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EVALUATION OF A WEB-BASED EDUCATION PROGRAM IN PALLIATIVE CARE

Linnéa Carling

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Nivå:	Avancerad nivå
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Handledare:	Joakim Öhlén
Examinator:	Anneli Ozanne

Titel (svensk):	Utvärdering av en web-baserad utbildning i palliativ vård
Titel (engelsk):	Evaluation of a web-based education program in palliative care
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Nyckelord:	Palliativ vård, kompetensutveckling, webbaserad utbildning, utvärdering

Sammanfattning:

Bakgrund: För att möjliggöra kompetensutveckling inom palliativ vård för vårdpersonal har en webbaserad utbildning lanserats på bred front i Västra Götaland. En så stor satsning behöver följas upp och utvärderas.

Syfte: Syftet med denna studie var att utvärdera utbildningens användbarhet bland anställda inom hälso- och sjukvård samt kommunal vård och omsorg.

Metod: En tvärsnittsstudie valdes. En webbaserad enkät hade utformats och skickats till 7026 användare som registrerat sig för utbildningen. Svaren analyserades med deskriptiv statistik och binär logistisk regression i SPSS.

Resultat: 1076 personer svarade på enkäten och 1050 respondenter inkluderades. 54 % av de svarande var undersköterskor. Endast 4 % var läkare. Majoriteten bedömde utbildningen som användarvänlig, att innehållet var väl förklarat och relevant för yrkesutövningen. Mer än 65 % ansåg sig ha fått ny kunskap. Signifikant fler undersköterskor, vårdbiträden och personer med andra högskoleutbildningar ansåg detta än sjuksköterskor. Mellan läkare och sjuksköterskor fanns ingen signifikant skillnad. 72 % av deltagarna rapporterade att det var svårt att hinna med utbildningen på arbetstid.

Slutsats: En webbaserad utbildning kan fungera bra för att förmedla grundläggande kunskaper i palliativ vård. Resultaten visar på svårigheter att tillgodose kompetensbehoven hos de olika yrkesgrupperna med en utbildning som är riktad till alla. Med tanke på den rapporterade tidsbristen för utbildningen skulle kortare informationsfilmer, bedsideundervisning och palliativa konsultronder kunna vara alternativ för att sprida kunskap.

Nyckelord: Palliativ vård, kompetensutveckling, webbaserad utbildning, utvärdering

Abstract

Introduction: To enable continuing education in palliative care among health professionals, a web-based education program was launched in a Swedish county. Such an extensive investment needs to be evaluated.

Aim: The aim of this study was to evaluate the usability of a web-based education program about palliative care among employees in both health care and community care.

Method: A cross-sectional design was used. An internet based survey had been constructed and sent to 7026 employees who had registered for the study. The answers were analysed with descriptive statistics and binary logistic regression in SPSS.

Findings: 1076 persons answered the survey, and 1050 was included. 54 % of the respondents were licensed practical nurses. Only 4 % were physicians. The majority considered the education as user-friendly, having conceptual clarity and being adequate for their work practise. More than 65 % reported having gained new knowledge. Significantly more licensed practical nurses, nurse aides and respondents with other higher education degrees reported this compared to registered nurses. There was no significant difference between physicians and registered nurses. 72 % of the respondents reported having problems carrying out the education during work shifts.

Conclusions: An internet based education can be an efficient tool for providing basic knowledge in palliative care. The findings indicate some problems in meeting the competence needs for different professional groups, as the education aims to address all professionals. To overcome the reported lack of time, short films, consultant teams from specialized palliative care meeting with colleagues for case discussions and bedside education could be a feasible approaches to transfer knowledge.

Keywords: Palliative care, continuing education, web-based education, evaluation

Förord

Detta arbete utgör en utvärdering av en webbaserad utbildning i palliativ vård för personal i Västra Götaland (anställda av regionen, kommunerna eller privata vårdgivare) som möter vuxna patienter med palliativa vårdbehov. Enkäten som ligger till grund för utvärderingen utformades av Anna-Maria Hultén, Ingela Henoch och Joakim Öhlén från Sahlgrenska Akademin samt Carina Mannefred och Jessica Mellqvist från Regionalt Cancercentrum Väst. Stort tack till er som försett mig med ett gediget material att bearbeta!

Min insats, inom ramen för mitt 15 hp examensarbete, har bestått av förberedelse av data, analys av fynden och självständig utformning av detta artikelmanuskript.

Table of content

Introduction	1
Aim/objective	2
Method	3
Setting	3
The Online Education Program	3
Participants and data collection	3
Ethical considerations	4
Analysis	4
Results	4
Participants	4
Format, design and usability	6
Conceptual clarity	7
Relevance to practical work	7
Was new knowledge gained?	9
Discussion	11
Limitations	12
Conclusions	12
References	13
Supplement 1: An overview of the education program	
Supplement 2: Evaluation of a web-based education program in palliative care: questionnaire	

Introduction

The need for palliative care is already substantial (Morin et al., 2017) and in the coming decades this need is anticipated to increase (Etkind et al., 2017). The World Health Organization (2019) has stated that palliative care is appropriate in many life-threatening conditions, not only cancer, and policy documents in various countries adhere to this approach (c.f. End of Life Care Strategy, 2008; Socialstyrelsen, 2013). Despite this, there are still inequalities regarding access to palliative care. This is particularly true for the elderly population. Older, frail people have been shown to have unmet palliative care needs (Stow, Spiers, Matthews, & Hanratty, 2019), which is also the case for patients with various chronic conditions (Gavazzi et al., 2015), including dementia (van der Steen et al., 2014). In all these cases, a period of decline and increased need for care and support is likely to precede death. Requirements for improvement in meeting palliative care needs have been identified both in residential care homes (Smedbäck et al., 2017) and hospitals (Gardiner et al., 2013; Håkanson, Öhlen, Morin, & Cohen, 2015). Knowledge translation to all sectors and services of care is essential to improve palliative care. This includes adapting specialist palliative care knowledge to non-specialist services such as primary care, care settings for the elderly and domiciliary care as well as to geriatric hospital care and other hospital settings (Sawatzky et al. 2017).

A prerequisite for palliative care knowledge translation is the continuous training of healthcare professionals in settings providing non-specialized palliative care. This is a challenge since it involves educating staff from all healthcare professions who may have varying knowledge about palliative care, and the additional consideration of high staff turnover. Education would need to cover the philosophical fundamentals of palliative care as well as practical skills applicable across healthcare professions and healthcare settings. One challenge, therefore, is to develop a suitable curriculum for this purpose (Jors et al., 2016; Lewis, Jeynes, Anstey, & Way, 2009).

Professional training has often been carried out through lectures and/or study groups. Kortess-Miller (2007) described a program with small study groups for employees (registered nurses, nurse aides and other staff) in long-term care homes. The education program was reported to be useful and corresponding to the participants' needs. Receiving education in small, multi-professional groups was appreciated. Potter, Pesut, Hooper, and Erbacker (2015) described the preparation and delivery of a combination of workshops and follow-up telephone conferences for nurses and unlicensed care providers in rural areas. They reported some technical difficulties, and the program was evaluated mainly concerning preferred methods for receiving education and preferred learning resources. Face-to-face education and printed material were most preferred. Computer- or web-based programs have been tried in order to deliver the same education to large groups of employees or employees in rural areas. Development and implementation of such training has been reported from nursing assistants' education. This interactive data program concerning the fundamentals of palliative care was perceived to be usable, clear and relevant. The participants' knowledge level increased

moderately. The impact on patient care, however, was not evaluated (Ersek & Wood, 2008). Face-to-face education combined with interactive e-learning for community nurses was described by Wheeler, Anstey, Lewis, Jeynes, and Way (2014). This program was evaluated by self-assessment pre- and post-education. The participants reported increased confidence in delivering palliative care as well as increased knowledge about different aspects of palliative care. A series of educational interactive video-conferences was launched for multi professional palliative care teams (physicians, medical students, nurses and allied health professionals) in Australia. The conferences were considered useful and increased the confidence in delivering palliative care (Ray, Fried, and Lindsay 2014). The internet has been used for training primary care physicians in palliative care (Pelayo et al., 2011) and in the education of nurses in pain assessment (Phillips, Heneka, Hickman, Lam, & Shaw, 2014). Pelayo and co-authors (2011) evaluated their education after 18 months and reported enhanced knowledge about symptom management and communication. Some patient outcome measures was reported by Phillips and co-authors (2014); patients whose nurses had taken part in the online education intervention about pain assessment reported less intensive pain.

Most of the education programmes reported in the literature was aimed to reach one or two professions: nursing assistants (Ersek & Wood, 2008), nurses (Philips et al., 2012; Bishop et al., 2019; Tharavaj, 2019), physicians (Pelayo et al., 2011), nurses and unlicensed care providers (Potter et al., 2014). Ray and colleagues (2014), however, reported a multi professional intervention.

The extent and focus of evaluations of staff education varies. Phillips, Piza and Ingham (2012) reported an integrative review of 10 palliative care educations for rural nurses. The studies were of varying size, design and quality, which made synthesis difficult. However, the use of different pedagogics, adaptation to the participants' needs and previous knowledge as well as giving time for education in the schedules were highlighted as important factors to enable learning. In a systematic review of 30 classroom and distance learning programs for different health care professionals about end-of-life care, Pulsford, Jackson, O'Brien, Yates, and Duxbury (2013) reported significantly improved knowledge about the concepts of palliative care as well as improved self-perceived competence in 27 of the programs. A more recent review of 10 end-of-life and palliative care education programs for nurses stated that, even if the participants' reported increased competence in delivering end-of-life care, the evidence for improved care was weak (Thavaraj & Gillett, 2019).

The evaluations reviewed mainly concerned self-reported competence and confidence in delivering palliative care (Phillips et al., 2012; Pulsford et al., 2013; Thavaraj & Gillett, 2019). Ersek and Wood (2008) also focused on the perception of format and content in their evaluation. It can be assumed that different types of education programs based on online resources or virtual reality technology will become increasingly common. These approaches can enhance the possibility of taking part in training (Bishop et al., 2019). It would, therefore, be important to evaluate such programs carefully in order to estimate their usability and

relevance for practice as part of the efforts to transfer knowledge about palliative care to large professional groups.

Aim/objective

The aim of this study was to evaluate the usability of a web-based education program about palliative care among healthcare professionals in both health care and community care.

Research questions:

Was the program user-friendly in format and design?

Were the topics in the program described with conceptual clarity?

Was the program perceived relevant for practical work?

Were participants across different healthcare professions likely to achieve new knowledge about palliative care from the program to the same extent?

Method

Setting

As a response to Swedish national policy (Socialstyrelsen, 2013) and in an effort to meet the need for training in palliative care in a Swedish county (population of 1.7 million people), employers in both health care and community care invested in a professionally produced, web-based education program about palliative care for adults. The program was adapted, updated and administered by the Regional Cancer Centre. To promote the program, managers across services in the county were sent information by email and through websites. In addition, information meetings were arranged. The program was available on two internet learning platforms. The target groups were all team members in health care and community care services who meet adult patients with potential palliative care needs (potentially 60,000 employees in total).

The Online Education Program

The program was organized into five chapters covering 1) a palliative care approach, 2) symptom relief, 3) nursing care, 4) structured work procedures and 5) supporting the family. The whole program took 4 to 5 hours to complete. Each chapter was divided into modules ending with a summary and some reflective questions. Additional medical information was available when appropriate. The chapters consisted of written texts, very short lectures, and conversations between a physician and a nurse. Films presenting three cases (a woman with cancer, a woman with COPD and heart failure, and a man with dementia) were also included. These cases were filmed in different settings: in hospital, in the patient's home, and in a

nursing home. Internet links were provided and a dictionary covering the concepts used and a list of references were included. After completing the program, participants could take a test and receive a diploma (see Supplement 1 for further details).

The program could be completed in one or several sessions. The participants could work individually or in groups. Additional material was available for groups which included questions for reflection and discussion. The level of the program was perceived to be generalist palliative care according to Swedish policy (Regionala cancercentrum i samverkan, 2016).

Participants and data collection

A cross-sectional design was used for the evaluation. An online survey (Supplement 2) was constructed building on the principles for user-centred surveys (Wolpin & Stewart, 2011). The survey was distributed a) via an email link to all health care professionals who had registered for the education program during 2016 and up to February 2017 (n=4956) b) via a direct link to the survey for those registering to start the program between February 2nd and July 3rd 2017 (n=2070). The survey included respondent characteristics and self-rated skills in both palliative care and use of the internet. The education program was then evaluated as a whole and for each of the five chapters separately, using statements with three response alternatives (agree strongly, agree somewhat, disagree). There were also open questions to allow for comments. These comments were not analysed for this study.

Ethical considerations

There was no personal contact between the researchers and the respondents. A letter of information describing the study was enclosed with the online survey. The respondents gave their consent to their responses being used in research before answering the questionnaire. The study was approved by the Regional Ethical Review Board in Gothenburg (Dnr 808-116).

Analysis

The respondents' answers were automatically registered in an online survey tool (SUNET survey) and transferred to SPSS (version 25) for analysis. As the answers consisted of categorical data, descriptive statistics were used to investigate the perceptions of the program (Polit & Beck, 2017). When performing the analysis, the respondents were sorted into 5 groups. Licensed practical nurses (LPNs), registered nurses (RNs) and physicians whose professional training included some education in palliative care formed three of the groups. Nurse aides/personal care assistants, who have no compulsory formal training, and allied health professionals without training in palliative care in their curriculums (family care advisors, case managers, dietitians, physiotherapists, occupational therapists and social workers) formed the two other groups. A binary logistic regression analysis was conducted to investigate if participants from different healthcare professions were likely to achieve new knowledge to the same extent (Polit & Beck, 2017).

Results

Participants

The survey was distributed to 7026 persons, as described above, and 1076 completed it. Eleven of the respondents did not give their consent to participate and another fifteen were excluded due to not working directly in health care or community care. The analysis was therefore conducted on the answers from 1050 respondents

Table 1: Respondent characteristics

		Licensed practical nurses (LPNs) n = 560	Nurse aides ¹ n = 75	Registered nurses (RNs) n = 297	Physicians n = 32	Allied health professionals ² n = 86	All (N=1050)
Workplace	Homecare services	155	23	6	0	1	185
	Residential care home	267	22	40	0	6	335
	Primary care	0	0	1	9	0	10
	Hospital	78	4	97	18	15	212
	Domiciliary healthcare	6	0	119	2	51	178
	Other ³	54	26	34	3	13	130
Professional experience	< 1 year	6	4	6	0	8	24
	1-5 years	86	15	29	6	19	155
	> 5 years	468	56	262	26	59	871
Previous knowledge about palliative care	Little knowledge	95	37	21	7	22	182
	Fairly good knowledge	258	29	107	10	49	453
	Good knowledge	207	9	169	15	15	415
	Rather skilled	328	42	174	13	34	591

Skills in using the Internet	Very skilled	232	33	123	19	52	459
Internet is generally a good way to achieve information	Yes	486	63	264	27	81	921
	Unsure	64	11	32	5	3	115
	No	10	1	1	0	2	14
How the education program was carried out	Individually one session	157	13	83	9	9	271
	- 2 - 5 sessions	261	46	143	16	43	509
	- 6 or more sessions	56	8	25	6	14	109
	In groups - one session	17	1	11	0	2	31
	- 2 - 5 sessions	62	6	32	1	17	118
	6 or more sessions	7	1	3	0	1	12

¹ with no compulsory formal training

² family support advisors, case managers, dietitians, occupational therapists, physiotherapists, social workers

³ The survey did not provide any further information about this group

The background characteristics of the participants are shown in Table 1. The largest group was the LPNs (560) whereas only 32 were physicians. Care of the elderly was the most common setting (n=698), and only 10 worked in primary healthcare (9 physicians and one RN). A majority (n=871) had professional experience exceeding five years. Only 24 respondents had less than one year's experience, and 17 % perceived that they had little knowledge about palliative care. All estimated their knowledge in using the internet as fairly good (n=591) or very good (n=459) and the internet was considered to be a good way of obtaining information. 74 % of the respondents had divided the program into two or more sessions and 85 % of them completed it individually.

Format, design and usability

As shown in Figure 1, the education program was perceived as being easy to use and having an appealing design. The information was considered easy to grasp, both as a whole and in the different chapters. Participants in allied health professions was the most satisfied group. Their range for the response "strongly agree" for the areas presented in Figure 1 was between 62 % and 85 %. Among physicians (n=32), on the other hand, the range for "strongly agree" varied between 44 – 72 %. In no professional group did the percentage for "disagree" exceed 10% (range 0 % - 9,4 %). However, 72 % of the respondents reported having problems carrying out the education program during their work shifts.

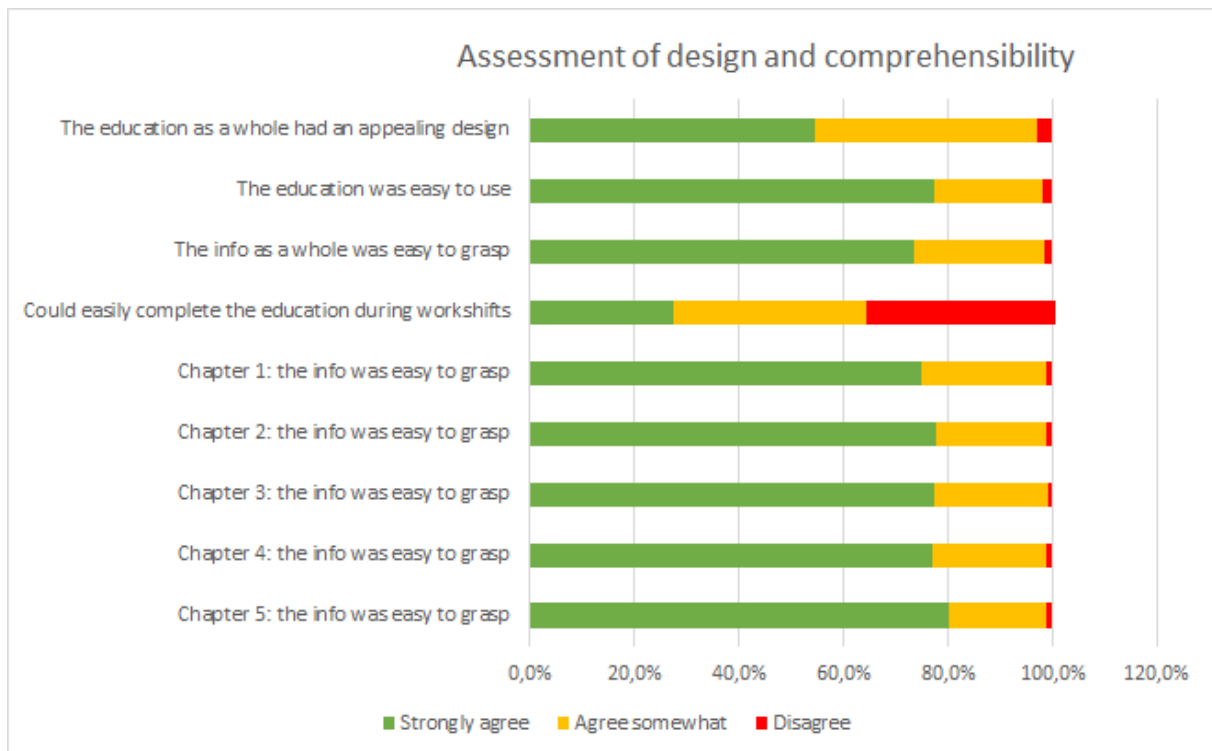


Figure 1: Assessment of design and comprehensibility in the program

Conceptual clarity

The concept of palliative care was carefully described in the education program according to 94 % of the respondents. There was no significant difference between the professional groups. Perceptions of the different chapters showed more variation (Figure 2). The nurse aides gave the lowest scores for chapter 1 (65.3% “strongly agree”) and chapter 2 (66.7% “strongly agree”), whereas the physicians rated chapters 3 – 5 lower (range 56.3 – 65.6 % “strongly agree”). The LPNs and RNs gave a more even evaluation. Their range for “strongly agree” concerning the different chapters ranged from 74 – 79 % and 75 – 83 %, respectively. The allied health professionals were most positive, with over 84% responding “strongly agree” to all statements presented in Figure 2.

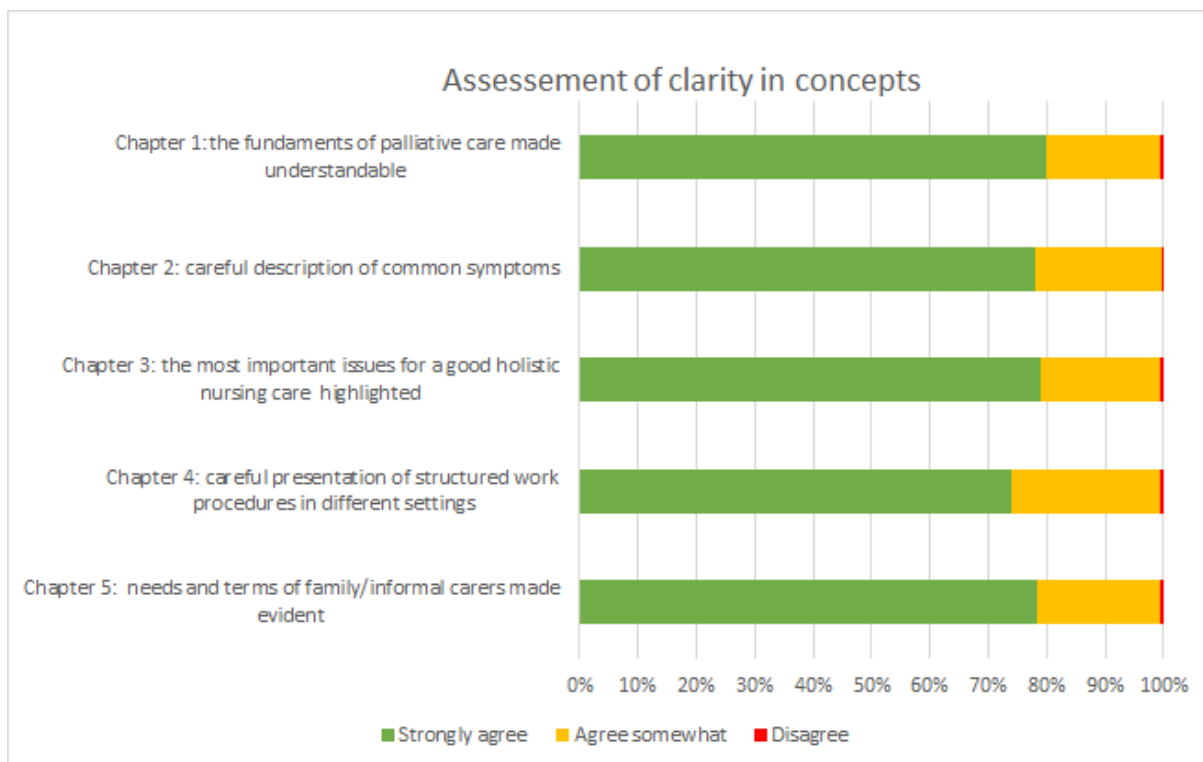


Figure 2: Conceptual clarity in the topics included in the program.

Relevance to practical work

Over 90% of all the respondents agreed that the program gave a good insight into palliative care and considered it important for working with a palliative approach. The topics covered were very inspiring according to 49 % the respondents, and 27 % reported being very interested in learning more about palliative care after completing the program. Only 1.6% and 7.7%, respectively, disagreed with these statements.

The usefulness in practical work was perceived to be good; 57 % of the respondents agreed strongly, and 39 % agreed somewhat to this. The evaluation of transferability of the five chapters to the respondents' different settings showed some variation among the professional groups. The LPNs and the allied health professionals had the highest proportion of "strongly agree" for chapter 5 (70 % and 74 % respectively), the nurse aides for chapter 4 (63 %), and the RNs and physicians for chapter 2 (75 % and 60 % respectively). For chapter 1, the fundamentals of palliative care, the range for "strongly agree" varied between 49 % (nurse aides) and 73 % (RNs) (Figure 3).

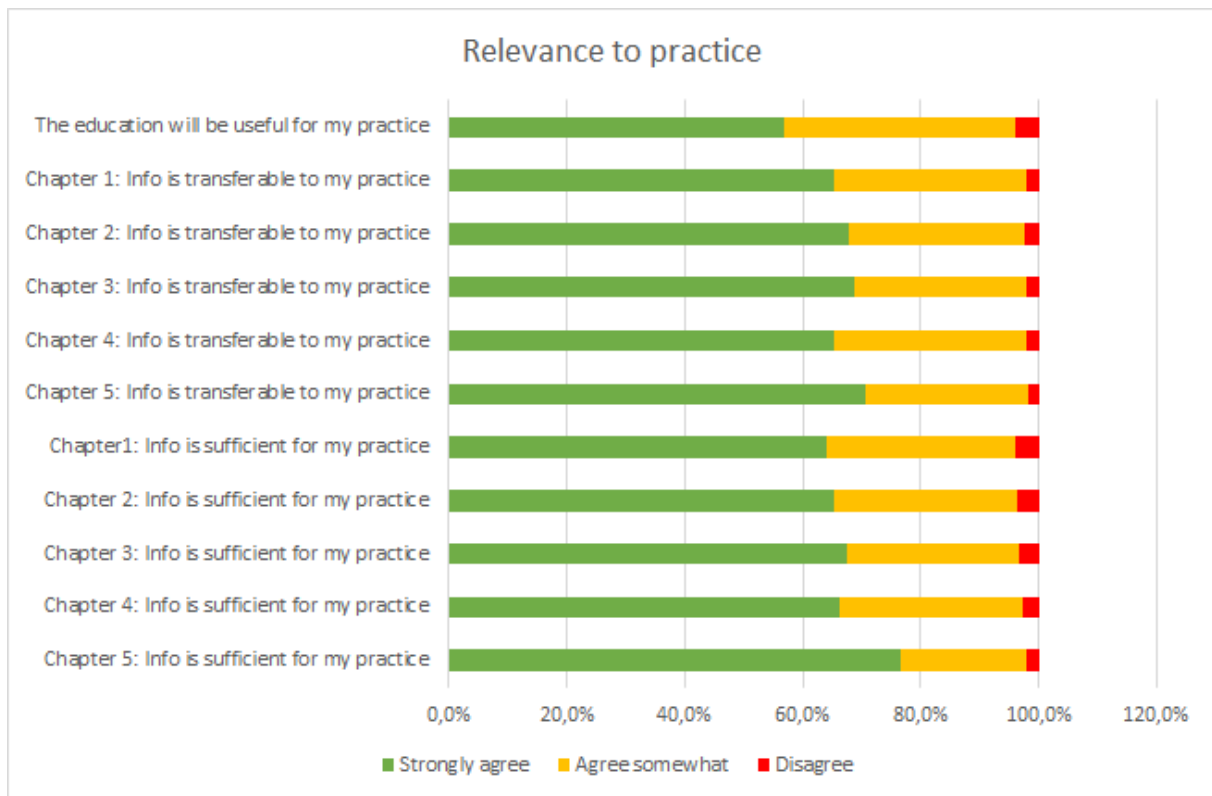


Figure 3: Relevance to practice

Concerning if the information provided was sufficient for their work practice, all professional groups rated chapter 5 highest. The range for “strongly agree” was between 63 % (physicians) and 82 % (allied health professions). Chapter 1 had the lowest range of “strongly agree” among RNs and allied health professionals (56 % and 63 % respectively), whereas the physicians rated chapter 2 lowest with 34 % “strongly agree”. LPNs gave the lowest rating for chapter 4; 69 % agreed strongly. The nurse aides (61 % “strongly agree”) rated chapter 3 lowest. (Figure 3).

Was new knowledge gained?

More than 65% of the respondents reported having gained new knowledge about palliative care. LPNs, nurse aides and allied health professionals reported gaining new knowledge more than RNs and physicians, as shown in Figure 4. Respondents with little previous knowledge and long professional experience also gained more new knowledge. The level of internet skills did not affect this evaluation.

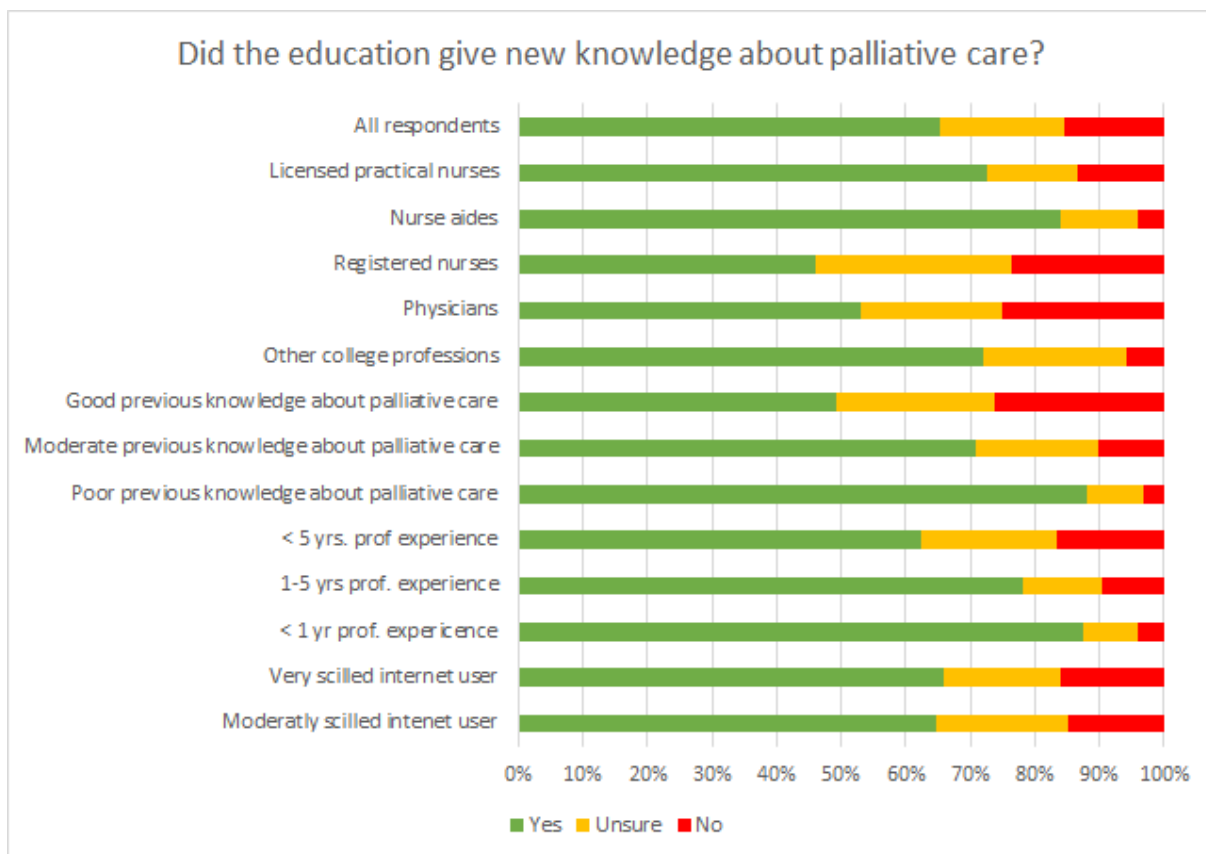


Figure 4: New knowledge about palliative care gained from the program; comparisons between professions, level of previous knowledge about palliative care, professional experience and internet skills.

The descriptive statistical analysis indicated differences in the achievement of new knowledge between the professional groups. This was further analysed in the binary logistic regression analysis. The odds for the LPNs and allied health professionals, to respond “yes” rather than “unsure/no” to the question “Have you gained new knowledge about palliative care?” were about 3 times higher than for RNs, and for nurse aides, the odds were 6 times higher than for RNs. There were no significant differences between physicians and RNs ($p < 0.05$) (Figure 5).

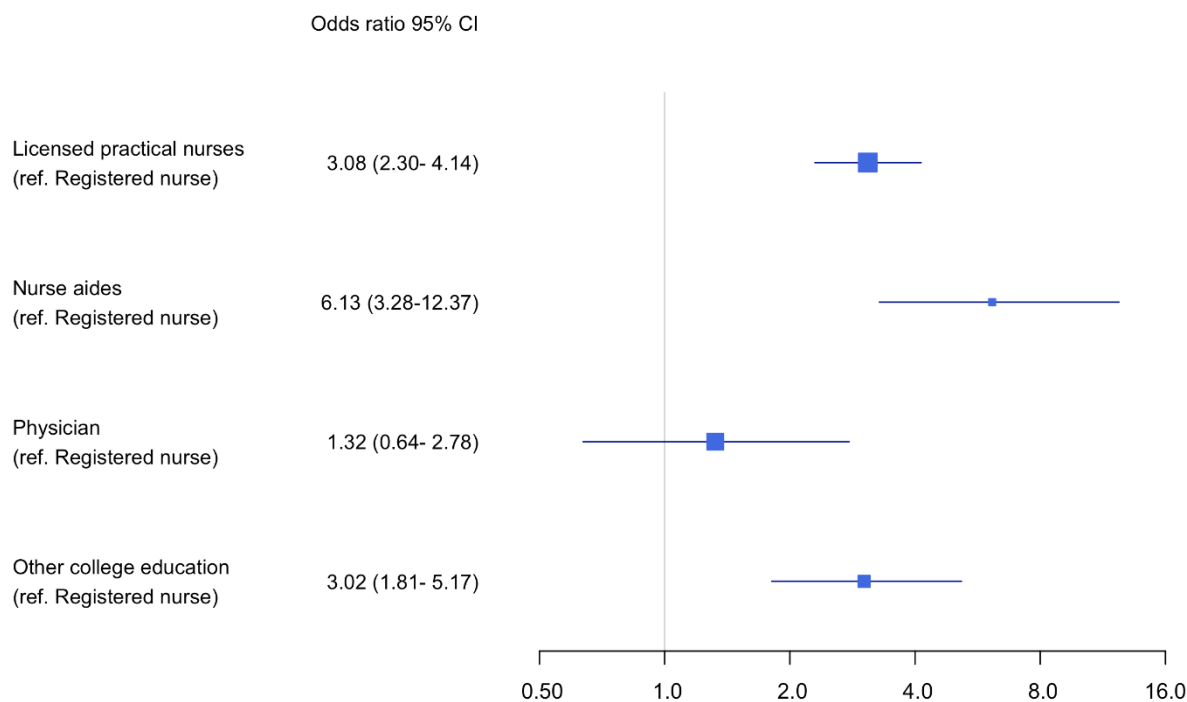


Figure 5: Odds ratios for new knowledge gained – comparison between professional groups

Discussion

The design of the program was appreciated and the internet format did not seem to cause any problems. This probably reflects a widespread familiarity with this technique in the Swedish population. The program used a variety of pedagogic approaches (see Supplement 1), which may have enhanced the learning since users take on learning in different ways (Ersek & Wood, 2008; Phillips, Piza, & Ingham, 2012; Pulsford, Jackson, O'Brien, Yates, & Duxbury, 2013). The concepts and topics covered in the program were considered to be carefully described and comprehensible, and this probably contributed to the high rating for usability. It is noteworthy that many participants had difficulty completing the program during their workdays. This could reflect a stressful work situation. It also points to the importance of support and facilitation from managers in planning and creating possibilities for employees to set aside time for the online program (Phillips et al., 2012).

A multi professional approach in palliative care educations seems to be unusual (Pulsford et al., 2013). Thus this study can add to the knowledge already reported in the literature (Ray et al., 2014). There can be advantages with a multi professional approach such as enhancing teamwork (Pulsford et al., 2013; Potter et al., 2014), but also challenges to form a suitable

curriculum with an appropriate level (Potter et al., 2014). In this study the uneven distribution of professions among the respondents is striking. The largest group was LPNs (n=560) and the smallest group was physicians (n=32). If this also reflects the proportion of all who completed the education is unknown. This inequality might reflect both individual motivation to take part in the education and the level of encouragement and facilitation from managers.

The number of participants in studies reviewed were between 6 and 1280 (Philips et al., 2012; Pulsford et al., 2013; Taravaj et al., 2019). To our knowledge, the education program evaluated here is unique in its scope to reach up to 60 000 team members in both healthcare and community care. Until mid-December 2019, approximately 23% of all potential users had registered for the education program. This is a substantial number but also illustrates the challenge of reaching all potential users with an extensive training investment.

A variation among professional groups was seen concerning transferability to practice and whether the information provided was sufficient for their practice. This is hardly surprising since physicians and nurse aides, for instance, have very different starting points and a need for different types of knowledge. Some parts of an education program in palliative care, such as insight into a palliative approach, applies to all professions, whereas in subjects such as symptom management and nursing care, the need for competence varies greatly. Ray and co-authors (2014) advised that the education needs for allied health professionals should be addressed. Other authors (Ersek & Wood 2008; Potter et al., 2014) underline the roles of LPNs and unlicensed care providers in palliative care and thus their need for enhanced competence.

An important outcome of an extensive investment in education is whether new and useful knowledge is gained. Here again, we see challenges with an education program that addresses all healthcare professions. The LPNs, nurse aides and the allied health professionals (family care advisors, case managers, dietitians, physiotherapists, occupational therapists and social workers) reported having gained new knowledge to a significantly higher degree than RNs. The results highlight the need to meet the education requirements of the professionals with no training in palliative care in their curriculums, and also to ensure that appropriate training reaches employees with the least formal education. However, it is equally important to carefully consider the curriculum in post-license training for physicians and registered nurses in order to meet their need for professional development (Jors et al., 2013).

In the evaluation of different education programs, the effect on patient care and/or patient outcome is rarely examined (Philips et al., 2012; Pulsford et al., 2013; Taravaj et al., 2019). As the primary goal for palliative care is quality care for patients and families (End of Life Strategy, 2008; Regionala cancercenter i samverkan 2013; WHO 2019) this needs to be addressed along with evaluation of how cost-effective different interventions are (Phillips et al., 2012).

Is a web-based education, then, enough to change practice and effect patient care? The reviews assessing the evaluations of different education programs (Philips et al., 2012;

Pulsford et al., 2013; Taravaj et al., 2019) indicate some increase in competence. However, Phillips and colleagues (2012) argue that education programs need to be practically-based in order to change practice. Bishop and co-authors (2019) advocates web-based programs to be augmented with face-to-face sessions in order to address complex issues and encourage multi professional reflection and thus facilitate changes in practice.

Limitations

The response rate was 15% of those who the survey was distributed to. It is not known if the email invitation reached all addressees and if all of the recipients actually completed the program; thus a correct response rate cannot be calculated. Studies on response rates report lower rates for web-based surveys than postal surveys. A meta-analysis reported a mean response rate of 39.6% for internet surveys and that contacts between researchers and respondents increased the response rate (Cook, Heath, & Thompson, 2000). Our low response rate could be related to the problems in completing the program reported by the respondents. This, of course, affects the possibility to generalize from our results.

Conclusions

A web-based education program in palliative care can be useful and relevant from the participants' point of view. In order to effect practice it would be beneficial to add face-to-face discussions or seminars. A multi professional approach can enhance communication and collaboration, and it seems that parts of the program were suitable for all professional groups. In other parts, it would probably be better to differentiate between professions and care settings in order to target specific needs. A profession-specific program might be more successful for physicians, and RNs could also benefit from this. Even so an approach where inter-professional and reflective discussions are incorporated are important since palliative care involves not only factual knowledge but also complex practical skills and ethical challenges. When planning future educational programs, these finding should be taken into account. We also want to underline the importance to plan for evaluation, ideally covering practice changes and patient outcomes, when planning educational interventions. Continuing professional education is essential to maintain and develop the clinical competence (Ray et al., 2014). Formal education programs, however, is not the only method to translate palliative care knowledge to different settings. Producing short films on specific topics and making them easily available on the internet is one possibility. Other feasible approaches, also mentioned in the literature (Pulsford et al., 2013) could be case discussions and bedside education. These areas could be worthwhile exploring in future research. Comparisons between profession specific and multi professional education would also be interesting to study, and not least the impact of education on palliative care practise and patient outcomes.

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Supplement 1

A web-based education in palliative care: overview

Chapter	Length	Pedagogic approaches							
		Lecture by registered nurse	Written text	Case	Conversation physician - nurse	Additional medical info	Internet links	Practice	Reflective questions
Introduction	02:42	x							
1 Palliative care approach	70 min								
a) A palliative approach		x	x	x					x
b) Transition to end-of-life care		x	x	x		x			x
c) Conversations about end-of-life care		x	x	x		x			x
d) Life-prolonging treatments		x	x			x	x		
e) Death		x	x				x		
f) Summary			x						x
2 Symptom relief	80 min								
a) Working proactively		x	x				x		
b) Dyspnoea and terminal secretions		x	x	x		x			
c) Acute delirium		x	x	x	x	x			
d) Pain		x	x	x		x			
e) Nausea and vomiting		x	x	x		x			
f) Anxiety			x	x	x				
g) When death is imminent		x	x				x		
h) Summary			x						s
3 Palliative nursing care	50 min								
a) Well-being		x	x						
b) Skincare - pressure ulcers		x	x	x		x			
c) Oral health		x	x			x			
d) Bowel management/urinary tract disorders		x	x			x			

e) Nutrition		x	x	x		x			
f) Summary			x						x
4 Structured work procedures	40 min								
a) Teamwork and routines		x	x				x		
b) Symptom assessment		x	x					x	
c) Staff support and development		x	x						
d) The Swedish Quality Register for Palliative Care			x				x		
e) Summary			x						x
5 Family	30 min								
a) Family		x	x				x		
b) Children		x	x				x		
c) Support in bereavement		x	x	x					
d) Summary			x						x

Evaluation of a web-based education program in palliative care - Questionnaire

Where do you work?

- Home care services
- Home for the elderly
- Primary care
- Hospital
- Domiciliary health care
- Other

What is your profession?

- Family support advisor
- Occupational therapist
- Case manager
- Dietitian
- Physiotherapist
- Physician
- Nurse aide
- Personal care assistant
- Social worker
- Registered Nurse
- Student
- Licensed practical nurse
- Other

How many years of professional experience do you have?

- Less than 1 year
- 1 – 5 years
- More than 5 years

How much knowledge do you have about palliative care?

- Little knowledge
- Fairly good knowledge
- Good knowledge

How skilled are you in using the internet?

- Not skilled
- Rather skilled
- Very skilled

How did you complete the education program?

- Individually
 - One session
 - 2 – 5 sessions
 - 6 sessions or more
- In a group
 - One session
 - 2 – 5 sessions
 - 6 sessions or more

Do you think a web-based education program is an effective way of obtaining information?

- Yes
- No
- Unsure

The education program as a whole

Did the education program give good insight into palliative care?

- Yes
- No
- Unsure

Do you think the education program is important for being able to work with a palliative approach?

- Yes
- No
- Unsure

Have you gained new knowledge about palliative care?

- Yes
- No
- Unsure

Is the content inspiring?

- Not at all
- Somewhat
- Very much

Have you become interested in learning more about palliative care after completing the education program?

- Not at all
- Somewhat
- Very much

Do you think any important part/information was missing in the education program?

- No
- Yes
- What is missing? _____

Do you agree with the following statements about the education program as a whole?

	Disagree	Agree somewhat	Strongly agree
The design is appealing			
It is easy to use			
The format makes it easy to access the information			
It will be useful in my practice			
I could easily complete the program during my work shift			

Chapter 1 – A palliative care approach

Do you agree with the following statements about chapter 1?

	Disagree	Agree somewhat	Strongly agree
The content makes the fundamentals of palliative care understandable			
The information is transferable to my practice			
The format of the chapter makes it easy to access the information			
The information is sufficient for my practice			

If the information is insufficient: what is missing? _____

Do you agree with the following statements about chapter 2?

	Disagree	Agree somewhat	Strongly agree
Different common symptoms are carefully described			
The information is transferable to my practice			
The format of the chapter makes it easy to access the information			
The information is sufficient for my practice			

If the information is insufficient: what is missing? _____

Do you agree with the following statements about chapter 3?

	Disagree	Agree somewhat	Strongly agree
The most important issues for a good holistic nursing care are highlighted			
The information is transferable to my practice			
The format of the chapter makes it easy to access the information			
The information is sufficient for my practice			

If the information is insufficient: what is missing? _____

Do you agree with the following statements about chapter 4?

	Disagree	Agree somewhat	Strongly agree
Structured work procedures in different settings are carefully described			
The information is transferable to my practice			
The format of the chapter makes it easy to access the information			
The information is sufficient for my practice			

If the information is insufficient: what is missing? _____

Do you agree with the following statements about chapter 5?

	Disagree	Agree somewhat	Strongly agree
The needs and terms for family/informal carers in palliative care are made evident			
The information is transferable to my practice			
The format of the chapter makes it easy to access the information			
The information is sufficient for my practice			

If the information is insufficient: what is missing? _____