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Evaluation of Student Knowledge of Palliative Care

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Abstract

Introduction: There has been an increase in the number of patients in palliative care due to better care for patients suffering from chronic diseases and cancer. Physiotherapists and occupational therapists are indispensable members of the palliative care team. The three-year curriculum at the Physiotherapy and Occupational Therapy Departments at university provides several courses covering basic knowledge of palliative care. The aim of this study is to establish how familiar physiotherapy and occupational therapy students are with palliative care and if they have different levels of knowledge in this area. The way in which physiotherapy and occupational therapy students gain additional knowledge of this topic and learn about palliative care will also be determined. *Methods:* 136 undergraduate occupational therapy students and 138 undergraduate physiotherapy students at the University of Applied Health Sciences in Zagreb participated in this study. All respondents filled in an online questionnaire about their knowledge of palliative care, which was created and made accessible on the Google Forms platform. *Results:* We expect that the results will provide a clear idea of the level of knowledge physiotherapy and occupational therapy students of all three years of study have about palliative care. The results of this study show similar levels of knowledge in physiotherapy and occupational therapy students. The presented results indicate a small difference between the two study groups (PT and OT), but it is not statistically significant. *Discussion and conclusion:* Results of this study could provide new ideas regarding formal and informal training of healthcare professionals, primarily physiotherapists and occupational therapists, in order to improve the quality of palliative care resulting in a higher quality of life of patients in palliative care.

Keywords: *students, physiotherapy, occupational therapy, palliative care.*

Introduction

In accordance with demographic changes and the epidemiological picture of the development and occurrence of chronic incurable diseases, the number of palliative patients has been increasing. Therefore, it is necessary to provide healthcare professionals with palliative care education. In recent years, the challenges related to the provision of quality palliative care have been increasingly recognised. Empirical evidence suggests that palliative care services are not sufficiently available and only start in later stages of diseases (Centeno et al, 2016). More than half of the countries in the World Health Organization's European Region include palliative medicine education in the health studies curricula (de Araujo and de Araujo, 2018). In many European countries, palliative care education is becoming a priority, especially in more developed countries (Centeno et al., 2016). The development of palliative care is gaining momentum also in the Republic of Croatia. However, regional inequality and a lack of healthcare professionals in the field of palliative care are present.

Understanding the current level of students' palliative care knowledge and attitudes is important for the analysis of future education (Sadhu et al., 2010) and the introduction of regular palliative care courses for all healthcare professionals at universities. Attitudes and knowledge of palliative care should be at a high level in all members of the multidisciplinary team participating in palliative care, so that awareness of the importance of palliative care is accepted in society.

The role of a physiotherapist (PT) in palliative care is primarily to identify, assess and plan the treatment of the patient's functional needs and improve the patient's quality of life (Marcant and Rapin, 1993) in cooperation with other team members. Physiotherapy intervention for palliative patients is focused on respiratory exercises, therapeutic exercises to increase range of motion, strength, increase balance and coordination, walking exercises and other functional activities that are necessary in activities of daily living, physiotherapy analgesic procedures and interventions to prevent secondary complications (Wilson et al. 2017) planned according to the patient's current condition. Improving the quality of life, functional ability and independence in activities of daily living are an integral part of occupational therapy interventions (OTIs) in working with palliative patients. Occupational therapy procedures assess environmental and contextual factors (e.g. family and caregiver training, availability of certain facilities in the vicinity, social support), as well as personal factors (decreased endurance, increased anxiety) that limit the ability and satisfaction when performing the desired activities and plan an intervention in cooperation with the patient and their family. Occupational therapy interventions include functional assessment and defining rehabilitation goals, education about aids and ergonomic adaptation, training of patients and families, cooperation with team members in order to improve the patients' quality of life (Njegovan-Zvonarević, 2018).

Physiotherapists and occupational therapists in Croatia often remain unrecognised as members of the palliative team. Their role in the palliative team should be key for improving the quality of life of patients, as well as their families. Despite that, healthcare professionals, including physiotherapists and occupational therapists, may not have enough knowledge or additional training in palliative care (León Perilla and Joaquim, 2022). The aim of this study was to determine the extent of familiarity with palliative care among physiotherapy and occupational therapy students and to assess whether a statistically significant difference exists between their levels of knowledge.

Methods

Participants

The study was conducted from 1 to 30 September 2023. The respondents filled in an online questionnaire designed specifically for this study and posted on the Google Forms platform. In the introductory section of the questionnaire, they were informed about the aim and purpose of the study. The study received a positive opinion from the Ethics Committee (KL: 602-03/24-18/337; URBR: 251-379-10-24-02) on May 6, 2024 of the University of Applied Health Sciences in Zagreb. Participation in the study was voluntary and the respondents could withdraw at any time without providing an explanation. In accordance with the General Data Protection Regulation (GDPR), which came into effect on 25 May 2018, and which governs the protection of personal data of citizens of the European Union, we guarantee the anonymity of personal data and the confidentiality of the responses provided.

A total of 274 respondents participated in the study, divided into 2 groups. One group consisted of 138 undergraduate students of physiotherapy (first-, second- and third-year students, Physiotherapy group – PT group), while the other study group (Occupational therapy group – OT group) was formed of 136 undergraduate students of occupational therapy (first-, second- and third-year students). All respondents were students at the University of Applied Health Sciences in Zagreb.

The PT group consisted of 14 respondents who were first-year students (10%), 38 (28%) were second-year students, and 86 (62%) were third-year students. In the OT group, there were 58 respondents who were first-year students (43%), 24 (17%) were second-year students, and 54 (40%) were third-year students. Out of a total of 274 respondents, 72 (26%) were first-year students, 62 (23%) were second-year students, and the majority were third-year students (140 or 51%). In the PT study group (N=138), there were 36 men (26%) and 102 women (74%). In the OT study group, out of the total number of respondents (N=136), there were 10 men (7%) and 126 women (92%). Out of the total number of respondents in both study groups (PT and OT), 46 men (17%) and 228 women (83%) participated in the study. The average age of all respondents (N=274)

was 22 years. The respondents from the PT group had an average age of 23 years, while the respondents from the OT group had an average age of 21 years (Table 3).

Table 1. Distribution of respondents by gender.

Gender	*PT*	*OT*	*Total PT+OT*
M	36 (26%)	10 (7%)	46 (17%)
F	102 (74%)	126 (93%)	228 (83%)
TOTAL M+F	138 (100%)	136 (100%)	274 (100%)

M – male; F – female; total M+F – combined results for male and female respondents; PT – physiotherapy study group; OT – occupational therapy study group; total PT+OT – combined result for the physiotherapy and occupational therapy groups

Table 2. Distribution of respondents by year of study.

Year of study	*PT*	*OT*	*Total PT+OT*
First year	14 (10%)	58 (43%)	72 (26%)
Second year	38 (28%)	24 (17%)	62 (23%)
Third year	86 (62%)	54 (40%)	140 (51%)
Total	138 (100%)	136 (100%)	274 (100%)

PT – physiotherapy study group; OT – occupational therapy study group; total PT+OT – combined results for the physiotherapy and occupational therapy study groups; First year – first year of study; Second year – second year of study; Third year – third year of study

Table 3. Distribution of respondents by age.

	N	*M*	*SD*
PT	138	23	6,28
OT	136	21	2,94
Total PT+OT	274	22	5,05

PT – physiotherapy study group; OT – occupational therapy study group; total FT+RT – combined results for the physiotherapy and occupational therapy groups; N – number of respondents; M – median; SD – standard deviation

Questionnaire

The respondents filled in an online questionnaire designed for this study. The questionnaire was accessible on the Google Forms platform. In the introductory part of the questionnaire, they were informed about the aim and purpose of the study. The study received a positive opinion from the Ethics Committee of the University of Applied Health Sciences in Zagreb. The questionnaire was anonymous and the respondents could withdraw at any time while completing the questionnaire.

The questionnaire consisted of two parts. The first part consisted of a structured questionnaire on general socio-demographic characteristics con-

taining four questions: gender, age, course of study and year of study. For the second part of the questionnaire, we created the Assessment Index of Students' Palliative Care Knowledge. The questionnaire comprised eight questions. Five of the questions were related to the perceived assessment of acquired knowledge of palliative care, and three questions were related to determining current knowledge of palliative care. The first five questions were rated on a Likert scale from 1 to 5, and the results range from 5 to 25. A higher score meant a higher perceived assessment of palliative care knowledge. The three remaining questions were evaluated separately, and were added due to the assumption that they are essential for determining the respondents' current knowledge of palliative care.

Statistical Analysis

The results of the Assessment Index of Students' Palliative Care Knowledge were processed using the statistical program IBM SPSS Statistics V23.0. The Kolmogorov–Smirnov test was used to determine normality of distribution. Differences in numerical variables between two independent groups were tested using the Mann–Whitney U test. The significance level was set at α=0.05. The results of the three questions (gender, age, year of study) that were added because of the assumption that they are important for determining the respondents' current knowledge of palliative care were presented according to the percentage of answers given by the respondents.

Results

Results of Determining Current Knowledge of Palliative care

Table 4. The respondents' results when asked where they learned about palliative care.

Proposed responses to the question:	*PT*	*OT*
	N (%)	*N (%)*
in secondary school	52 (36.96)	43 (31.62)
at university	37 (28.26)	69 (50.73)
from friends or family	34 (23.91)	17 (12.50)
through the media	10 (7.25)	4 (2.94)
through social media	1 (0.72)	3 (2.21)
other	4(2.90)	0 (0)

PT – physiotherapy group; OT – occupational therapy group; N (%) – number of respondents (percentage of respondents)

When asked where they learned about palliative care, 69 respondents of the OT group (50.73%) confirmed that they learned about the existence of palliative care at university and 37 respondents of the PT group (28.26%) confirmed the same. The respondents' most common response to the question *Where did*

you learn about palliative care? is that they learned about the existence of palliative care in secondary school and this was the answer given by 52 respondents of the PT group, or 36.96% of them, and 43 respondents of the OT group, or (31.62%) of them (Table 4).

In the respondents' results for the question "*Which patients belong to palliative care?*", the respondents from the OT group showed greater knowledge than the respondents from the PT group. As many as 108 respondents from the OT group, or (79.41%), answered that those were patients with a chronic incurable disease. The same answer was given by only 37 respondents of the PT group, or (26.81%) of them.

In the respondents' results for the question "*Who makes up the palliative care team?*", 131 respondents (96.32%) from the OT group answered that all the specified experts (physician, specialist physicians, nurse, physiotherapist, clergyman, social worker, psychologist) belong to the palliative team, while the same statement was confirmed by only (21.74%) of PT respondents, i.e. 30 of them.

Results of the Assessment Index of Students' Palliative Care Knowledge

In the results of the perceived assessment of the respondents' palliative care knowledge for the question "*Do you know what palliative care is?*", "I do" and "I fully know" were the answers given by as many as 98 respondents from the PT group and 86 respondents from the OT group. The total score of the perceived assessment of both examined groups (PT and OT) is 4 (Table 5).

Table 5. The respondents' answers to the question "Do you know what palliative care is?"

Proposed responses to the question:	*PT*	*OT*
	N (%)	*N (%)*
I don't know at all	4 (2.90)	2 (1.47)
I am familiar with the term, but I don't know exactly what it is	11 (7.97)	14 (10.29)
I somewhat know the meaning of the term	25 (18.12)	34 (25)
I know the meaning of the term	57 (41.30)	73 (53.68)
I fully know the meaning of the term	41 (29.71)	13 (9.56)

PT – physiotherapy group; OT – occupational therapy group; N (%) – number of respondents (percentage of respondents)

In the respondents' assessment results for the question about the necessity of including the Palliative Care course in the undergraduate study of PT and OT, 83 respondents (60.15%) of the total number of respondents of the PT group, stated that the course was necessary "to a large extent" and "to a very large extent". In the OT group, 35 respondents (25.73%) of the total number of the OT group respondents gave answers in the above two categories.

Table 6. The respondents' results for the question "To what extent do you believe it is necessary to include the Palliative Care course in undergraduate studies?"

Proposed responses to the question:	*PT*	*OT*
	N (%)	*N (%)*
not even a little	1 (0.72)	5 (3.68)
to a small extent	9 (6.25)	30 (22.05)
to an average extent	45 (32.61)	62 (48.53)
to a large extent	55 (39.86)	25 (18.38)
to a very large extent	28 (20.29)	10 (7.35)

PT – physiotherapy group; OT – occupational therapy group; N (%) – number of respondents (percentage of respondents)

In the respondents' assessment results for the question about the necessity for additional palliative care training, the biggest difference in a particular category of answers is in the category "to a very large extent": 28 respondents (20.44%) from the PT group believe that additional training in their profession is necessary to a very large extent, while 13 respondents from the OT group (9.56% of them) thought the same (Table 7).

Table 7. The respondents' results for the question "To what extent do you believe your profession needs additional palliative care training?"

Proposed responses to the question:	*PT*	*OT*
	N (%)	*N (%)*
not even a little	2 (1.46)	3 (2.21)
to a small extent	10 (7.30)	20 (14.71)
to an average extent	45 (32.85)	49 (36.03)
to a large extent	52 (37.96)	51 (37.50)
to a very large extent	28 (20.44)	13 (9.56)

PT – physiotherapy group; OT – occupational therapy group; N (%) – number of respondents (percentage of respondents)

The respondents' results for the question about the need for a PT/OT in the palliative team, the biggest difference in answers between the two groups is in the category "to a very large extent". In the PT group, 29 respondents (21.01%) gave this answer, while 6 respondents from the OT group (4.41%) answered the same (Table 8).

The results on whether the respondents see themselves as a PT/OT working in palliative care show that only (19.57%) of respondents from the PT group, i.e. 27 out of 138 respondents, can see themselves working in palliative care to a "large extent" and to a "very large extent". In the OT group, only 7 respondents (5.15%) out of 136 can see themselves working in palliative care "to a large extent", and not a single respondent from this study group can see themselves working in palliative care "to a very large extent" (Table 9).

Table 8. The respondents' results for the question "To what extent do you believe a PT/OT is needed in the palliative team?"

Proposed responses to the question:	*PT*	*OT*
	N (%)	*N (%)*
not even a little	1 (0.72)	7 (5.15)
to a small extent	11 (7.90)	19 (13.97)
to an average extent	48 (34.78)	49 (36.03)
to a large extent	49 (35.51)	55 (40.44)
to a very large extent	29 (21.01)	6 (4.41)

PT – physiotherapy group; OT – occupational therapy group; N (%) – number of respondents (percentage of respondents)

Table 9. The respondents' results for the question "Can you see yourself as a PT/OT working in palliative care?"

Proposed responses to the question:	*PT*	*OT*
	N (%)	*N (%)*
not even a little	29 (21.01)	48 (35.29)
to a small extent	34 (24.64)	72 (52.94)
to an average extent	48 (34.78)	9 (6.62)
to a large extent	12 (8.70)	7 (5.15)
to a very large extent	15 (10.87)	0 (0)

PT – physiotherapy group; OT – occupational therapy group; N (%) – number of respondents (percentage of respondents)

Table 10. Perceived assessment of palliative care knowledge in both study groups (PT+OT)

Questions posed in the questionnaire:	*IS*	*AV 1–5*	*SD*	*M*
"Do you know what palliative care is?"	PT	3.87	1.02	4
	OT	3.60	0.85	4
"To what extent do you believe it is necessary to include the palliative care course in undergraduate studies?"	PT	3.70	0.91	4
	OT	3.04	0.92	3
"To what extent do you believe your profession needs additional palliative care training?"	PT	3.72	0.88	4
	OT	3.38	0.92	3
"To what extent do you believe a PT/OT is needed in the palliative team?"	PT	3.68	0.92	4
	OT	3.25	0.93	3
"Can you see yourself as a PT/OT working in palliative care?"	PT	2.64	1.22	3
	OT	1.88	0.90	2

SG – study group; PT – physiotherapy group; OT – occupational therapy group; AV 1–5 – average 1–5; SD – standard deviation; M – median

Table 10. presents the knowledge assessment index, i.e. the respondents' perceived knowledge in both study groups (PT and OT). Across the two

groups, the median, rated from 1 to 5, differs across all questions except for "*Do you know what palliative care is*?", where the median was 4 in both groups. In the other questions, the PT group consistently had a median one point higher than the OT group. The lowest mode in both groups was observed for the question "*Can you see yourself as a PT/OT working in palliative care*?" (PT=3; OT=2).

The results of the perceived assessments of the respondents' acquired palliative care knowledge are described by the median and the standard deviation and show the minimum and maximum points (Table 11.). The presented results indicate a small difference between the two study groups (PT and OT), but the difference is not statistically significant (p=0.1411).

Table 11. Results of perceived assessments of the respondents' acquired palliative care knowledge

Study group	*Min*	*Max*	*M*	*SD*
PT	10	25	17.51	3.69
OT	9	21	15.14	2.21

PT – physiotherapy group; OT – occupational therapy group; Min – minimum; Max – maximum; M – median; SD – standard deviation

Discussion

Physiotherapy and occupational therapy are based on a holistic approach to patient care, including palliative care principles. Although the respondents in this study believe that they know well what palliative care is, they believe that more palliative care knowledge is necessary for physiotherapists and occupational therapists, and a smaller number of respondents from the OT group believe that palliative care should be included as a course in undergraduate studies The results of our study show that physiotherapy students believe to a greater extent than occupational therapy students that additional training in their work is necessary and required to a very large extent (PT=20.44%, OT=9.56%).

Greater knowledge and additional palliative care training enables provision of quality care and improvement of practical competencies (Yie et al., 2023). Our study is in line with other research that emphasizes the need for additional knowledge of physiotherapists and occupational therapists in the field of palliative care, but it is not sufficiently expressed in practice (Fadare et al., 2014; Pascoe et al., 2018). In this study, a smaller number of OT group respondents can see themselves working in the field of palliative care (PT=19.57%, OT=5.15%) (Table 9). One of the reasons could be students' discomfort when dealing with death and dying, as well as the prevailing health culture that still views death as a failure (Sadhu et al., 2010). Therefore, physiotherapists and occupational therapists may be less motivated for working in palliative care because the results of functional recovery are not as successful as in curative rehabilitation. The difference in the responses of occupational therapy students

can be supported by an Indonesian study which found that many healthcare professionals are not well prepared, have low levels of confidence in providing palliative care services, and have issues with the communication skills required for end-of-life discussions (Huriah et al., 2021).

Furthermore, some studies indicate that occupational therapy students are not clear about their role and contribution to the multidisciplinary team, palliative patients and their family members, and the community (Keesing & Rosenwax, 2011). Lack of awareness of the role of occupational therapy in palliative care is the main reason for insufficient participation in occupational therapy interventions (Pitzen, 2009). Likewise, our study has provided similar results. The rationale may be that undergraduate occupational therapy students have no experience working with palliative patients in practice, while physiotherapy students encounter chronically ill patients (neurological, rheumatological, oncological and others) to a greater extent during their studies, through clinical practice, even though they do not completely perceive them as palliative patients.

PT and OT students should have access to a basic level of palliative care knowledge. Advanced training should enable mastering the skills for this type of care, and should deepen the understanding of topics specific to this area. The reasons for the low interest in working in the field of palliative care among physiotherapy students can be explained by the more ubiquitous popularity of jobs in other areas of physiotherapy (sports physiotherapy, orthopaedic physiotherapy etc.), which include full recovery of patients after physiotherapy interventions. In palliative care, the emphasis is on reducing the impact of the disease and treatment (reducing symptoms), increasing mobility and functionality. Research highlights that the link between current, insufficient training and the perceived readiness of physiotherapists and occupational therapists to work in palliative care points to the need for optimization of teaching in this unique area (De Araujo and De Araujo, 2018).

According to Centeno et al. (2014), universities should be encouraged to adjust curricula according to demographic and social needs. In order for every country to have professional healthcare workers in a multidisciplinary team in palliative care, it is necessary to set the primary goal of basic and additional training in palliative care. With such level of education, physiotherapists and occupational therapists would respond professionally to the challenges that they face.

Conclusions

In conclusion, we can say that the majority of physiotherapy and occupational therapy students in this study possess good knowledge of palliative care as well as positive attitudes. In spite of this, only a small number of physiotherapy and occupational therapy students can see themselves working with palliative patients to a greater extent. One of the factors that could contribute to a high-

er motivation of physiotherapy and occupational therapy students for working with palliative patients could be additional professional training through formal courses at undergraduate studies. The study programme could be enriched with informal forms of education such as professional workshops, lectures, public forums etc., which would raise the level of education of physiotherapists and occupational therapists.

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