

Survey of Palliative Care Concepts Among Medical Students and Interns in Austria: A Comparison of the Old and the New curriculum of the Medical University of Vienna

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Abstract

Background: To improve the level of awareness in palliative care concepts, the new curriculum at the University of Vienna includes sixteen hours of palliative care education.

The old curriculum did not include palliative care education.

Aim: To compare the level of awareness in palliative care concepts among 4th year students of the new curriculum of the Medical University of Vienna with interns who finished their studies in the old curriculum. **Materials and methods:** 440 medical students in their 4th year and 149 interns participated in a survey study. Data were collected after the survey and the responses were analyzed.

Results: Data analysis consists of completed survey obtained from 83% and 67% of the students and interns. We observed that students reported higher theoretical knowledge of palliative care concepts as compared to interns, whereas interns were better in performing practical aspects of palliative care. A significant percentage of students and interns would like to learn more about palliative care in their curriculum, although this was more present among interns (72.7% students and 92.6% interns, $p < 0.0001$, respectively).

Conclusion: Although palliative care education is already included in a compulsory manner in the new curriculum of the Medical University of Vienna, almost two third of all students would support more implementation of palliative care issues throughout the curriculum. To further improve attitudes and skills towards patients at end of life, palliative care education should be augmented in the new curriculum.

Keywords: palliative care, students, interns, new curriculum, survey

Introduction

The concept of palliative medicine and hospice care has become increasingly important in the last decades. In Austria, hospice and palliative medicine have been implemented in the late eighties, when the Austrian Hospice movement started to built up home care teams.^{1,2} The first palliative care unit was built in 1985 in Vienna. Till date, there are 22 palliative care units and six Hospice units all over Austria.³

Education in palliative care has been offered on a voluntary basis and been taken mostly by professionals who were already working in palliative care teams or hospices. Since 1998, an interdisciplinary course for doctors, nurses and other persons working in this field has been implemented (www.hospiz.at). Since 2000, it is possible to acquire a “Master of advanced studies in palliative care”¹ in different institutions in Austria⁴ (www.palliativ.at).

Volunteers who want to work in a palliative care team have to complete a standardized course with at least 70 hours of education and training before they are permitted to work in a hospice or a palliative care team.⁵

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In the old curriculum in medicine at the Medical University of Vienna, palliative care was not taught to all students and was not mandatory. Students could participate in seminars about palliative care on a voluntary basis. The common observation that lack of awareness in the medical field about the concept and scope of palliative care in taking care of patients and the increasing development of palliative care in Austria led to the implementation of compulsory palliative care education for students in the new curriculum at the Medical University of Vienna. The new curriculum includes a total of 16 hours teaching, six hours of lectures and 10 hours of an interactive seminar.

According to Ury et al.⁶ the development of a curriculum can be divided into four phases: needs assessment, curricular design, implementation and evaluation. Before our new curriculum was established, no exact need assessment was performed.

To improve palliative care education throughout the medical curriculum, it is important to assess the level of awareness towards palliative care to be able to include and improve adequate teaching in the curriculum.

Bharadwaj et al.⁷ conducted a survey among students in India, who had no palliative care education in their curriculum. Students reported a high level of understanding of palliative care but little understanding and confidence in performing skills. Hence the authors concluded that students were ready for instruction in the practical skills of palliative care.

A Canadian survey⁸ identified a number of barriers to palliative medicine education including lack of resources for curriculum developments and teaching for undergraduate students. As a result of this survey, the Undergraduate Palliative Medicine Committee planned to develop a strategic plan to improve palliative medicine education in Canadian medical schools. This study is an example of how results of a survey can be used to improve a curriculum.

A comparison of palliative care education between Britain and the United States revealed that palliative care, from the perspective of medical students, appears to be more effective in Britain than in the U.S.⁹ The authors concluded that according to the results of this survey, students in the U.S. would benefit from increased required course-work, increase in palliative medicine role models and from creation of academic palliative medicine departments.

Palliative care education not only has to be implemented in the curriculum, it also has to be reinforced on a postgraduate level. Bharadwaj et al. investigated the level of awareness in palliative care concepts among interns to that of final year medical students in India.¹⁰ They found that reported theoretical knowledge was better than the level of confidence in performing practical aspects of palliative care. When compared to the students, the interns did not outperform them. The authors concluded that interns need reinforcement of knowledge and practical skills in palliative care issues.

Similar results were found by Mohanti et al.¹¹ Their survey assessed awareness, clinical knowledge, education and training aspects of palliative care among clinical oncology and non-oncology resident groups. Confidence to deliver quality palliative care was higher in the oncology resident group. From this survey, the authors concluded that clinicians in India need to be provided with skills and palliative care education continuously.

Even surgical residents think that understanding palliative care is a useful part of their training.¹²

These studies support the need of assessing the awareness of palliative care to be able to improve knowledge and skills in students and medical doctors.

We hypothesized that medical students from the new curriculum would be more familiar with the basic theoretical knowledge of palliative care concepts as compared to interns who completed their training according to the old curriculum. We also wanted to assess differences in the level of confidence in performing associated skills with regard to palliative care aspects.

Therefore, we decided to conduct a survey to compare these issues among students comparing the impact of teaching palliative care in the new curriculum.

Materials and Methods

Survey development

According to Bharadwaj et al.¹⁰ {Bharadwaj, 2007 8/id}, we modified their questionnaires for medical students and interns in Austria. The survey consisted of 11 questions (Table 1) issuing the theoretical knowledge of palliative care concepts (questions 1,2,3,4,7,9,11) and confidence in performing practical aspects of palliative care

Table 1. Questions and results of the survey to assess palliative care concepts among medical students and interns in Austria.

Questions	Students (n = 440)				Interns (n = 149)				S. vs. I	X ² P value
	Yes	No	n.a.	% Yes	Yes	No	n.a.	%Yes		
1. Are you familiar with the concepts of palliative care? (T)	429	9	2	97.9	121	28	0	81.2	S > I	p < 0.0001
2. Are you familiar with the concept of pain management? (T)	416	24	0	94.5	143	6	0	96	S = I	p = 0.67
3. Do you feel adequately trained in basic pain management? (T)	173	264	3	39.6	74	75	0	49.7	S < I	p = 0.035
4. Are you familiar with pain scales? (T)	421	18	1	95.9	135	14	0	90.6	S > I	p = 0.02
5. Have you been involved in the care of dying patients? (P)	164	275	1	37.4	137	11	1	92.6	S < I	p < 0.0001
6. Are you familiar with the physical signs of the dying process? (P)	241	194	5	55.4	113	46	0	75.8	S < I	p < 0.0001
7. Do you feel adequately trained to manage symptoms of the dying patient? (T)	77	361	2	17.6	37	112	0	24.8	S < I	p = 0.056
8. Do you feel competent in talking about death to a terminally ill patient? (P)	116	323	1	26.4	59	90	0	39.6	S < I	p = 0.004
9. Have you been educated adequately to talk about these issues? (T)	95	343	2	21.7	19	130	0	12.8	S > I	p = 0.017
10. Have you witnessed your teacher discuss these issues? (P)	125	315	0	28.4	84	65	0	56.4	S < I	p < 0.0001
11. Do you feel adequately trained in delivering bad news? (T)	128	312	0	29.1	28	121	0	18.8	S > I	p = 0.014
12. In your opinion, should more about palliative care be included in your curriculum?	311	120	9	72.7	138	11	0	92.6	S < I	p < 0.0001

T, issuing theoretical knowledge.

P, issuing confidence in performing practical aspects.

S. vs. I, students versus interns.

(questions 5,6,8,10). In addition, participants were asked if they would suggest including more palliative care issues in the medical curriculum (question 12). We considered the fact that there was no compulsory palliative care education for interns during their studies, but that the students of the new curriculum had a total of sixteen hours compulsory palliative care lectures. As published by Bharadwaj et al. we kept the questions very simple and the responses as yes or no.¹⁰

Sample recruitment

We provided the survey to all students in the 4th year of their medical studies in March 2008.

As the new curriculum at the Medical University of Vienna started in 2003 only students of the new curriculum completed the survey. In the new curriculum, sixteen hours of palliative care education are compulsory. Six hours are lectures about theoretical aspects of palliative care. Interactive seminars enable students to learn more about specific topics such as pain and dyspnea control, ethics and communication issues in palliative care. Case reports and discussions help the students to get more practical insight into palliative care issues.

The questionnaire for interns was provided to participants of an emergency medicine course

in April 2008. All of the participants completed their medical training in the old curriculum, which did not include mandatory lectures about palliative care. During this course, interns deepened their theoretical knowledge about emergency medicine and improved their practical skills. Almost all of the participants were in their third year of clinical training, and none of them was specialized in palliative care.

Permission to distribute the survey was given by the physician administrator of the medical college or the organizers of the emergency medicine course to perform the survey.

We asked the students to voluntarily complete the survey before they had a detailed lecture about palliative care. Before this detailed lecture, they attended a grand round about all aspects of palliative care. A total of 530 students participated in these lectures, which were taught by seven different teachers. About ten minutes were allowed to complete the survey.

The interns were asked to fill out the survey on the very last day of their emergency medicine course on a voluntary basis. There were a total of 220 participants in this course.

The focus of the questionnaire was to evaluate the participant's level of education in palliative care. Hence we did not collect other data regarding the participants, e.g. gender, age, etc. We also wanted to keep the questionnaire as simple as possible to ensure high response rates.

The questionnaire should help to assess the responses as a percentage of positive answers and to compare the first twelve answers of the students with the first twelve answers of the interns.

We wanted to compare the level of knowledge and competence of students and interns and to evaluate whether there would be a difference in students from the new and the old curriculum.

Statistical analysis

We conducted descriptive analyses to characterize differences between the students and the interns (Chi-Square-test). The SPSS 10.0 statistical software (SPSS Inc, Chicago II) was used for calculations.

Results

440 students out of 530 (response rate 83%) filled out the survey. Out of 220 participants of the emergency medicine course, 149 interns completed

the survey (response rate 67%). The results of the survey are illustrated in table 1.

In total, 589 persons completed the survey, although not every question was answered (see table 1, missing values).

Familiarity with the concepts of palliative care (Q.1) was significantly higher in medical students compared to interns; 97.9% vs. 81.2% ($p < 0.0001$). The concepts of pain management (Q2) were well known among students (94.5%) and interns (96%) ($p = 0.67$). With regard to training in basic pain management (Q3), interns felt more positive about this issue (36.6% students vs. 49.7% interns; ($p = 0.035$)). Pain scales (Q4) were more familiar to students as compared to interns (95.9% students vs. 90.6% interns; $p = 0.02$). Involvement in the care of dying patients (Q5) was significantly more frequent among interns than students (37.4% students vs. 92.6% interns; $p < 0.0001$). Interns also felt more familiar with the physical signs of the dying patient (Q6) (55.4% students vs. 75.8% interns, $p < 0.0001$). Not many students and interns felt adequately trained to manage symptoms of the dying patient (Q7) (17.6% students vs. 24.8% interns; $p = 0.056$). Competency in communicating death to terminally ill patients (Q8) was more present in interns than in student (26.4% students vs. 39.6% interns; $p = 0.04$). Quite a few percentage of students and interns feel that they have been educated adequately to address these issues (Q9) (21.7% of the students and 12.8% of the interns, respectively ($p = 0.017$)). Fewer students than interns have had the opportunity to witness their teacher to discuss these issues with the patient (Q10) (28.4% students vs. 56.4% interns; $p < 0.0001$). Surprisingly, students felt more adequately trained in delivering bad news to the patient than interns (Q11) (29.1% students vs. 18.8% interns; $p = 0.014$). With regard to medical education in palliative care (Q12), 72.7% of all students and 92.6% of the interns would like to learn more about palliative care in their curriculum ($p < 0.0001$).

Discussion

The WHO claims that palliative care has to be compulsory in courses leading to a basic professional qualification. Since 2003, palliative medicine became part of the curriculum at the Medical University of Vienna. The new curriculum includes a total of 16 hours teaching, six hours of lectures

and 10 hours of interactive seminar, which are compulsory for all students.

A recent study by Ostgathe et al.¹³ evaluated the confidence in some of the core competencies in palliative care among medical students of the old curriculum in Germany, which did not include compulsory courses in palliative care. Based on a survey, they found that the old medical curriculum at the University of Bonn did increase the confidence in some of the core competencies in palliative care, but the overall results at the end of training remained poor.¹³ This publication revealed that the basic issues of palliative care were already included in other courses of medical training as a sort of “hidden curriculum”.

Based on these results we wanted to investigate whether students from the new curriculum and students from the old curriculum, who are physicians in training by now would differ in their approach to theoretical and practical aspects in palliative care.

Generally, we observed that students reported higher theoretical knowledge of palliative care concepts than interns, whereas interns were better in performing practical aspects of palliative care.

There were significant differences among students and interns with regard to our survey.

Student's response rate to fill out the survey was higher than interns (83% vs. 67%). This may be due to the fact that students feel more obliged to complete a survey than interns, who participate in an emergency course on a voluntary basis.

We observed some remarkable differences between students and interns.

Students from the new curriculum were significantly more familiar with the concept of palliative care than interns (Q1) (97.9% vs. 81.2%, $p < 0.0001$). A similar percentage of interns (82%) and students (86%) reported to be familiar with the concept of palliative care in a recent survey published by Bharadwaj et al.¹⁰ This study investigated palliative care concepts among medical interns and students in India, who had no mandatory palliative care training in their curriculum.¹⁰ Our study shows that compulsory implementation of palliative care in the curriculum significantly increases theoretical knowledge in palliative care concepts.

With regard to theoretical concepts of pain management, there was no difference between students and interns (Q2). Both group felt well

informed about the concept of pain management (94.5% students vs. 96% interns, $p = 0.67$).

Students feel less trained in basic pain management (Q3) (36.6% vs. 49.7%, $p = 0.035$). This may be due to practical aspects. During their training, interns get more and more involved in practical aspects of treatment of pain.

Quite surprising with regard to the latter two questions about pain management is the fact that students are significantly more familiar with pain scales than interns (Q4) (95.9% vs. 90.6% of the interns were familiar with pain scales ($p = 0.02$). Overall, pain scales are well known among students and interns as compared to students and interns from India.¹⁰ In this study, only 10% of students and 18% of interns were familiar with any of the pain assessment tools.

The percentage of students involved in the care of dying patients (Q5) is rather low (37.4%). This percentage significantly increases among interns (92.6%, $p < 0.0001$). Also, significantly more interns are familiar with the physical signs of the dying process (Q6) (75.8% interns vs. 55.4% students, $p < 0.0001$). 17.6% of the students felt adequately trained to manage symptoms of the dying patient (Q7), and 24.8% of the interns felt confident about performing good symptom control ($p = 0.056$). This shows that students are less confronted with dying patients during their studies. When they start to work as medical doctors, their confrontations with dying patients will significantly increase from one day to the next. It is difficult to teach students approach to the dying patients only by theoretical means. Students and physicians need appropriate learning opportunities and practice to address death and dying. The Harvard Medical School curriculum offers a course to medical students called “Living with a life-threatening illness”¹⁴. This course annually engages 20 to 30% of the first year students and offers them to accompany a patient with a life-threatening illness over a period of four months. The patient serves as a teacher in this course, teaching the student important lessons about illness, death and dying. It would be very helpful to include such a course in the curriculum, to increase students and physicians awareness in the care of dying patients, and would also help to improve confidence in symptom management of dying patients.

Although students feel better educated to talk about death to a terminally ill patient (Q8)

(21.7% vs. 12.8% of the interns, respectively, $p = 0.017$), interns feel more competent in talking about these issues with the patient (26.4% students vs. 39.6%, $p = 0.04$). This may be due to the fact that interns already have practical experience with patients. But one might assume that the students of the new curriculum, who already feel better educated in talking about death and dying, might also increase their practical level of competence once they start working as doctors. Future studies will investigate whether students of the new curriculum working as interns will outperform the interns of the old curriculum.

As students lack practical experience, more interns were able to witness their teachers addressing this issue (Q10) (28.4% vs. 56.4%, $p < 0.0001$). As mentioned above, courses with patients as teacher would help students to become more familiar with these issues.

With regard to deliver bad news, students also feel significantly better educated than interns (Q11) (29.1% vs. 18.8%, $p = 0.014$). However, the majority of our students and interns did not feel competent in dealing with discussions about end of life or delivering bad news (Table 1). Similar observations were made by Clemens et al.¹⁵. In their study, the majority of sixth year students did not feel prepared for dealing with end of life matters. Another study¹⁶ found that more than 80% of the surveyed student population felt insufficiently prepared for dealing with ethical questions at the end of life. A variety of studies in the United States revealed that students did not feel prepared for crucial tasks of end-of-life care.^{17,18} Although our study shows that students of the new curriculum outperform the interns with regard to these aspects, the reported rate of confidence in these core competencies is still low. This could be improved by implementing additional courses in the new curriculum.¹⁹

The majority of all interns (92.6%) from the old curriculum suggested including more about palliative care in the new curriculum (Q12). Although palliative care has already been implemented in a compulsory fashion in the new curriculum, 72.7% of all students would still like to learn more about this subject. Our findings lead to the conclusion that although palliative care has been implemented in the new curriculum at the Medical University of Vienna, more teaching about palliative care should be integrated throughout the medical studies.

To improve attitudes and skills towards patients at end of their life, rotations to palliative care units and continuing education for all physicians in training should be established. Graduates will also benefit from a graduate medical education program, as shown in a study by Fins and Nilson 2000.²⁰ They implemented a program to enhance resident's knowledge, skills and attitudes needed for effective palliative care and provided a valuable educational forum for them.

Not only students and residents may benefit from palliative care education programs. Enduring changes in attitudes towards palliative care were the result of a palliative care program at the Harvard Medical School in Boston.²¹ This program resulted in the implementation of palliative care education on a postgraduate level.

Hence, the assessment of student and residence programs may also help to improve postgraduate palliative care education.

This is to our knowledge the first study in Austria evaluating the impact of compulsory palliative care education in the new curriculum. The challenge of this study is that maybe, continuous evaluation of the effects of education may lead to improvement in palliative care education and reveal needs of students and doctors.

It is a weakness of this study that interns from the old curriculum have been asked to complete the questionnaire almost three years after they completed their studies. Hence, practical experience may influence their knowledge and self-estimation about their palliative care skills. To investigate whether the new curriculum influences doctors attitudes towards palliative care issues, the questionnaire will be provided to students of the new curriculum in about three years, when they are at the same level of education and training as the interns in our study.

Evaluation of education adds to the field of palliative care research, because it will reveal needs for improvement in teaching. Improvement in teaching will help to improve patient care and awareness towards palliative care issues.

If students and interns feel that there is need for more palliative care education (as observed in our study), this could lead to the implementation of a compulsory course for postgraduates. One day doctors may feel that palliative care education is as important as a course about emergency medicine.

By assessing needs of students and interns and evaluating their theoretical and practical knowledge about palliative care, palliative care education could be improved in the new curriculum. We would recommend to continuously evaluating palliative care education in the new curriculum to be able to improve it.

In conclusion, the implementation of compulsory palliative care education at the Medical University of Vienna resulted in a significant increase of theoretical knowledge about palliative care aspects in medical students.

Whether this will help students of the new curriculum in dealing with practical aspects of palliative care remains to be evaluated in the future.

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Disclosure

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