Education Competencies for Integrative Oncology in Germany: Results of a Stakeholder Engagement Survey Study

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Keywords
Cancer · Competencies · Integrative oncology · Education research · Medical education

Abstract

Background: Integrative Medicine (IM) training programs in oncology lacked standardized education core competencies to ensure the practical relevance of its learning content and objectives. In a previous international and interprofessional consensus procedure, core competencies were developed for health professionals working in Integrative Oncology (IO). However, the transferability of the developed core competencies to IO physicians working in Germany has not yet been verified. The overall aim of this survey study as part of the KOKON Project (Kompetenznetzwerk Komplementärmedizin in der Onkologie; Competence Network Complementary Medicine in Oncology) was to investigate if the international core competencies developed for IO for a broader group of health professionals are suitable for physicians in Germany.

Material and Methods: Paper-pencil and digital questionnaires were distributed amongst various stakeholder groups (cancer patients and representatives; IO physicians; members of IM organization and IM researchers; multipliers of cancer support groups). The stakeholders were asked to rate the 37 core competencies developed according to their importance for the respective stakeholder group (not important, moderately, very important). Analyses were conducted using a 60% agreement threshold for medium to highly important competencies and 50% agreement threshold for highly important competencies. Results: We contacted different persons from various stakeholder groups (n > 370) with a survey response rate of 55.5–68.4% (n = 271) depending on the respective stakeholder group. Using the 50% agreement threshold, all competencies were accepted by the stakeholder groups. 27 competencies were considered very important by 60% of the survey participants. In particular, cancer patients and cancer support groups showed similar results. Conclusion: The list of developed international core competencies for IM health professionals seems to be suitable for physicians providing IO in Germany according to different stakeholder groups. The implementation of competencies can support the development of evidence-based, patient-centered training programs for physicians.

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Schlüsselwörter
Krebs · Kompetenzen · Integrative Onkologie · Bildungsforschung · Medizinische Ausbildung
Zusammenfassung

Hintergrund: Den Ausbildungsprogrammen für Integrative Medizin (IM) in der Onkologie in Deutschland fehlen standardisierte Ausbildungskernkompetenzen, um die Praxisspezifizität der Lerninhalte und -ziele zu gewährleisten. In einem internationalen und interprofessionellen Konsensverfahren wurden Kernkompetenzen für Gesundheitsfachkräfte entwickelt, die in der Integrativen Onkologie (IO) arbeiten. Die Übertragbarkeit der entwickelten Kernkompetenzen auf in Deutschland tätige Ärzt:innen der IO ist jedoch noch nicht überprüft worden. Das übergeordnete Ziel dieser Survey-Studie im Rahmen des KO-KON-Projektes (Kompetenznetzwerk Komplementärmedizin in der Onkologie) war es, zu untersuchen, ob die für eine breitere Gruppe von Gesundheitsberufen in der IO entwickelten internationalen Kernkompetenzen auch für Ärzt:innen in Deutschland geeignet sind.

Material und Methoden: Papier-Bleistift- und digitale Fragebögen wurden an verschiedene Stakeholder:innen ausgesandt (Krebsschwestern; Patient:innen; IO-Ärzt:innen; Mitglieder von Organisationen der IM und IM-Forscher:innen; Multiplikator:innen von Krebs-Selbsthilfegruppen). Die Stakeholder:innen wurden gebeten, die 37 entwickelten Kernkompetenzen nach ihrer Wichtigkeit für die jeweilige Stakeholder:innenengruppe zu bewerten (nicht wichtig, mäßig wichtig, sehr wichtig). Die Analysen wurden unter Verwendung einer 60-prozentigen Übereinstimmungsschwelle für mittel bis sehr wichtige Kompetenzen und einer 50-prozentigen Übereinstimmungsschwelle für sehr wichtige Kompetenzen durchgeführt. Ergebnisse: Wir kontaktierten verschiedene Personen aus unterschiedlichen Stakeholder:innenengruppen (n = 370) mit einer Rücklaufquote von 55,5–68,4% (n = 271) je nach Interessengruppe. Bei einer Zustimmungsrate von 50% wurden alle Kompetenzen von den Interessengruppen akzeptiert. 27 Kompetenzen wurden von 60% der Surveyteilnehmer:innen als sehr wichtig erachtet. Insgesamt 27 Kernkompetenzen und Leiter:innen von Krebs-Selbsthilfegruppen zeigten ähnliche Ergebnisse. Schlussfolgerung: Die Liste der entwickelten internationalen Kernkompetenzen für IO-Gesundheitsfachkräfte scheint nach Ansicht der verschiedenen Interessengruppen für Ärzt:innen, die in Deutschland IO anbieten, geeignet zu sein. Die Implementierung der Kompetenzen kann die Entwicklung von evidenzenbasierter, patientenorientierter Ausbildungsprogramme für Ärzt:innen unterstützen.

Introduction

As the use of complementary and integrative medicine (CIM) in cancer patients increases [1, 2], and physicians’ need for CIM training persists [3], standardized and evidence-based CIM education programs become more relevant [4, 5]. As recently published in a literature review [6], current CIM training programs lack evidence-based competencies and knowledge from educational basic research, as well as application of new technologies and methods such as e-learning. However, only by bridging the educational research gap, evidence-based and standardized CIM training curricula can be developed so that necessary and relevant skills for clinical practice are provided. Especially in the field of oncology due to possible interactions with the cancer treatment [7, 8], the establishment of a set of educational core competencies could ensure quality and safety in the practice of CIM.

The term “integrative oncology” has been defined by the Society of Integrative Oncology (SIO) [9] as a “patient-centered, evidence-based field of cancer care that employs mind-body practices, natural products, and/or lifestyle modifications from diverse traditions in addition to conventional cancer therapies. Integrative oncology aims to optimize health, quality of life, and clinical outcomes across the continuum of cancer care and to empower people to prevent cancer and actively participate before, during and after cancer treatment” [10]. Through an international and interprofessional consensus procedure preceded by a systematic literature review, the SIO developed educational competencies [11] for health professionals working in integrative oncology (IM). During this procedure, 28 experts from 10 different professional groups (such as physicians, psychologists, nurses, naturopaths, patient navigators) consented on 37 education competencies in the categories: knowledge (n = 11), skills (n = 17), and abilities (n = 9). However, these outcomes were established to represent international consistency for different types of health care professionals working in CIM. Therefore, the direct transferability of the developed international CIM competencies may vary in countries or in occupation-specific settings. Moreover, as the SIO competencies were directed at multiple health care professionals in the IM continuum, their suitability for physician training needs investigation from a stakeholder perspective. In the case of Germany, no standard set of competencies for CIM has been applied yet [12, 13]. Reasons for this might be explained due to country-based differences in the health care systems (e.g., as many CIM therapies are part of an out-of-pocket costs health care system in Germany, cancer patients often seek CIM advice from nonmedical personnel outside the cancer care team [14]), as well as the lack of CIM training within...
medical curricula in Germany [15], even though oncology physicians wish for CIM training [15].

As part of the Competence Network Complementary Medicine in Oncology (KOKON) [16, 17], a collaborative project in Germany funded by the German Cancer Aid (grant number 70112369), this study aimed to investigate on the transferability of the international CIM core competencies developed by the SIO [11] specifically for integrative oncology physicians working in Germany.

Materials and Methods

Study Design

The set of 37 international core competencies developed by SIO [11] was sent to more than 370 potential study participants from different stakeholder groups either as an anonymous online survey using SoSci Survey software [18] or in hard copy via mail. All competencies were translated from English to German by an independent professional translation service. The study was conducted from May 2 to June 28, 2019. Participants were asked to rate each core competency presented as either not important (1), moderately important (2), or very important (3) for the clinical practice of integrative oncology physicians in Germany working with cancer patients. In open-ended questions, participants could comment on each competency presented and add further competencies if necessary.

In the first step of the survey (May 2 until May 19, 2019), oncology physicians (n = 61) and cancer patients (n = 290) received a hard copy version of the survey via mail. The hard copy version was provided to facilitate the access to study participation and hence, to increase the number of participants. In the second step (May 20 until June 28, 2019), oncology physicians received an online reminder for the study with the link to the online survey. Additional new participants from other stakeholder perspectives (leads from cancer support groups, board members of IM associations, IM researchers in the field of oncology, IM patient advocates; n ≥ 43) also received the online survey. The survey was open for 6 weeks. Core competencies for cancer patients were adapted to a patient-friendly language to facilitate understanding. Sociodemographic data were reported independently for each group and response rates for survey participation were tracked.

The study was approved by the responsible local ethics committee (Ethics Committee of Charité – Universitätsmedizin Berlin [EA1/127/17]).

Participants

To ensure stakeholder involvement in the implementation of the findings, different stakeholder groups were asked to complete the survey: physicians with experience in integrative oncology (n = 61; physicians from a previous study [19] for a CIM training), cancer patients (n = 290) who participated in the KOKON-KTO study and received previous information on CIM from their cancer treating physician [5], group leaders from cancer support groups in Germany (group size unknown due to recommendation-based recruitment process), board members of professional IM associations in Germany (n = 14), IM researchers in the field of oncology (n = 5), and patient advocates with medical expertise and experience in CIM (n = 2). Participants were selected based on their expertise or due to participation in a previous IM training study [5]. Group leads from cancer support groups were allowed to share the survey with colleagues leading cancer support groups. In the invitation to the study, the KOKON project, the aim of the survey, and the competencies were explained to the participants. Participants were asked to answer questions according to their setting, e.g., importance of competency for the practical work as an oncology physician, for practical work as CIM physician, or importance for their own treatment as patient.

Data Extraction

Participants were divided into 4 groups: (a) cancer patients and patient representatives, (b) integrative oncology physicians, (c) board members of IM associations and IM researchers, and (d) group leads from cancer support groups. The threshold for agreement per competency was reached when the majority of participants (≥60%) rated the competency as moderately or very important (similar to the selection process for the international core competencies process by the SIO). In a second analysis (sensitivity analysis), the threshold for agreement was reached when the majority of participants per group (≥50%) agreed the competency was very important. In addition, a subgroup analysis was performed to identify whether cancer patients with higher level of education (≥bachelor degree) and younger age (≤56) differed in their response behaviors from the overall results in the cancer patient group.

The survey data were analyzed using descriptive statistics. Continuous variables are presented as means and standard deviations, and categorical variables are presented as absolute and relative frequencies. Statistical analyses were conducted with SPSS software [20].

The qualitative content analysis of the free text items was performed according to Mayring [21] and was supported by MAXQDA qualitative data analysis software. Answers were grouped for the different stakeholder groups and then analyzed creating content units. The content units were then compared across stakeholder groups. If a content unit would have been mentioned by at least two stakeholder groups, the competency as an addition to the existing IM competencies set by the SIO would have been discussed within the author group and added to the German competencies set if relevance/additional information was identified.

Results

Response Rate

In the first step of the survey, a total of 35 integrative oncology physicians and 154 cancer patients participated in the study. In the second step, a total of 5 integrative oncology physicians, 2 patient representatives, 57 group leads from cancer support groups, 8 members of cancer associations, and 5 CIM researchers participated (see Table 1 for characteristics of participants). The overall response rate for group a: cancer patients and patient representatives was 55%, for group b: integrative oncology physicians was 65.5%, and for group c: cancer association and CIM researchers was 68.4%. The response rate for group d: multipliers of cancer self-help groups could not be determined due to third party forwarding of the online survey.

Survey Analysis

In the first analysis (moderately to very important; agreement threshold: ≥60%), all core competencies were
accepted by the majority of the stakeholders (see Table 2 for survey results). In a second analysis, only the competencies for which there was an agreement of high importance in each group were considered (agreement threshold: ≥50%) and 10 competencies did not meet that threshold (see online supplementary material, available at www.karger.com/doi/10.1159/000526026). Group a: cancer patients and patient representatives and d: group leads from cancer support groups showed most similarities in the inclusion end exclusion of competencies in comparison to the other groups.

In a subgroup analysis (≥bachelor degree and younger age ≤56) including only cancer patients, no differences were found between the overall and subgroup results; however, the subgroup found it less important that integrative oncologists use appropriate medical terminology (rating for high importance: 38.8% for the subgroup and 54% for the overall group). Detailed results of the survey can be found in the online supplementary materials.

In the open-ended question, some participants (n = 5) indicated a lack of skills related to monitoring IM therapies and physician-patient communication skills. Being able to recommend IM providers was also indicated as very important by the cancer patient sample. One participant indicated that some of the competencies developed would be of more interest to the field of psychosocial oncology, physical therapy, general practice, or social workers than to oncology physicians. However, no suggestion for new competencies were mentioned by at least two stakeholder groups, and therefore, no new competencies were added.

Discussion/Conclusion

The aim of this study was to investigate on the transferability of the international CIM competencies for health care professions to integrative oncology physicians working with cancer patients in Germany. In the first analysis, participants agreed with the results of the international consensus procedures from the previous study (moderate to high importance). A total of 27 from 37 core competencies achieved the second threshold being rated as very important by 50% of the respondents.

For the consensus, stakeholder engagement was crucial to determine if the internationally developed set of core competencies is suitable for German oncology physicians. This survey study included various stakeholders and facilitated access by sending hardcopy and online versions to participants. The high response rate (55.5–68.4%) underlines that the survey topic was very well received amongst the stakeholders and achieved good participation in a short period of time (8 weeks only). However, the selection of participants may have been biased, as the full population of stakeholders was not reached.

Table 1. Participants’ characteristics per group

| Group | Total (n = 271) | Group a: cancer patients and representatives (n = 64) | Group b: integrative oncology physicians (n = 40) | Group c: IM association and researchers (n = 13) | Group d*: cancer support groups (n = 57) |
|-------|----------------|-----------------------------------------------------|------------------------------------------------|---------------------------------------------|----------------------------------------|
| Gender, female, % | 68.4 | 88.2 | 96.7 | 60.2 | 46.2 |
| Age (mean, SD) | 56.3±13.3 | 54.9±11.4 | 46.0±8.6 | 60.2 | 69.7±7.3 |
| Level of education: ≥high school graduation, % | 56.3±13.3 | 54.9±11.4 | 46.0±8.6 | 60.2 | 69.7±7.3 |
| Received CIM consultations, % | 60.2 | 61.7 | 100 | 100 | 12.4±10.1 |
| Experience in treating cancer patients, years (mean, SD) | 12.4±10.1 | 17.2±10.6 | 19.3 | 19.3 | 26.3 |
| Received CIM training, % | 100 | 42.4±10.4 | 17.2±10.6 | 19.3 | 26.3 |
| Regular consultations with cancer patients, % | 100 | 17.2±10.6 | 19.3 | 19.3 | 26.3 |

* Participants aged <56 and higher education level (≥high school graduation). ** 15.8% chairmen of cancer association; 96.5% group leaders.
Table 2. Complete set of CIM competencies for integrative oncology physicians in Germany

| Knowledge Competencies | Skill Competencies | Abilities Competencies |
|------------------------|--------------------|------------------------|
| Have general knowledge about evidence-based medicine | Provide evidence-based and balanced CM information | Respect individual, cultural and ethnic differences in the understanding and implementation of integrative oncology |
| Know how to access and appraise the scientific literature on CM | Stay up-to-date with CM information | Appreciate a patient-centered, whole person approach |
| Demonstrate the understanding of the basics of history, theory, and mechanisms of common CM therapies | Provide reputable websites and other information or resources on CM | Be empathic, non-judgmental, open-minded attentive, self-aware and respect patients' beliefs |
| Demonstrate the understanding of safety/effectiveness, interaction profiles, and contraindications of common CM therapies | Assist patients to make a decision | Establish rapport and form a therapeutic partnership with patient |
| Understand the major cancer treatment modalities (surgery, chemotherapy, radiotherapy, endocrine and biological therapy) | Identify, understand, and contextualize relevant information on CM | Identify one’s own knowledge deficiency and know where to find help |
| List common symptoms associated with cancer | Master the principles and practices of communication, which means an empathic, open, trustful communication that follows common recommendations of communication with cancer patients | Pursue lifelong learning and continuous self-improvement |
| List common side effects of cancer treatment | Engage with patients (and caregivers) to build resilience and resources to best empower patients during cancer treatment | Respect the strengths and limitations of applying evidence-based medicine principles to the circumstances of an individual patient |
| Describe the cancer care continuum | Inquire about patients’ use of CM and their motives | Be able to obtain key information regarding the patient’s cancer history: type of cancer, types of previous treatments (surgery, chemotherapy, radiation, endocrine, targeted therapy), current disease stage, current treatment |
| Discuss the psycho-social-cultural context of cancer care | Work in an interprofessional team | Help patient understand the risks and benefits of evidence-based CIM approaches, so that they may choose care that aligns with their values and goals |
| Discuss the distinction between the terms “healing” and “curing” | Understand patients, the problems patients face, and their needs | |
| Have knowledge and or ability to obtain information about services/providers’ quality assurance, licensing government regulation, and reimbursement of CM | Identify CM providers for a patient | |
| Adequately document interventions and patients’ response to them | Use appropriate medical terminology | |
| Assess patients’ psycho-social-cultural environment and identify barriers to proper care | Implement a personal self-care strategy (may include nutrition awareness, self-regulatory techniques, exercise, journaling, creative arts, spirituality, mind body skills, etc.) | |
| Discuss CIM in the context of different types of cancer | Be able to obtain information about cancer pathogenesis, the general course of the disease, and treatment outcomes of common cancers | |

Competencies written in bold reached high importance threshold. CIM, complementary and integrative medicine; CM, complementary medicine.
as most participants were either known to the study team or had been involved in previous studies in the field of IM. For the recruitment strategy, only the focus on different stakeholder groups was determined. This limits the results of this survey, as equal distribution of different genders or the representation of age ranges were not pre-planned in the recruitment strategy. In addition, all participants might have had a rather positive attitude toward IM; hence, critical input on CIM and the developed competencies might not be visible in the study group (response bias). When only focused on the more conservative threshold (rated as highly important by the majority of respondents; second analysis: >50%), it was shown that cancer patients and patient representatives and group leads from cancer support groups rated theory-based competencies less important than other stakeholder groups. For documentation of the treatment process, the distinction between cure and healing and the theories underlying IM therapies were not seen of being of high importance by those groups. Integrative oncologists also did not rate the identification of reputable IM providers for their cancer patients as very important, whereas cancer patients and patient representatives wanted information on this topic from their oncology physicians. This very well reflects previous findings in the literature [14].

Other studies in the field of competencies development, e.g., for primary care in Germany already exist, showing overlap with the competencies we evaluated in this project. Three quarter of the CIM competencies set for general practitioners were similar to those evaluated here (e.g., explain common CIM theories and treatments [13]). A difference in these two competencies sets was detected in the self-performed application of CIM therapies, such as application of non-pharmacological treatments and phytotherapeutics. These competencies seemed to be of more interest for general practitioners in comparison to oncology physicians. Furthermore, the competency structure differed, we used the Knowledge-Skills-Abilities framework, emphasizing abilities as the necessary factor to act within different environmental or situation challenges (e.g., time frame for consultation in oncology), whereas other projects focused on a Knowledge-Skills-Attitudes Framework [22], emphasizing adequate social skills in order to conduct such CIM consultations. In the set of competencies we evaluated attitude factors were implemented within the skills and abilities category. The choice of a framework might have affected the selection of CIM competencies, and hence led to a neglect of detailed communication skill competencies as mentioned by some of the study participants in the free text of the survey.

The relevant competencies have already been included in an integrative medicine training program for oncology physicians provided by the AGO (https://www.ago-on-line.de). The impact of IM competencies on future IM education programs needs to be further pursued. However, by involving various stakeholders, such as potential IM training developers and participants and cancer patients, this study aimed to prepare implementation of its results. Moreover, as no new competencies were added by the German-based stakeholder groups, the internationally developed IM competencies by SIO were shown to be suitable on a national level. In a subsequent study, IM core competencies developed were implemented in an existing IM training program in Germany showing positive results on patient-reported outcomes and physician satisfaction [5, 23]. Further studies from other research groups might investigate on replicability of survey results and effects of core competencies developed on quality and safety of IM therapies in oncology. The competencies were developed by SIO for different professions as a core set; this study only focused on the usability and relevance of the competencies developed for oncology physicians because of the structure of the KOKON project. However, IM is usually provided by an interprofessional health care team. To further investigate on the feasibility and relevance of the competencies in Germany, health care professionals such as nurses and psychooncology should be included in the evaluations.

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Statement of Ethics

The trial registration number of the Competence Network for Complementary Medicine – Consultation Training for Oncology Physicians study is DRKS00012704 at the German Clinical Trials Register (date of registration: August 28, 2017). Independent medical ethics committees approved the Competence Network for Complementary Medicine – Consultation Training for Oncology Physicians study (ethics committee of Charité – Universitätsmedizin Berlin [EA1/127/17], Hamburg Medical Association [MC-368/17], Baden-Württemberg Medical Association [B-F-2017-10], North Rhine Medical Association [2147337], ethics committee of the Medical Association of Westphalia-Lippe [2017-624-b-S], ethics committee of the Medical Faculty of Würzburg [274/17_z-me], ethics committee of the Medical Faculty of Heidelberg [S-550/2017], and ethics commission of the Albert Ludwigs University of Freiburg [531/17]). Informed consent was obtained from all of the participants.

Conflict of Interest Statement

The authors have no conflicts of interest to declare.
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Author Contributions

Alizé A. Rogge: design of the study, performing the study, and writing the manuscript. Claudia M. Witt: design of the study and revision of the manuscript.

Data Availability Statement

The data sets analyzed during the current study are available from the corresponding author upon reasonable request.

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