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Published in:
Journal of Clinical Nursing

DOI:
10.1111/jocn.15004

Publication date:
2019

Document version:
Accepted manuscript

Citation for published version (APA):

Go to publication entry in University of Southern Denmark's Research Portal

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Download date: 15. Sep. 2023
Telemedicine in Specialized Palliative Care: Healthcare Professionals and their perspectives on video consultations: - A Qualitative Study

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This article has been accepted for publication and undergone full peer review but has not been through the copyediting, typesetting, pagination and proofreading process, which may lead to differences between this version and the Version of Record. Please cite this article as doi: 10.1111/jocn.15004
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Abstract

Aims and objectives: To explore the advantages and disadvantages of using video consultations, as experienced by specialized palliative care healthcare professionals, who are involved in palliative care at home.

Background: One challenge in the work of specialized palliative care teams, is the substantial resources used in terms of time and transport to and from the patient’s home. Video consultations may be a solution for real-time specialized palliative home-care.

Designs: Hermeneutic, post phenomenology.

Methods: An explorative qualitative study utilizing data from field notes of an autobiographical diary, participant observations and semi-structured interviews with healthcare professionals. The COREQ guideline was used for reporting the study. See Supplementary File 1.

The data collection took place in patients’ homes, and at the Department of Oncology, Odense University Hospital, Denmark.

Results: Eight participants (n=8); five community nurses and three specialized palliative care team members – a head physician, a physiotherapist and a nurse - participated in the study. The healthcare professionals’ knowledge was based on n=82 video consultations with 11 patients. The range of video consultations was 3-18 per patient. The use of tablets in video
consultations facilitated direct palliative care and led the community nurses and the specialized palliative care team nurse to co-operate. Potential barriers against using video consultations are the discussions about personal, and private issues regarding the illness, while family members are present.

**Conclusions:** Video consultations in specialized palliative home care are feasible, and the technology can facilitate multidisciplinary participation and cooperation among healthcare professionals. The continuous use of video consultations over time may increase the quality of specialized palliative home-care.

**Relevance to Clinical Practice:** The use of video consultations can provide direct specialized palliative care over distance involving healthcare professionals, patients and their relatives.

**Keywords:** Specialized Palliative Care, Oncology, Nursing, Telemedicine, Qualitative research.

**What does this paper contribute to the wider global clinical community?**
- Video consultations in specialized palliative home care enhances healthcare professionals´ co-operation and involve patients and their relatives in the clinical practice.
- The visualization of the patients enables the healthcare professionals to act directly towards patients´ issues due to illness. The use of a technological device is not seen as a barrier in the specialized palliative home care.

**Introduction**
The use of telemedicine in healthcare services is increasing worldwide. The telecommunication systems deliver healthcare at a distance with the potential to improve access to healthcare and change the way healthcare is organized (Flodgren, Rachas, Farmer, Inzitari, & Shepperd, 2015). However, the implementation, and use of telemedicine, can lead to resistance among healthcare professionals, within palliative care, as they see it as a threat to their clinical work and professionalism (Neergaard et al., 2014).

Many healthcare professionals still prefer face-to-face communication, when interacting with patients and their relatives, and in specialized palliative care (SPC) telemedicine solutions are not widely used (Collier et al., 2016; Neergaard et al., 2014). Despite this, worldwide studies...
have been completed and have described the use of telemedicine in palliative care (Collier et al., 2016; Hoek, Schers, Bronkhorst, Vissers, & Hasselaar, 2017; van Gurp, van Selm, van Leeuwen, Vissers, & Hasselaar, 2016; van Gurp, van Selm, Vissers, van Leeuwen, & Hasselaar, 2015). According to de Grood et al, to ensure the effective uptake of e-Health technologies, physicians perspectives´ need to be considered when creating an environment that enables the adoption of e-Health in healthcare (de Grood, Raissi, Kwon, & Santana, 2016). Cost and liability issues, and an un-willingness to use e-Health technology were the most mentioned barriers. Furthermore, training and support was seen to facilitate the adoption of e-Health technology among healthcare professionals (de Grood et al., 2016). Similar to this, Kruse et al, found, in their systematic review which included (n=30) articles, that barriers to adoption of telemedicine worldwide, were technically-challenged staff and a resistance to change among the healthcare professionals (Scott Kruse et al., 2018).

**Background**

Despite the resistance, telemedicine projects are being conducted. A study by Collier et al, found that healthcare professionals (n=10), positioned themselves as having a central role, when integrating telehealth into clinical practice. They saw telehealth as a disruption to their everyday activity, and it made them reflect on their current clinical practices (Collier et al., 2016). According to the healthcare professionals, a visual platform like video consultation, creates an important medium for providing clinical assessment and real-time clinical data, which were not possible using a phone (Collier et al., 2016). Systematic reviews on telemedicine in palliative care consider the use of telemedicine applications feasible and that it might result in increased clinical effectiveness, cost savings and increased quality of care and communication (Capurro, Ganzinger, Perez-Lu, & Knaup, 2014; Rogante, Giacomozzi, Grigioni, & Kaiy, 2016). In Denmark, the use of telemedicine, such as video consultations in the palliative care setting, has not yet been initiated. In a Danish qualitative study executed in 2014, (n=17) healthcare professionals discussed the opportunities for telemedicine in SPC, but still preferred face-to-face contact for optimal communication with the patients (Neergaard et al., 2014).

SPC is recommended for people suffering from a life-threatening illness (Danish Health Authority, 2011). Patients suffering from cancer form the majority of patients receiving SPC (Danish Health Authority, 2011; Danish Palliative Care Database (DPCD), 2015). The SPC, for patients with complex palliative needs, is provided by multidisciplinary SPC teams, located in hospital departments and is carried out in home-care facilities, hospices and the

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patient´s own home. Often the SPC teams work as consultants for the community nurses (Danish Health Authority, 2011).

Clinical SPC consultations today
In Funen, an Island in the Southern region of Denmark, the palliative care at home is performed by community nurses who are supported by initial home visits from the SPC team. An SPC team nurse and an SPC team physician, conduct the initial home visits and follow-up with telephone consultations or home visits as needed (OUH, 2018). As noted many consultations are handled by telephone. A disadvantage of the telephone consultations may be the lack of visual contact and thereby the nonverbal communication which can make healthcare professionals overlook the signs of a patient´s treatable conditions or deteriorations (Neergaard et al., 2014).

Studies from Neergaard et al, and theories by Kotter, explain that if the use of telemedicine, such as video consultations is to be embraced, the technology should be individualized in relation to the patients, setting and healthcare professionals and make sense in the given situation (Kotter, 2012; Neergaard et al., 2014). Thus, the overall purpose of this study was to clarify if the use of video consultations is feasible in a SPC setting and to explore how healthcare professionals experience the use of video consultations in their work with caring for seriously ill patients, focusing on the following research questions:
Which facilitators and barriers are important when introducing video consultations?
How do healthcare professionals experience the use of video consultations?

Methods
The study is a part of a larger qualitative study exploring patients, their relatives and healthcare professionals´ experiences of using video consultations in SPC. A publication of the patients and their relatives’ experiences in video consultations in SPC, has been published in JMIR Journal of Medical Internet Research (Funderskov et al., 2019).
This study was carried out as a qualitative study, based on a hermeneutic post-phenomenological approach with the purpose of investigating healthcare professionals’ experiences with the use of video consultations in SPC home care. The post phenomenology focuses on the technological mediation of human practice that shapes experiences of the situation by using technologies (Ihde, 2010). The interpretative approach focuses on understanding experiences and on how the participants made sense of their reality and attached meaning to it. The methods applied were an autobiographical diary and participant
Participant observation was conducted with the purpose of observing the participants in their own setting, focusing on both behavior and physical aspects of the situation being observed. The participant observation guide was inspired by Spradley and organized to observe: the place, actors and activities, in the social situation, which took place in the patients’ home during the video consultations or at the SPC team office (Spradley, 1980). Interviews were based on a semi-structured interview guide in order to cover relevant themes while also keeping an open mind to the participants’ answers, but formulated in everyday language so the interview would contribute dynamically to a natural flow of conversation (Figure 1) (Green & Thorogood, 2014b; Kvale & Brinnmann, 2014; Spradley, 1980). Interviews took place either personally or by telephone according to what was possible for the healthcare professional.

The SPC team nurse wrote an autobiographical diary after every video consultation to provide a narrative approach, delivering insights into the interventions observed specially for this study. The autobiographical diary format was unstructured, yet with the aim to contribute data relating to the clinical practice and development hereof when using video consultations (Bold, 2012). Image-based data was used for recording conceptual information, and to document the use and setting of where participants used video consultations (Azzarito, 2012; Bold, 2012). Both the observation guide and interview guide were based on the research questions to create consistency in approach (Green & Thorogood, 2014d). The method triangulation was used to validate and improve the understanding of the participants’ experiences of using video consultations. Furthermore, this triangulation was used to generate slightly different information and thereby express the meanings from the data collection (Green & Thorogood, 2014c).

The Consolidated Criteria for Reporting Qualitative research (COREQ) checklist was used as a guideline for reporting this study (Tong, Sainsbury, & Craig, 2007). See Supplementary File 1.

The Intervention with video consultations

A tablet was used for one-way video consultations between the included patients, relatives and the SPC team nurse instead of telephone consultations. The tablets were provided with a sim-card, which made them able to accept 4G. The video consultations were carried out via the SPC team nurses’ office computer to the patient-tablet. An app was developed for
relatives to participate in group consultations on the screen if they were unavailable to attend physically with the patient. The video-calls were encrypted to secure confidential information when using web-based communication. Technical support was available from the Telecare company who delivered the tablets (Johansen, 2017). Seven tablets were available during the study. The study was conducted from September 2016 to February 2017, by the SPC team at Department of Oncology, Odense University hospital.

Patients who were referred to SPC suffering from severe illness were potentially included in the study by one SPC team nurse. They received an initial home-visit by an SPC team head physician and an SPC team nurse who asked for their consent to participate. The patients and their families were primarily in contact with the SPC team nurse by phone and were able to consult the SPC team head physician when needed. Approximately one weekly video consultation was set by the SPC team nurse and the patient. Each patient kept the tablet for use in video consultations with the SPC team nurse, throughout the study period or until terminal stage of illness occurred.

**Sample**

Five community nurses, one SPC team physiotherapist, one SPC team nurse and one SPC team head physician, were asked to participate in the study as they participated in the multidisciplinary meetings via video consultation. Healthcare professionals were excluded if they were from basic or specialist palliative departments who did not wish to participate, or if they had not attended any video consultations.

**Ethical approval**

The study is registered at the Danish Data Protection Agency (file number: 2012-52-0018), and executed according to the Declaration of Helsinki (‘World Medical Association Declaration of Helsinki’, 2013). Informed consent was granted, and a form signed before inclusion. The empirical data collection was performed in the patients’ home and in the office of the SPC team, or by telephone if in person was not possible due to work schedules (Green & Thorogood, 2014e).
Data collection

Outcomes from field notes from participant observations, autobiographical diaries, interview material with the healthcare professionals and duration of the telephone / video or home consultations were registered. The interviews were audio recorded, transcribed ad verbatim and all data were saved in a secured database, Share-Point. The first author (KFF) conducted participant observation during video consultations, directly followed by interviews (Figure 1).

Analysis

The data analysis comprised of three data sets: field notes from autobiographical diaries, field notes from participant observations and the interview material. The data analysis was based on the post phenomenological concept of mediation to understand and analyze how the healthcare professionals experienced the patient-relation and the possibilities or barriers for conducting palliative care through the screen of a tablet (Ihde, 2010). In order to structure the analysis, field notes from the autobiographical diary, participant-observation and interview transcripts were all analyzed using Malteruds’ systematic text condensation (Malterud, 2012). The three data sets were all thematically coded and categorized using NVivo-11.

Systematic text condensation consists of four steps. First, the first author (KFF) and second author (DBD) read the transcripts repeatedly to get an overall impression of the data and to identify initial themes. Secondly, the first author identified and coded units of meaning in the text. Subgroups of codes from step 2 were then identified and condensates were developed from them. Finally, the findings were synthesized, involving a shift from condensation to descriptions and categories and discussed by the first and second author and exemplified. (Table 1) (Malterud, 2012). The codes were based on the initial themes that were identified in the first step of the analysis. To optimize validation, the first author (KFF) and second author (DBD) were involved in the analysis and the final product was approved by all authors.

A post-phenomenological approach was required due to the technological mediation of human practice, that shapes experiences of the situations when using video consultation in palliative care home care (Ihde, 2010).

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Results:

From September 2016 to February 2017, eight healthcare professionals were prospectively included in the study. The healthcare professionals (n=8) consisted of three SPC team professionals: one head physician, one physiotherapist and one nurse, and five community nurses (Table 2).

The participant observations and interviews involved n=11 patients and included in total n=82 video consultations. The number of video consultations (n=82) varied from three to 18 per patient during the entire study period (Table 3).

Four participants, three patients and one social worker from the SPC team had no desire for participation and declined to take part in the study.

Fifteen patients in total were excluded from the study. Nine patients were excluded due to due illness progression, hospital admission, mental illness, hearing disabilities and high risk of death. Six patients were excluded due to lack of electronic skills and no tablets were available in time (Table 4).

Participant observation took 8 hours and 15 minutes in total, (about 45 min. per patient). The autobiographical diary comprised of 119 field notes.

Four main themes emerged from the systematic text condensation.

(1) Video consultations mediate active patient and relative involvement
(2) Video consultations mediate access to care
(3) Video consultations mediate room for co-operation for healthcare professionals
(4) The use of a mediating technical device in SPC

Theme 1: Video consultations mediate an active patient and relative involvement

The SPC team nurse found that the use of direct communication with the patient and their relatives increased the patients’ autonomy.

Before the video consultations were initiated, the SPC team nurse and the community nurses often discussed the patients’ medical conditions during telephone consultations without immediately involving the patient. The use of video consultations initiated a change in behavior. The possibility of having three-way visual conversations facilitated the inclusion of patients, and their relatives, in the palliative care.

SPC team nurse: They (the patients) pay attention and I feel that we build a trustworthy relationship [...] and with these video consultations, there’s a great strength in building up the patients’ autonomy.

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The relatives could join the video consultations in equal terms with the patients and their involvement were initiated through the App development.

Participant observation 1: “The patients´ daughter is attending the video consultation from her work via the App which was developed for the project [...] and asks questions about the treatment, as if she was in the living room”

As the observational field notes show, the patient’s daughter was taking an active part in the conversation. Thus, the video consultations made it possible for relatives to take active part without being physically present. Yet, as one of the community nurses stated, it required a trusting relationship and care for the patient’s dignity to involve the relatives, due to the topics being discussed.

Community nurse 3: “There could be families where it could be overwhelming or degrading for the patient [...] You do speak very openly [...] is it O.K that we discuss the patients´ gastrointestinal function and so on [...] and it is O.K. to stay clear if there’s topics you don’t think fit on this forum...”.

It was found to be important that the patient could decide with their families which topics should be discussed with the SPC team nurse during the video consultation.

The patients were prepared for every video consultation as questions were written down beforehand and the consultations were set to scheduled appointments. In some homes, the community nurse had a preliminary meeting with the patient, before the scheduled consultation, to discuss any topics about medical adjustments etc.

Participant observation 8: “The patient sits in her kitchen and writes down questions for the video consultation which is about to begin...”

SPC team nurse:” It’s much better for me [...] but it’s also good for the patients. Many of them have written down an agenda before they talk to me [...] This is much more on their terms”.

The SPC nurse had the impression of patients being actively involved in their own care.

Preparation prior to video consultations allowed the patient to ask specific questions and the community nurse to elaborate. This increased their involvement in the SPC during consultations.
Theme 2: Video consultations mediate access to care

Due to the weekly, ongoing opportunities to see the patients using video consultations, the SPC-team members could see the physical changes during illness progression. The SPC physical therapist argued that this ability made palliative care more effective than using telephone consultations.

SPC physiotherapist: “I’m sure this helps the patient [...] It is easier to ask about the patients’ symptoms when you can see that he doesn’t feel good.”

This was especially noticed with patients who had difficulty communicating due to treatment.

Autobiographical diary 70: “It is noticed that this patient is having difficulties to breathe [...] he is dependent on non-invasive home mechanical ventilation thereby making video consultations more relevant than telephone consultations [...] I would not have had the same direct contact with the patient, if it was through the telephone.”

The video consultations enabled multiple participant assessments with various perspectives from the SPC team professionals. Because of the first initial home visit and several video consultations, the SPC team professionals were familiar with the patient and/or relatives and knew when physical or mental conditions were changing. They felt the image of the patient improves access to care and video consultation increase the quality of care.

SPC team head physician: “The communication actually improves because of this and does not necessarily take more time [...] We get tons more information. We do catch somethings we wouldn’t have caught (on the phone) I’m pretty sure about that”.

Home-visits due to illness progression are essential because of the physical examinations needed, but the ongoing ability to see the patient enabled the SPC team professionals to see changes over time, like weight-loss or poor mental appearance, and hence refer for further treatment.

Theme 3: Video consultation mediates room for co-operation between healthcare professionals

If the patient had any skin conditions or illness progression with changes over time, the community nurse and the SPC team nurse could discuss their observations during the video consultation.

Community nurse 1: “I feel it has great value that I am sitting there [...] Like when we discussed the opportunity, that the patient could have an infection...”
The use of video consultations allowed the community nurses and the SPC team nurse to cooperate on an inter-professional level and supplement each other. While the community nurses observed the patients on a daily basis, the SPC team nurse had a more consulting role as she only saw the patients at appointments.

Furthermore, the community nurses took an active part in the palliative care in the patients’ home. When consulting the SPC team nurse, the tablet made the consultation flexible, as the nurses could use the tablet screen and point at the patient and show specific issues such as edematous body parts.

SPC team nurse: ”She showed me the leg and that actually led to a hospital admission because of deep vein thrombosis.”

Participant observation 10: "The Community nurse and the patient are sitting next to each other facing the tablet screen and showing (the SPC team nurse) the medication against Candida”.

The above mentioned direct transparent communication enabled the SPC team nurse to act and draw rapid conclusions, which she wasn’t able to do when using telephone consultations. The usual care in the SPC team could sometimes be troublesome. If a patient was feeling bad due to illness progression, a constructive telephone consultation could be difficult.

SPC team nurse: What I did before, was to ask the community nurses to visit the patient and join the telephone consultations, so I could sense that patient heard what I had to say and agreed what the community nurse had to say [...] If they suffer from brain metastases, or are suffering from slightly dementia, then I choose, with the patient and sometimes with the community nurse as well, to make a new phone call to the community nurse alone”.

Theme 4: The use of a mediating technical device in SPC

The utilization of the tablet as a new device in the SPC, did not seem to influence the work flow in any negative ways among the healthcare professionals.

Community nurse 2: “One of my colleagues tried, and she thought it was easy [...] she didn’t even need the instructions [...] and she is one of our older nurses in our team who sometimes has issues with IT.”

Even if lack of Internet connection, missing audio or a black screen appeared during the video consultations, the community nurses solved the technical problems together with the patient.

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Participant observation 8: “The patient tries to log on the tablet, but there is no image of the SPC team nurse on the tablet screen. The SPC team nurse calls the patient and together they made it work. The picture is good, and the patient looks pleased.”

Community nurse 2: “We did have a problem with missing audio the other day (during a video consultation), but we just turned my mobile phone on high volume, and then we had the image on the tablet screen [...] It turned out fine anyway, so we didn’t notice any issues with the dialogue”.

The nurses use of technological devices like tablets, is common in the community nurses’ daily clinical practice. (Figure 2). Clinical reports /documentation are written down on tablets, and information is looked up, as the community nurse is in the patient’s home and not at the office.

Community nurse 5: “...You have access and you can do it (the documentation) with the patient [...] you don’t have to use so much time at the office, it will be with the patient instead, I think it will be the future”.

Discussion

The study explored the experiences of using video consultations among healthcare professionals in the SPC. We found that the use of video consultations mediated an active patient and relative involvement, as they participated directly and could jointly ask questions to the healthcare professionals. The healthcare professionals also found it useful as it gave them the opportunity to have a closer collaboration with each other and opened up dialogue among both healthcare professionals and patients.

According to Olesen, in a pervasive healthcare setting, where the human-technology relationships are redefined, the use of computers contributes to increased data access, and can serve as a decision-maker for healthcare professionals (Olesen, 2010). This pervasive healthcare might release the patients and relatives from staying in passive roles when using video consultations in SPC and become team players during illness. The results showed that the healthcare professionals experienced the visualization as an enhancing factor when consulting the patients and the community nurses in the patients’ homes. Furthermore, we found that the healthcare professionals’ experience of using video consultations in SPC eased the access to care, as the health care professionals could communicate directly with patients and relatives and discuss possible treatments, due to the ability to see physical or mental
changes over time. The healthcare professionals found the tablet easy to use and meaningful in their work with the patients and their relatives. The video consultations enabled a pervasive decision-making in the SPC, as the healthcare professionals could co-operate through the tablet screen (Olesen, 2010).

Nine patients were excluded when first referred to SPC. Table 4. This could be prevented according to Dalgaard et al, due to an earlier integration of palliative care, that might result in better improved patient perception of prognosis, prolonged survival and better symptom management (Dalgaard, Berghenholtz, Nielsen, & Timm, 2014). Four participants, three patients and one social worker from the SPC team had no desire for participation and declined to take part in the study. This could be due to loss of meaning when using video consultations when communicating with seriously ill patients. According to Kotter a sense of meaning is important when you are facing changes in organization of care, also the speed of changes tends to increase, when the people involved experience a sense of meaning (Kotter, 2012). This is confirmed by the findings from our study where the innovative change was integrated into practice relatively easily, as the healthcare professionals experienced the video consultations as meaningful to their clinical work. This is important to consider if and when the organization of care changes, i.e. when a new technology such as video consultations in SPC, is to be implemented in clinical practice (Kotter, 2012).

A study by van Gurp et al, explored how teleconsultations facilitated an empathic patient-professional relationship among outpatients receiving palliative care. Van Gurp et al found that the SPC team members avoided discussing sensitive and emotional topics with vulnerable patients. This was due to a perceived inability to comfort the patients, because of the physical distance. Additional to this, the same patients reported that a physical distant professional listener, provided the exact freedom they needed to define their own role and co-design their own care in equal patient-professional relationships. The teleconsultation fitted into the patients domestic lives and knowing that the SPC team was available created a sense of safety and relief (van Gurp, van Selm, Vissers, van Leeuwen, & Hasselaar, 2015).

Furthermore, Colliers et al, found that barriers for using telemedicine in community palliative care, were issues with telehealth like video consultations, as Internet connections and IT problems affected the use of it. Instability of telehealth technology was a significant issue for the healthcare professionals to return to previous practice. Additionally, the nurses felt personally and professionally responsible when the Internet connection failed and thereby threatens the relationship of trust with patients and their relatives (Collier et al., 2016). In our study such issues weren’t mentioned as barriers for using and continuing the use of video consultations.
consultations. Occasionally, an unstable internet-connection, missing audio or a black image occurred, but that did not seem to influence the video consultations in this study. The reasons could be that the SPC team nurse who presented the tablet and included participants had a positive attitude towards the technology and participants who were resistant, did not accept to be included in the study. Furthermore, the participants were not questioned ahead of the study, about what they imagined or expected when first start using video consultations, when communicating with the patients receiving SPC.

The video consultations mediated a room for co-operation, as the healthcare professionals simultaneously could speak to one another. Through the tablet screen the community nurses and the SPC team nurse could easily guide each other during the video consultations, making the situation beneficial for their clinical practice. This is similar to a study by van Gurp et al, who found the use of teleconsultation with participation from primary care physicians (n=15) and SPC team members (n=12) supportive in palliative care. They found their information exchange was important, as a facilitator, for their collaboration during End-of-life care (van Gurp et al., 2016).

Healthcare professionals’ experience of the technology was that it was easy to use. One explanation may be that they are familiar with handling different devices such as tablets and smartphones both in their working and private lives. As emphasized by Syse and Danbjørg, technology is an integral part of most people's daily lives as people use consumer devices in the form of tablets, smartphones, and pedometers (Danbjørg & Syse, 2017). According to Statistics Denmark (the Danish national statistics bureau) four out of five people aged 16 to 89 used a mobile phone to access the Internet in 2016 (Statistics Denmark, 2017). This points to the importance, in terms of acceptance, of the new technology that the new device is designed to fit the consumer, meaning that it is user friendly and easy to use. Yet it is important not to underestimate the time needed for adaption of technology into practice, as emphasized by Ihde. Since handling technology is a learning process, time and space are required to adapt the new technology to specific practices. First when the technology appears transparent for the user, it is fully integrated. Ihde uses the term embodiment to describe the process that takes place when a technology becomes integrated as a useful tool for the people using it (Ihde, 1990). Our results show that the nurses integrated the technology as they could see how useful it was. Furthermore, the community nurses were familiar with technology from daily practice and thereby experienced it as useful in their work with both the SPC team nurse and the patient.

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Ihde states that different technologies invite humans to act in certain ways as each technology makes certain actions easier and others harder, depending on the human-technology interface (Ihde, 1990). In our study we found that the use of video consultations, were experienced by the healthcare professionals as an option to act directly, when specific medical-, or physical conditions appeared. It is easier to act directly because you can see each other as compared to the use of a phone, where you can only hear each other. The ability of the SPC home care to see the patients was viewed positively, among other things because of the possibility of seeing physical changes over time increasing their ability to act on illness progression. Similar to this, Van Gurp et al. found that long-term interactions made the SPC-clinicians notice weight-loss or blushing due to regression, among their patients. Furthermore, intimate and trustful relationships were found, which provided both patient and relatives with the necessary counseling, supervision and decisional support (van Gurp et al., 2015).

According to van Gurp et al, the tablet used in the palliative care merged into the home environment, while immobile desk-top devices reminded the patients of their evolving medical condition (van Gurp et al., 2015). Collier et al, found that the visual platform created an important medium providing a clinical assessment, which was not possible using telephone consultations. Furthermore, the video platform was found to provide a more effective communication medium and was an important contribution to the delivery of community palliative care. The specialist nurses in that study were key to the utilization of telehealth and its implementation, and critically positioned themselves as central to the success or failure of telehealth (Collier et al., 2016).

The video consultations enabled a corporation of care, which was appreciated, especially by the community nurses. Additionally, van Gurp et al, found that the tripartite teleconsultation lead to increased responsiveness, efficient responsibility sharing and an advantage in shared decision-making (van Gurp et al., 2016).

Strength and limitations
The issues being discussed during the video consultations were mainly about medication adjustments, for pain relief (Table 4), which is one of the main issues in palliative care focusing on cancer patients according to WHO. The palliative care should also incorporate psycho-social and spiritual problems as well as physical problems (‘WHO | Cancer’, 2014). The findings in this study could have been evaluated in a follow-up focus group involving the healthcare professionals on the topic of long-term feasibility of using video consultations in the SPC home care. This could have led to a more specific and personalized intervention on
when, - and for how long, End-of-Life care with the use of video consultation, should be provided. Randomized controlled trials of interventions are recommended in research. However, the use of telemedicine in these trials is difficult due to the stringency when blinding in the research process. Hoek et al, conducted a randomized controlled trial using teleconsultations for SPC among (n=74) patients with advanced cancer (Hoek, Schers, Bronkhorst, Vissers, & Hasselaar, 2017). The study discussed the differential in recall bias as the intervention group had weekly teleconsultations aiming for reporting symptom burden and did report higher symptom burden than the control group (Hoek et al., 2017).

Conclusion
The health care professionals found the use of video consultations easy to manage in their everyday clinical practice. It improved their ability to deliver synchronized specialized palliative care and it enabled the healthcare professionals to co-operate, increasing the communication and quality of care. The video consultations created an open forum for discussion, but this open forum could be seen as a barrier as topics being discussed should be chosen with care according to the privacy of the patient. The healthcare professionals were familiar with the use of technology from their everyday life and did not require special training as they experienced the technology as easy to use and meaningful for their work which eased introduction of a new technology.

Relevance to Clinical Practice
As video consultations seem feasible and the study was initiated from one SPC team it could be relevant to explore the feasibility in the remaining 25 Danish SPC teams (REHPA, 2016). Analysis of qualitative data could be hypothesis-generating, with the aim of conducting a quantitative study. In this study, the qualitative data could generate the initial stages in identifying issues for respondents in questionnaire development (Green & Thorogood, 2014a). Furthermore, the Model for Assessment of Telemedicine Applications (MAST) could be used as a guideline when implementing video consultations in the SPC home care. The model is developed for users and decision makers when choosing efficient technologies in the most cost-effective way in healthcare (Kidholm et al., 2012).

Acknowledgements
Thanks to all participants.
Conflicts of interest
No declaration in conflicts of interest by the authors.

Funding statement
The project was funded by REHPA, the Danish Knowledge Center for Rehabilitation and Palliative Care, EWII Telecare, Patient@home, Co-Lab, CIMT- Center for Innovative Medical Technology, The University of Southern Denmark, and Department of Oncology, Odense University Hospital.

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https://doi.org/10.1186/s12916-017-0866-9


https://doi.org/10.1017/S0266462311000638


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http://www.rehpa.dk/professionelle/palliation/fakta/


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Figure 1. Observation-guide and semi-structured interview-guide in a qualitative study about video-consultations in specialized palliative care.

Figure 2. Healthcare Professionals’ co-operation during video consultations in SPC in patient’s home.

Table 1. Example of the data analysis using systematic text condensation.

<table>
<thead>
<tr>
<th>Setting and initial themes</th>
<th>From themes to codes</th>
<th>Codes units of meaning - Quotes</th>
<th>Subcategories</th>
<th>Overall category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Video consultation from the SPC team office to the patients’ home</td>
<td>“They (the patients) pay attention and I feel that we build a trustworthy relation [...] and with these video consultations, there’s a great strength in building up the patients’ autonomy.”</td>
<td>The patients pay attention when using video consultations</td>
<td>The ability to the see each other mediates a strengthen palliative care</td>
<td>Video consultations mediates an active patient and relative involvement</td>
</tr>
</tbody>
</table>
Table 2. Healthcare professionals in a qualitative study about Video consultations in Specialized Palliative Care in Denmark.

<table>
<thead>
<tr>
<th>Participants (n=8)</th>
<th>Face-to-face Interview</th>
<th>Telephone Interview</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 SPC team head physician (MD)</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>1 SPC team nurse</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>1 SPC team physiotherapist</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>5 Community nurses</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
# Table 3. Patients' characteristics of Danish participants in a qualitative study about video consultations in Specialized Palliative Care, (Patients n=11)

<table>
<thead>
<tr>
<th>Patient no.</th>
<th>Gender</th>
<th>Age, mean (n=59)</th>
<th>Diagnosis</th>
<th>Living with relative: Yes/No</th>
<th>Main topics in video consultation. All were follow-up.</th>
<th>Number of video consultations (n=82) in the study period per patient. All were follow-up.</th>
<th>Number of telephone consultations (n=4) in the study period. All were follow-up.</th>
<th>Number of home visits (n=16) in the study period all were follow-up.</th>
<th>Number of video consultations with a community nurse (n=22) in the study period. All were follow-up.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Male</td>
<td>64</td>
<td>Head and Neck cancer</td>
<td>Yes</td>
<td>Pain-relief</td>
<td>13</td>
<td>0</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>2.</td>
<td>Female</td>
<td>65</td>
<td>Bile Duct cancer</td>
<td>No</td>
<td>Pain relief and nausea</td>
<td>11</td>
<td>0</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>3.</td>
<td>Male</td>
<td>63</td>
<td>Rectal cancer</td>
<td>No</td>
<td>Pain relief</td>
<td>18</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>4.</td>
<td>Male</td>
<td>68</td>
<td>Prostate cancer</td>
<td>Yes</td>
<td>Pain relief and dizziness</td>
<td>7</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>5.</td>
<td>Male</td>
<td>60</td>
<td>Prostate cancer</td>
<td>Yes</td>
<td>Pain relief</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>6.</td>
<td>Female</td>
<td>64</td>
<td>Ovaria Cancer</td>
<td>Yes</td>
<td>Insomnia</td>
<td>4</td>
<td>0</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>7.</td>
<td>Male</td>
<td>30</td>
<td>Cystic fibrosis</td>
<td>Yes</td>
<td>Nausea</td>
<td>9</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>8.</td>
<td>Female</td>
<td>67</td>
<td>Head and Neck cancer</td>
<td>No</td>
<td>Increased saliva</td>
<td>6</td>
<td>0</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>9.</td>
<td>Female</td>
<td>66</td>
<td>Lung cancer</td>
<td>No</td>
<td>Pain relief and psycho-social Dyspnea</td>
<td>6</td>
<td>0</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>10.</td>
<td>Male</td>
<td>47</td>
<td>Thymus cancer</td>
<td>No</td>
<td></td>
<td>5</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>11.</td>
<td>Male</td>
<td>59</td>
<td>Lung cancer</td>
<td>Yes</td>
<td>Pain-relief</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>
Table 4. Patients and healthcare professionals. Cause of exclusion to participate in video consultations in specialized palliative care in Denmark.

<table>
<thead>
<tr>
<th>Cause of exclusion</th>
<th>(n=19)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No desire for video consultations (three patients and one social worker from the SPC team)</td>
<td>n= 4</td>
</tr>
<tr>
<td>Cognitive impairment due to illness progression</td>
<td>n= 3</td>
</tr>
<tr>
<td>High risk of death before start-up</td>
<td>n= 3</td>
</tr>
<tr>
<td>No use of video-consultation due to hospital admission</td>
<td>n= 1</td>
</tr>
<tr>
<td>No tablets available</td>
<td>n= 4</td>
</tr>
<tr>
<td>Lack of electronic skills</td>
<td>n= 2</td>
</tr>
<tr>
<td>Patient is suicidal</td>
<td>n= 1</td>
</tr>
<tr>
<td>Hearing impairment</td>
<td>n= 1</td>
</tr>
</tbody>
</table>
### Observation guide

**The people:**
- How do the SPC-team nurse and/or community nurse handle the tablet?
- Is it easy to use?
- Do they (SPC-team nurse or community nurse) say anything about the tablet?
- Is it difficult to use?

**Behavior / acting:**
- Behavior, before, during and after the video consultation?
- Transitions in behavior, before, during and after the video consultation?

**Physical setting:**
- Where does the video consultation take place? – living room? – clinical office?

**In relation to the patient:**
- Eye-contact during the use?
- Can the SPC-team nurse see the patient/relatives or the community nurse?
- Verbal / nonverbal communication?

### Semi-structured interview-guide

1. **Handling the technology**
   - "How is it to use a tablet, when speaking to the patient/relatives and/or the community nurse?"
   - "How is it to handle?"

2. **Communication through a screen**
   - "What does it mean to you, that you can see and hear the patients/relatives and/or the community nurse?"

3. **The experiences of the palliative care, when it takes place through a screen**
   - "How do you experience your clinical services when you’re using video consultations?"
   - "Compared to your knowledge from using home visits or telephone contacts?"

4. **The transformation of the palliative care, when using video, does it change?**
   - "What did you get out of the consultation with the patient/relative and/or the community nurse?"