

Review

Radiation oncologists role, training and perceptions in palliative care: a systematic review



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ABSTRACT

Aim: To assess the educational needs, role and perceptions in palliative care issues of radiation oncologists (ROs) and trainees.

Background: 1/3 of radiotherapy patients are treated with palliative intent. Conversely, education and role that ROs have in the palliative care process are not well established, neither in terms of how they perceive their competence nor whether it is important to improve training, research and attention in palliative care issues at radiotherapy congresses.

Material and Methods: Literature systematic review in National Library of Medicine and Cochrane databases with 11 relevant issues to be identified. One doctor made first selection of articles, a second one confirmed their eligibility.

Results: 722 articles reviewed, 19 selected. 100% recognize the importance of palliative care in radiotherapy, 89.4% the need of training in palliative care for ROs, 68.4% the necessity of improving the resident programs, 63.1% the importance of skilled ROs in palliative care, 63.1% the need of better communication skills and pain management (47.3%), 52.6%, the perception of inadequate training in palliative care, 36.8% the lack of research and palliative care topics in radiotherapy meetings, 21% the absence of adequate guidelines regarding palliative care approaches, 42.1% the importance of the ROs in palliative care teams and 26.3% the lack of their involvement.

Conclusion: Palliative care has an important role in radiotherapy but it seems ROs still need more training. It is necessary to improve training programs, increment palliative care research in radiotherapy, giving more attention to palliative care themes at radiotherapy congresses. This could lead to a better integration of radiotherapists in multidisciplinary palliative care teams in the future.

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1. Background

More than one third of patients in radiotherapy departments are treated with a palliative intent.¹ Moreover, most of these patients need daily treatments lasting several weeks, for this reason Radiation Oncologists (ROs) meet them at least once a week. In this setting, it is possible to create a strong physician-patient relationship and to evaluate patient's needs and symptoms.² Although the evidence is well known, the education and the role that ROs should have in the palliative care process is not well established. In 2001,

the American Society of Radiotherapy (ASTRO) stated the necessity for ROs to take a role in controlling symptoms and talking with the patients about end-of life matters.³ After 18 years, it seems there is still not enough attention on ROs training regarding palliative care and symptom management; furthermore, their role in the multidisciplinary palliative care team is not always well established. In particular, it is not clear how ROs and residents in radiotherapy perceive their competence in this field and how important it is to improve the education, research and attention regarding palliative care issues at radiotherapy congresses. So far, few studies, most of which cross-sectionals, have investigated these issues.

Our objective was to assess the educational requirements of the ROs and trainees, their role, involvement and perceptions in palliative care.

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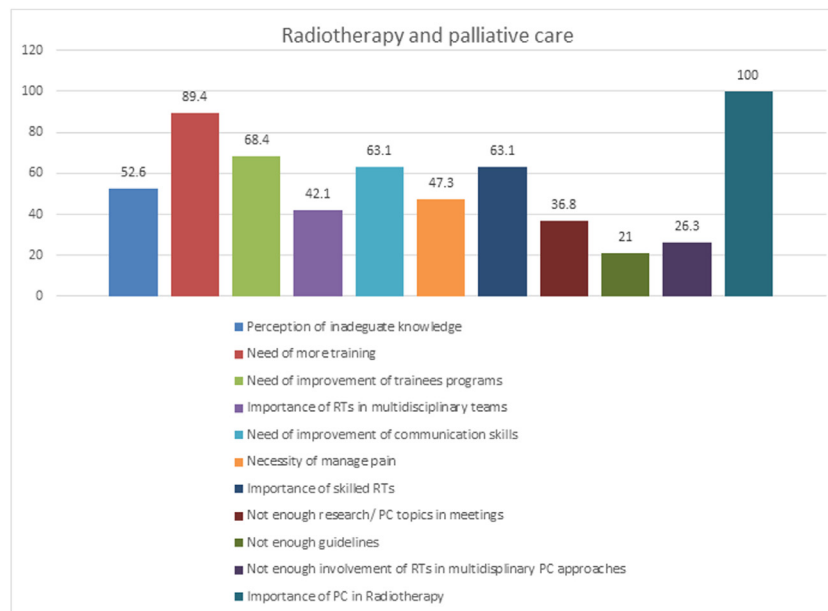


Fig. 1. Radiotherapy and palliative care, summary of results.

2. Material and Methods

We performed a systematic search of the literature in the National Library of Medicine and Cochrane Reviews databases on 19.09.19 and 20.09.19 using the key words "radio oncologist", "radiotherapist", "radiotherapy", "radio oncology", "radiation oncology", each of which combined with "palliative care" or "end of life care", "education", "training", "perception". We selected only English articles concerning, according to titles or abstracts, radiotherapy trainee or physician's role and education in palliative care, perceptions or involvement in this field. We selected 11 relevant issues to be identified in the full text of the eligible articles. One compulsory issue to be identified was the recognition of the role of palliative care in radiotherapy. The other 10 issues were: 1) perception of inadequate knowledge from ROs or residents; 2) the need of more training in the field; 3) the need of improvement of trainee radiotherapy programs; 4) the importance of ROs in multidisciplinary teams; 5) the need of communication skills improvement; 6) the necessity for ROs to be able of manage pain; 7) the importance of skilled ROs in palliative care field; 8) the perception of not enough research or not enough palliative care topics in oral presentations or posters in radiotherapy meetings; 9) the absence of clear guidelines in palliative care setting for ROs; 10) the perception of not enough involvement of ROs in multidisciplinary palliative care approaches. For eligibility, at least one of these 10 issues should be identified in the full text together with the recognition of the important role of palliative care in radiotherapy. We identify other eligible articles by checking reference lists from articles selected in databases. One physician performed the search of the literature and selected the potentially eligible articles from databases and reference checks; another physician confirmed the eligibility and the presence of duplicates. We performed a qualitative synthesis of the eligible articles (Fig. 1).

3. Results

Of 722 articles reviewed, 20 met the selection criteria at first analysis. After full-text reading, one article was excluded because it did not address any of the eleven identified issues.⁴ The second physician agreed with the eligibility of the selected articles and con-

firmed the absence of duplicates. The final analysis was performed on 19 articles. The articles collected were dated from January 2002 to July 2019 and the majority of them were cross sectional or observational studies, while two selected studies were narrative reviews. Of the 19 articles, 100% (19/19) recognized the important role of palliative care in radiotherapy, 89.4% (17/19) addressed the need of more training in palliative care for ROs,^{1,2,5–19} and 68.4% (13/19) evidenced the necessity of improving radiotherapy resident programs regarding palliative care aspects.^{1,2,5,10–19} The majority of them (63.1%, 12/19) acknowledged the importance of skilled ROs in palliative care,^{2,5,7,8,10,14–17,19,20,23} while 63.1% (12/19) evidenced the need of better communication skills^{2,8–13,15–20} and 47.3% (9/19) the need of improvement in pain management abilities.^{2,6,8,10–12,15–17} In 52.6% (10/19) of the articles, the perception of inadequate training in palliative care emerged for both physicians and residents.^{2,8,10,11,13,14,16–19} 36.8% (7/19) addressed the lack of research in the field and/or the lack of palliative care topics in national and international radiotherapy meetings.^{5,7,8,14,16,18,19} Four articles (21%), from 2007 to 2016, recalled the absence of adequate guidelines for ROs regarding palliative care approaches.^{1,7,8,21} Finally, 42.1% (8/19) emphasized the importance of radiotherapist's presence in palliative care multidisciplinary teams^{1,5,6,7,8,14,17,19} and 26.3% (5/19) of the articles pointed out the lack of involvement of radiotherapists in palliative care teams.^{1,6,8,11,17} Results are summarized in Table 1.

4. Discussion

The totality of the selected studies recognized how important palliative care is in radiotherapy. Even if a strong degree of this evidence is perceived in the medical community, from our systematic review it emerges that further improvements are still needed. Although four articles addressed the requirements of more accurate guidelines, from 2016 no more articles pointed out this issue, probably because ASTRO and ESTRO (European Society for Radiotherapy and Oncology) have published in the last three years more indications for palliative treatment approaches.¹⁸ Lots of issues still need urgent improvement; in particular, the study of Caravatta et al.⁶ showed the lack of confidence of Italian ROs in pain management, aspect discussed in eight other studies. Another important

Table 1
Summary of literature research and results.

First Author - Year	Perception of Inadequate Knowledge	Need of more training	Need of improvement of trainee programs	Importance of RTs in multidisciplinary teams	Need of improvement of communication skills	Necessity of management	Importance of skilled RTs	Not enough research/ not enough PC topics in meetings	Not enough guidelines	Not enough involvement of RTs in multidisciplinary PC approaches	Importance of PC in Radiotherapy
Barnes – 2002 (5)		X	X	X			X	X			X
Caravatta – 2015 (6)		X		X		X				X	X
Lutz – 2014 (7)		X	X	X			X	X	X		X
Aggarwal – 2016(1)		X	X	X					X	X	X
Lloyd – 2016 (21)									X		X
McCloskey – 2007 (8)	X	X		X	X	X	X	X	X	X	X
Martin – 2019 (4)		X			X						X
Wei – 2016 (10)	X	X	X		X	X	X				X
Wei – 2017 (11)	X	X	X		X	X				X	X
Stavas – 2016 (12)		X	X		X	X					X
Sarra – 2017 (13)	X	X			X		X				X
Parker – 2017 (14)	X	X	X	X			X	X			X
Pilote – 2019 (20)					X		X				X
Garcia – 2017 (15)		X	X		X	X	X				X
Krishnan – 2017(16)	X	X	X		X	X	X	X			X
Fels – 2018 (17)	X	X	X	X	X	X	X			X	X
Shi – 2018 (18)	X	X	X					X			X
Fareed – 2018 (19)	X	X	X	X	X		X	X			X
Ioannides – 2019(2)	X	X	X		X	X	X				X
Total	10 of 19: 52.6%	17 of 19: 89.4%	13 of 19: 68.4%	8 of 19: 42.1%	12 of 19: 63.1%	9 of 19: 47.3%	12 of 19: 63.1%	7 of 19: 36.8%	4 of 19: 21%	5 of 19: 26.3%	19 of 19: 100%

Abbreviations: PC: palliative care. RTs: radiotherapists.

issue concerns low communication skills. A survey-based study performed in three different physician categories (radiotherapists, palliative care specialists and oncologists) shows that about one third of ROs define themselves as not enough competent in communicating with patients and their family, while the evaluation of the two other categories concerning RO's communication skills was even lower: just 8% affirm ROs had enough communication skills to approach palliative care patients.⁸ Moreover, a recent ASTRO guideline evidenced the importance of communication in this field. They stated "Do not initiate non-curative radiation therapy without defining the goals of treatment with the patient and considering palliative care referral. Well-defined goals of therapy are associated with improved quality of life and better understanding on the part of patients and their caregivers.(...) Early palliative care intervention may improve patient outcomes, including survival."²² This highlighted the importance of a multidisciplinary approach, but ROs often perceive they are not included enough in multidisciplinary management of palliative patients. That could lead to late radiotherapy referrals, but also to difficulties for physicians in complex patient management during long radiotherapy courses. Two survey-based studies highlighted how ROs or residents with a palliative care training have a more confident approach in pain

management and communication with patients and relatives.^{15,17} Several studies, two dated from 2019, reported that palliative training is not adequate even in specialty programs, nor in formed physicians. In particular, one survey-based study from ASTRO¹¹ pointed out how ROs were skilled enough to manage pain, but the ability of assess and manage other symptoms such as depression, anxiety, anorexia, and fatigue is still poor and should be improved.

This should encourage head of departments and radiotherapy societies to implement the courses and improve the teaching of end of life and palliative care.

In the "Recommended ESTRO Core Curriculum for Radiation Oncologists/Radiotherapists 4th Edition" both palliative care and communication skills have a recognized central role in the education of ROs: the document states that ROs should be able to "discuss the role of palliative care in the management of the patient, discuss the role and timing of surgery in palliative care, and also implement treatments to control symptoms or refer appropriately to other specialties". The ability of communicate appropriately and effectively with patients and their relatives is so important that an entire learning chapter has been dedicated to it.²³ If ROs training programs will follow this recent document, a better future integration of palliative care in ROs education is expected.

In the meanwhile, ESTRO is also providing different courses having palliative care as main topic, such as an international school corner of three days, that could be useful to fill these gaps in ROs training.

Finally, one study from 2002 emphasized that among accepted abstracts at ASTRO congress from 1993 to 2000, only 1.3% were related to symptoms control and palliative care.⁵ One recent study showed that this trend seems to be always low as in the early 2000s, with only 1.3% of published manuscripts between 2005–2014 focused on palliative care issues in radiotherapy in both the Red Journal and Green Journal Research, two of the most important journals in radiotherapy, based on impact factor.¹⁸

The creation of the Society of Palliative Radiation Oncology (SPRO) in 2014 has improved this situation, but much work should be done. It could be interesting to see, with a recent study, how this tendency has improved in the last decade.

Our review has limitations associated with eligibility criteria and research strategy. We used only two electronic medical databases, supplemented with checking all citations and references in the selected articles. The second reviewer checked just the selected articles. Moreover, only English language articles were searched due to resource limitations, introducing a source of bias and limiting the comprehensiveness. Regarding eligibility criteria, they were selected after a general search in literature and after a discussion with two ROs and one palliative care specialist with the objective to identify the most relevant issue in the selected topic.

5. Conclusions

Our review shows that palliative care has an important role in radiotherapy. Nevertheless, the perception is that ROs are still not skilled enough and need more training. It is necessary to improve training programs and increment palliative care research in radio-oncology, giving more attention to palliative care themes at radiotherapy congresses, with a special regard to pain, symptoms management and communication. In the meanwhile, it could be useful to fill this gap with available courses organised for this topic from the international societies. This could lead to a better integration of ROs in multidisciplinary palliative care teams in the future.

Contributors

GLP searched, analyzed and interpreted the data and had the main role in writing the article, MR did a critical revision of the article and double checked the articles selected, MB did a critical revision of the article, CS did a critical revision of the article, AFP analyzed and interpreted the data and performed a critical revision of the article.

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Declarations of interest

None.

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