in communicating concerning serious and unbearable diagnoses		Class teaching[c]
	6	Heart, respiration and kidney/urinary system II	The hospice concept, the development of hospices in Denmark The multidisciplinary approach to palliative care, pain management, patient needs and desires, psychosocial and emotional aspects Explain the importance of belief systems for the terminal patient and therapists	Direct, by a person educated in theology with a master in humanistic palliative care	Lectures, 2 h[c]

AAU = Aalborg University; AU = Aarhus University; UC = University of Copenhagen; USD = University of Southern Denmark.
a) Indirect or direct is used to classify if the course involves palliative medicine.
b) Teaching methods and number of lessons for a specific subject are indicated when possible, otherwise general teaching methods throughout entire teaching programme are shown.
c) Optional education for all students.
d) Elective subjects for some of the students.

Results compared with the European Association for Palliative recommendations

- UC: Education was primarily centred on domains I and II. Teaching was primarily delivered through lectures, secondarily through classroom teaching at the late bachelor level and continuously at the master level.
  There were few learning objectives, and the focus was primarily on pain management (Learning goal 2) and general aspects of PC (Learning goal 1).
  Students were taught about patient communication (Domain V) and psychosocial aspects (Domain III), but not with a focus on PC.
  Future teaching at UC: From the autumn of 2017, the UC starts an optional clinical course in PC for patients with cancer including a one-week stay at a department of palliative medicine (only possible for six students per semester).
- AU: Similar to the UC, education was primarily centred on Domains I and II. Lectures or symposia were mostly used, followed by classroom teaching at the eighth semester (master level). Teaching focused on Learning goals 1 and 2, but also included Learning goals 3, 4 and 5 to a more limited extent. There was one mandatory seminar at the 11th semester (master level) using multidisciplinary teaching, but without a direct focus on PC.
  Future teaching at the AU: From the autumn of 2017, the AU starts an optional course at the third semester in PC for patients with cancer.
- USD: Sparse teaching materials in PC were retrieved, primarily at the sixth semester (bachelor level) consisting of two lessons of classroom teaching embedded in oncology and focusing on Domains I and II. Additionally, two lessons of classroom teaching at the master level (domain uncertain) were offered.
  Only few learning objectives in PC were found, but a possibility of choosing an elective course involving PC was identified.
  Future teaching at the USD: From the autumn of 2017, cancer modules at sixth and tenth semester

TABLE 3

Master level education programmes in palliative care at medical schools in Denmark.

Medical school	Semester	Subject	Learning objective	Direct or indirect[a] teaching, teacher	Method of teaching[b]
UC	7	Course and examination in clinical medicine	Account for the principles of curative versus palliative treatment	Direct, by oncologist	Lecture, class teaching[c]
	7	Medical interview	Structuring medical interview with a patient Start, keep and end a contact with the patient at a professional level Explore the patient's situation both medical and psychosocial	Indirect, by psychologists	Class teaching, group work, role play with video recordings[d] 10 h
	8	Clinical course in anaesthesia	Pain management	Direct, by anaesthesiologist	Class teaching[e] 1 h
	8	Multi-professional teaching in communication and co-operation	Be aware of own and other professionals' role, responsibility and values In collaboration with another healthcare professional to do the rounds concerning discharge of a patient Structure the patient communication after a specific model	Indirect, by doctor and nurse	Class teaching, group work and training[d] Together with nurse students
	9	Optional clinical course in otorhinolaryngology	-	-[e]	Class teaching 1 h Lecture[c] 30 min.
	10	Conversation about the serious message: neurology and neurosurgery	Structuring a conversation with serious information with a patient/relative Explore and include the patient's/the relatives' views, interests and emotions in the conversation Communicate the information in an empathetic and patient-centered way	Indirect, by psychologists	Class teaching, group work, role play with video recordings, supervision[d] 6.5 h
	12	Conversation about the serious message: gynaecology and obstetrics	Structuring a conversation with serious information with a patient/relative Explore and include the patient's/the relatives' views, interests and emotions in the conversation Show empathy and handle the patient's/the relatives' reaction in a professional manner	Indirect, by doctor and psychologist	Class teaching, role play, supervision[d] 3.5 h
	12	Clinical course in amily medicine	Be able to account for the role of the general practitioner in the care and treatment of the terminal patient	Direct, by general practitioner	Lecture[c] 1 h
	12	Clinical course in family medicine	The difficult conversation	Indirect	Class teaching[d] 3.5 h
AU	8	Abdomen	Provide care, support, counseling, relief, and empathy Possibilities for habilitation /rehabilitation, incl. knowledge of importance for optimal symptom relief and recovery of optimal functioning: function, activity and participation Principles of cancer treatment, including distinguishing between curative, life-prolonged and palliative treatment Principles of basic pain treatment and relevant pharmacology for this Act in accordance with medical ethics and duty, legislation and the patient's right to self-determination	Direct, by oncologist, GP and specialists in palliative medicine	Lecture[c] 1 h Symposia[c] 2 h Class teaching at a department of oncology[d] Only about palliative care[f]
	11	Gynaecology-obste-trics and paediatrics	Importance of language and culture in relation to professional collaboration and patient-centered communication	Priest, philosopher, doctor in forensic medicine	Lecture[d] 4 h
	12	Acute – chronic	Pain management and palliative care of older patients and refer home treatment with geriatric team	Indirect, by general practitioner	Lecture[c]
USD	8	-	-	Direct	Class teaching[d] 2 h
AAU	8	-	-	Direct, by oncologist	Lecture 1 h, stay at oncological department[f] 3 wks
	12	Clinical courses and objective structure clinical examination	Explain care at the end of life Ethical considerations in general practice	-	-

AAU = Aalborg University; AU = Aarhus University; UC = University of Copenhagen; USD = University of Southern Denmark.

a) Indirect or direct is used to classify if the course involves palliative medicine

b) Teaching methods and number of lessons for a specific subject are indicated when possible, otherwise general teaching methods throughout entire teaching program are shown.

c) Optional education for all students.

d) Compulsory education for all students.

e) Not provided by curriculum, provided by completing the questionnaire.

f) Elective subjects for some students.

TABLE 4

Teaching after summer 2017 in palliative care at medical schools in Denmark.

Medical school	Semester	Subject	Learning objective	Direct or indirect[a] teaching, teacher	Method of teaching[b]
UC	11	Medical specialty focused course and examination in clinical oncology	Account for the principles of curative versus palliative treatment Initiate supportive and palliative treatment of patients with cancer	Direct 1-wk stay at a department in palliative medicine[c]	Clinical course[d] Max. 6 students per semester
AU	3	Cancer seen from a medical, ethical and socioeconomic perspective	How to handle a situation in which treatment is no longer an option but only comfort and relieve can be provided	Direct	Course[c]
USD	6 + 10	Cancer and palliative medicine	To provide the student with a basic knowledge of the diagnostics, diagnosis and treatment of cancer patients incl. supportive care, incl. palliative care and rehabilitation After completing a graduate degree, the student can contest secondary medical positions within these areas in a satisfactory manner Knowledge of palliative care of patients with cancer with a special focus on pain, shortness of breath and the terminal patient, as well as knowledge about rehabilitation after cancer Being able to discuss how patients experience receiving the message that they have a potentially life-threatening disease and how the patients live with their disease	Direct	Lecture[d] Team-based learning[e] Case-based class teaching[d] Patient case[d] Station in examination

AU = Aarhus University; UC = University of Copenhagen; USD = University of Southern Denmark.
a) Indirect or direct is used to classify if the course involves palliative medicine.
b) Teaching methods and number of lessons for a specific subject are indicated when possible, otherwise general teaching methods throughout entire teaching programme are shown.
c) Elective subjects for some students.
d) Optional education for all students.
e) Compulsory education for all students.

providing a basic knowledge of PC were started. The methods of teaching include: Lectures, team-based learning, case-based class teaching, and entrustable professional activities with patient cases. PC is included as a subject in the examination.

- AAU: We found a wider coverage of PC domains than at the other universities, but with the same number of or fewer lessons. At bachelor level, learning objectives I and V were found. At the master level, a person educated in theology held two lectures addressing Domains I, II and III. Finally, sparse teaching in Domain IV relating to general practice was identified.

In addition to the findings listed above, it should be mentioned that all medical schools offer additional courses in communication skills, psychosocial aspects and ethical considerations, but these courses do not focus on PC. At all four medical schools, PC education is primarily embedded in oncology.

DISCUSSION

This study showed that education in PC at the four medical schools in Denmark focuses mainly on general aspects of PC and pain management but does not adequately cover these subjects. The primary method of teaching is lectures and classroom teaching. Specific education in PC is sparse and is rarely performed by PC specialists. None of the medical schools comply with the EAPC recommendations [4], and we found significant discrepancies regarding:

- *Method of teaching:* Lectures is the primary teaching method followed by classroom teaching, whereas experiential learning, interactive techniques and clinical experience in PC – as recommended by the EAPC – are sparsely represented. Furthermore, we found very few mandatory courses except at the AU, where one mandatory lecture focuses on professional collaboration and patient-centred communication.
- *Subject:* Teaching focuses on pain management and fails to include many of the other recommended subjects.
- *Interdisciplinary education:* Teaching in PC is performed primarily by doctors and not by multiprofessional clinical staff.
- *Examination:* There are no examinations in PC.
- *Clinical experience:* Planned clinical PC experience is very sparse.
- *Number of lessons:* Despite difficulties assessing the number of PC teaching lessons, it does not seem that any of the medical schools meet the recommended 40 hours.

The above-mentioned discrepancies between actual and recommended education are in line with the previously mentioned European study, in which Denmark was ranked low in terms of quantity and quality of PC teaching at medical schools [1]. Variations between the four medical schools indicate that recommendations from the DHA have not been implemented to the same extent across Denmark. Similar challenges concerning variation across the country, which have also been problematised in the UK [14], suggest that each medical school should establish an adequate curriculum for PC [15].

Studies have shown that medical students receiving comprehensive education in PC not only improved their capacity to care for terminally ill patients but also improved patient-centred care in general [16, 17]. With respect to experiences with PC in clinical practice, a study showed that a one-week clinical rotation in a palliative department increased self-assessed skills in pain management and communication among medical students [18]. In another study, third-year medical students with a one-week hospice rotation acknowledged the improvement of knowledge and relationship-centred skills gained [19].

The WHO emphasises that the aim of PC is to relieve the suffering of patients and relatives, whether suffering is physical, psychological, social or spiritual. To achieve this, interdisciplinary and holistic efforts are crucial [15]. As our study demonstrated, PC education of Danish medical students is primarily focused on patients' physical symptoms. Education in interdisciplinary efforts, involving next of kin and embracing the psychological and spiritual elements in palliative trajectories, is lacking. Several of the faculty members replied that PC was not relevant to medical school curricula, as they saw PC as a specialist task. However, this is in contrast to the recommendations from the DHA, EAPC and WHO, who all agree on recommending PC teaching to all medical students.

The study also examined plans for future PC education and found that the USD is implementing a course in oncology where PC will be more widely implemented (Table 4). Further, PC may be included in the final examination after that semester. Future education at the UC and the USD also contains an option for a clinical stay at a PC department; however, not all students will have the opportunity to participate in such a clinical stay. In particular, the possibility of clinical experience with PC trajectories will most likely increase students' awareness and knowledge of PC and increase their willingness to be involved in PC in their future clinical work [18-20].

A strength of this study is the multi-method approach used, which increases the validity of our findings. Another strength is the electronic examination with search words using the internationally developed assessment tool, PEAT. However, there are also several limitations to our study, including undisclosed PC teaching. This especially concerns indirect teaching, which is teaching that supports PC, but is not linked directly to PC. An example could be teaching in the management of dyspnoea, which is not directly linked to PC, but nevertheless includes knowledge that may be useful in PC. We tried to minimise this possible bias using PEAT as well as questionnaires, but there is still a risk that some educational activities linked to PC may have been overlooked. However, even though we may have missed indirect PC education, we do not believe that we have missed direct education in PC, and some overlooked indirect PC education does not change the fact that direct PC education is sparse at Danish medical schools.

CONCLUSIONS

This study shows that teaching in PC at the four medical schools in Denmark was sparse and far from amounting to the minimum of 40 hours recommended by the EAPC. The teaching was mostly indirect in the scope of PC and often embedded in another specialty, most often oncology. There were no examinations in PC and courses were not compulsory. Furthermore, current education programmes focused on pain management, supportive care and general aspects of PC. Teaching in subjects such as ethics, spiritual and psychosocial aspects, end-of-life communication and support of relatives was non-existent or insufficient.

The EAPC and the WHO and even the DHA find that all medical students should be taught a holistic, palliative approach to care and competencies to treat patients in need of PC which is in contrast to our findings. We believe that teaching in PC at Danish medical schools needs to be strengthened to comply with international recommendations and standards. There are positive tendencies, however, especially as one of the medical schools are planning education that seems to embrace the recommendations from the EAPC to a greater extent. It is important to monitor the development of education in PC in medical schools in the future to ensure that Denmark will reach international standards.

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