

# Experience of using teleconsultation in the department of outpatient palliative care in Kaliningrad

## Abstract

The article discusses the basic concepts of teleconsultation and features of this type of medical activity in the provision of palliative care. The reasons of relevance of introducing video-consultation in daily practice of palliative care doctor are analyzed. The article presents the data about the results of application of teleconsultation in providing palliative care in outpatient settings on the basis of department of outpatient palliative care for adults.

**Keywords:** palliative care, outpatient palliative care department, teleconsultation, telemedicine technology, chronic pain syndrome

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## Introduction

The introduction of telemedicine technologies is an extremely relevant direction in the development of the modern health care system, especially in the context of measures to prevent the spread of the new coronavirus infection COVID-19. Information and communication technologies (ICT) have great potential to solve a variety of problems that both developed and developing countries face in providing accessible, cost-effective and high-quality health care services to their populations. Telemedicine uses ICTs to overcome geographic barriers and increase access to medical services.

Telemedicine, a term introduced in the 1970s, literally “treatment at a distance”, refers to the use of ICTs to improve patient outcomes by increasing their access to care and health information. The World Health Organization has accepted the general definition, such as: “The provision of health care services in settings where distance is a critical factor, by health care professionals using information and communication technologies to share essential information for the diagnosis, treatment and prevention of disease and injuries, research and evaluation, as well as continuing education for health care professionals to improve public health and community development”.<sup>1</sup>

Some authors distinguish between telemedicine and telehealth, where the first term refers to the provision of services by physicians only, and the second term refers to the provision of services by all health professionals, including nurses, pharmacists and other professionals in the industry. However, in this article, telemedicine and telehealth are synonymous and used interchangeably.

Telemedicine technologies are characterized by:

- use for the purpose of providing clinical support;
- overcoming geographical barriers by connecting users who are far away from each other;
- the use of different types of ICTs;
- the fact that they aim to improve the health of the population.

## Legislative regulation of medical care with the use of telemedicine technologies on the territory of the Russian Federation

The legislative regulation of telemedical services for the purpose of coordination and optimization of the work on the creation and use of telemedical technologies in the healthcare system began with the publication of the Order of the Ministry of Health of the Russian Federation and RAMS of 27.08.2001 344/76 “On the approval of the Concept of telemedicine technologies development and plan of its implementation”.<sup>2</sup>

The issues of telemedicine and information policy in the field of health protection in the Russian Federation were the subject of parliamentary hearings on May 22, 2002.<sup>3</sup> And the legislative aspects of the introduction of telemedicine technologies were the topic of the RF State Duma round table on February 19, 2009.<sup>4</sup>

Order of the Ministry of Health and Social Development of the Russian Federation № 364 of 28.04.2011 “On approval of the Concept of creating a unified state health information system”. in item 9.2. “Improving the implementation of information and telecommunication technologies in health care” stated: “The status and mechanism of conducting telemedicine consultations and organizing councils, including the use of mobile devices should be established”.<sup>5</sup>

According to part 1 of article 36.2 of Federal law No. 323 “On the basis of health care in the Russian Federation” of November 21, 2011, medical assistance with the use of telemedicine technologies is organized and provided in accordance with the procedure established by the authorized federal executive body, as well as in accordance with the procedures for medical care and on the basis of medical care standards.<sup>6</sup>

On January 1, 2018, the Federal Law on Telemedicine №242 of 29.07.2017 “On Amendments to Certain Legislative Acts of the Russian Federation on the Application of Information Technologies in Healthcare” came into force, which regulates the legal aspects of remote medical care as part of remote patient monitoring and remote

patient counseling.<sup>7</sup> This federal law introduced a definition of the term “telemedicine technologies”. These are “information technologies that ensure remote interaction of medical workers among themselves, with patients and/or their legal representatives, identification and authentication of these persons, and documentation of their actions during consultations and remote medical observation of the patient’s health status.

Then the Order of the Ministry of Health of the Russian Federation №965n of 30.09.2017 “On approval of the order of organization and provision of medical care with the use of telemedicine technologies” was issued.<sup>8</sup> This Order establishes the rules for the use of telemedicine technologies in the organization and provision of medical care by medical organizations of state, municipal and private health care systems and includes:

- a. the procedure for the organization and provision of medical assistance with the use of telemedicine technologies in the remote interaction of medical professionals with each other;
- b. the procedure for organizing and providing medical care with the use of telemedicine technologies in remote interaction between health care providers and patients and/or their legal representatives.

Letter of the Ministry of Health of Russia № 18-2/0579 of 09.04.2018 clarified certain statements of this order.<sup>9</sup>

The formed legislative framework and recent advances in this area have enabled a large-scale expansion of the capabilities of the health care system to provide medical services using telemedicine technologies. The term “telemedicine” has gradually become synonymous with “clinical informatics”. Eventually telemedicine systems turned local hospital information systems into a unified global system combining a variety of technologies and organizational solutions, face-to-face and remote interaction. No doubt teleconsultation is now the most widespread telemedicine procedure. Moreover, aspects of remote consultations are used in the monitoring and training of specialists in various branches of health care.

## Teleconsultation`s types

Teleconsultation (remote consultation) is a telemedical procedure, which is a discussion of a particular clinical case between the subscriber and the consultant, aimed to provide highly qualified emergency and routine medical care, where the subscriber and the consultant are separated by a significant distance. The conditions of providing medical assistance with the use of telemedicine technologies may be of any kind: outside the medical organization, on an outpatient basis, in a daytime hospital, or in an inpatient institution. The conditions of assistance are determined by the actual location of the patient.<sup>6</sup>

When using telemedicine technology, counselling can take several types:

- a. emergency type- life threatening diseases which require immediate, intensive treatment. (From 30 minutes to 2 hours);
- b. urgent type- a disease that requires urgent attention but is not a life-threatening situation. (From 3 hours to 24 hours);
- c. scheduled type- carrying on preventive measures for diseases and conditions that are not life-threatening, do not require emergency and urgent medical care. Delaying the provision for a certain time will not lead to aggravation of the patient and the threat to his life and health.<sup>6</sup>

There are two main working modes of teleconsultations.<sup>6</sup>

a. Real-time mode, which involves online communication with the patient.

b. Deferred consultations mode, when communication with the patient does not occur, and help is provided in the form of questions and answers based on the study of documents and the patient’s request.

Telemedicine technologies can be used to provide the types of medical care, such as: primary health care; specialized, including high-tech, medical care; emergency, including specialized, medical care; palliative care.

## The relevance of digital technology in palliative care

Palliative care is a set of measures, including medical interventions, measures of psychological care, carried out in order to improve the quality of life of terminally ill patients and aimed to alleviate pain, other severe manifestations of disease. For timely and quality palliative care it is necessary to enable the patient, his relatives, caregivers to find the right decision on how and where such medical care can be received. The solution of these tasks is being carried out in close co-operation of palliative care workers with the team of psychologists, with public, charitable and non-commercial organizations, representatives of social services and clergy.

With the pandemic of a new coronavirus infection, the health care system has suddenly and radically changed. Health care professionals of all fields faced unprecedented challenges, including adjusting to the need to physically distance themselves, supporting families who are unable to see their seriously ill loved ones, and helping in situations of acute bereavement when patients are dying.

The COVID-19 pandemic has created a new environment in which the core values of palliative care (talking, touching, being close to a loved one) have become difficult to achieve. As in other medical centers, visits to patients in palliative care units have been severely limited or completely discontinued. In addition, the ability of visiting caregivers to conduct consultations is also limited by the need to comply with a set of anti-epidemic measures.

Teamwork in the care of critically ill patients and their families is often rendered impossible by the pandemic. Against the background of continuing restrictive measures, the number of requests for solutions to medical, social and psychological problems from patients and their families, as well as from the staff of medical institutions, has increased.

In October 2020 there was a working meeting of employees of palliative care units and outpatient service of Kaliningrad City Hospital No.2, headed by the chief freelance specialist on palliative care of the Ministry of Health of the Kaliningrad region, S.S. Mirakyan. This meeting was devoted to the work of palliative care service in conditions of compliance with anti-epidemiological measures. As a result of this meeting it was decided to introduce teleconsultation into the work of the outpatient palliative care service in Kaliningrad. Our aim was to find ways of consulting patients and keeping in touch with their families, managing their symptoms and involving other specialists if necessary.

## From goal setting to implementation of practical tasks

As part of the execution of Order No. 965 of November 30, 2017 of the Russian Ministry of Health. “On approval of the order

of organization and provision of medical care with the use of telemedicine technologies”, a decision was made to introduce real-time teleconsultation in the work of the outpatient service. The consultation’s types were determined: urgent and scheduled.

A working group consisting of staff from palliative care units and outpatient services was assigned the task of fulfilling this goal. In order to organise our work, we made a list of tasks which we distributed among the members of the working group.

This list included: purchase of tablets and training of staff how to use them, making test calls to verify the ability to provide consultation in the whole city, training of staff how to communicate in a distant mode, plans of calls and discussed topics, including training of caregivers about some kind of manipulation in home environment were worked out.

The priority of the preparatory work was to identify the target group of patients in need of teleconsultation services. The study was based on the results of the outpatient care service for the past year 2019 (number of calls, structure of visits, etc.).

Forming indications for telemedicine services was carried out taking into account the main reason for visiting the outpatient service, complaints at the first visit, the necessary frequency of visits, the need for external support of the patient during the examination (social worker, nurse, relative). Based on the data obtained, the main indications for telemedicine consultations were formed:

- a. chronic pain syndrome;
- b. the need for daily observation of the patient by a medical specialist;
- c. living in remote or hard-to-reach areas;
- d. inability to access the patient’s place of residence during the day (inability to open the door without the help of relatives, inability to ensure constant presence at home during the day);
- e. refusal of scheduled hospitalization.

According to the results of work done (7 HUAWEI MediaPad M5 lite10 tablets were purchased, the staff was trained to work with them, a target group was formed, the first patients were also trained) in April 2021 we began to implement the set tasks.

## Data obtained

Total number of patients treated via telemedicine from April till August, 2021 was 23 (13 female and 10 male). The group included only patients with malignant neoplasms (MN) having chronic pain syndrome requiring an effective pain management scheme selection. Among neoplasms, breast cancer predominated in women (29%), lung and bronchial cancer (24%), colon cancer (21%), pelvic cancer in women (19%), and malignant tumors of other localizations accounted for 7%. The need for outpatient services for these patients was determined by a similar group of problems:

- a. impossibility of outpatient observation by a specialist due to severity of condition, lack of mobility, remoteness from outpatient clinics;
- b. long waiting time for the visit of a therapist to adjust a treatment due to the high load on the primary health care system in the current epidemiological situation;
- c. the presence of poorly controlled chronic pain syndrome and the instability of the clinical situation, the need to call an ambulance

from 2 to 4 times a week, sometimes repeatedly during the day;

- d. the need for consultation with a specialist (palliative care doctor, oncologist) for the choice of an effective scheme of pain management, with the use of potent medicines;
- e. persistent fear and uncertainty of primary care specialists when prescribing opioid analgesics;
- f. Absence of information and routine consultations with patients and their relatives on the use of opioid analgesics.

At the time of appeal 54% of patients were using various nonsteroidal anti-inflammatory drugs (NSAIDs), combining oral and injectable forms in order to relieve chronic pain syndrome. The group of patients who used oral opioids (tramadol) was 29%. Transdermal Therapeutic System (TTS) + NSAID combination therapy was received by 17% of the patients examined at the primary visit.

When selecting treatment patients were estimated the intensity of pain syndrome using a visual analogue scale. In this way, not only the patient’s subjective feelings, but also objective data (his/her body position, facial expressions, gestures, and manner of talking) can be assessed in real time via video link. On the whole the information received allows the doctor to evaluate the patient’s condition in the best possible way, which would be more complicated in a telephone conversation.

The terms of the necessity of teleconsultation at home were determined individually and varied from 7 to 26 days; the average requirement for the consultations was 15 days. On average, the patient reached the necessary treatment effect 1.5 to 3 days earlier when using a video link than in patients with similar symptoms but without teleconsultation opportunities. On average up to 4 video consultations per patient per day (not including the primary visit to the doctor) were needed with a subsequent reduction to 1-2 consultations per day against the background of treatment selection. Also, at the request of the treating doctor, remote consultation was conducted by a psychologist at a previously agreed upon time. The nurses observed patients primarily in a face-to-face form due to the need to fulfill medical appointments. Additional video consultations “nurse-physician” were provided if the therapy had to be corrected.

It should be noted that in 87% of cases, the selection of an effective analgesic scheme was performed without hospitalization in an inpatient department, while the remaining 13% of patients (5 people) were scheduled for hospitalization due to the need to select therapy in an inpatient setting or because of the disease progression. Patients who achieved positive results in their treatment through video consultation remained under the observation of the visiting outpatient service, which provided consultations by telephone and, if necessary, made a face-to-face visit. The fact that telemedicine allowed to increase the number of patients who received qualified assistance in the shortest possible time deserves special attention. The outreach health care workers travel an average of 150 km within the city of Kaliningrad per working day. A considerable part of working time is spent on moving from one patient to another. During the direct visit, the first consultation lasts 40-50 minutes, and the follow-up consultation takes up to 30 minutes. In a situation that requires a number of medical manipulations at home, the duration of the visit increases to 60 minutes. Accordingly, the number of patients treated at home is limited by the time factor. The doctor examines 3-4 patients a day and up to 4-5 patients repeatedly. With the introduction of video consultations the number of patients who received care increased by 1.5 times due to repeat consultations via video communication (up



to 8-10 repeat examinations per day), which effectively reduced the number of patients waiting for scheduled hospitalization (the result was 15% of the total number of patients waiting for hospitalization).

## Clinical case

Patient K., 54 years old, considers herself a patient since May 2020 when she received treatment for peptic ulcer disease. In July of the same year, during control fibro gastro duodenoscopy (FGDS), gastric ulcer-cancer was suspected.

Colonoscopy dated 10/23/2020 - cancer of the caecum.

Ultrasound investigation, dated October 20, 2020 - echo-picture revealed moderate hepatosplenomegaly, cholelithiasis, focal cystic neoplasm at the head and body of pancreas, regional lymph nodes, edema of wall of cecum and ascending colon.

FGDS dated October 28, 2020 - gastric body ulcer.

FGDS from November 9, 2020 - gastric ulcer with signs of scarring. Scarred-ulcerous deformation of the stomach body mucosa.

On November 13, 2020 - operation: right-sided hemicolectomy with extended lympho dissection, "side-to-side" ileo transversus-anastomosis, axillary l/nodes resection from the left side.

Histology No. 10629 of November 18, 2020 - malignant tumor of the large intestine of the patient was consulted by an oncologist and chemotherapist. She was decided to avoid polychemotherapy due to profuse and persistent diarrhea and to continue symptomatic treatment as an outpatient.

Since March 2021 pain syndrome was intensified, she received a transdermal system with fentanyl at a dosage of 75 mcg/h. Due to a worsening of her general condition and progression of her pain syndrome she was referred to palliative care unit of City hospital №2 for symptomatic treatment.

The patient complained of weakness (ECOG 4), decreased appetite, poor intermittent sleep, strong constant pain in the right iliac region, which radiates to the perineum (VAS 7-8). Initially morphine solution 1% 1ml intramuscularly 4 times a day was prescribed. The pain syndrome persisted at a VAS level of 9-8, which required further titration of the morphine dose in combination with a pregabalin drug, Katena 300 mg. Against the background of the treatment administered it was impossible to achieve positive results. Due to this situation, it was decided to use a portable infusion pump for uninterrupted dosed infusion of drugs (morphine). Against the background of continuous dosed anesthesia for a day (solution of morphine 1% 12 ml + sodium chloride 0.9% 132 ml, infusion rate 3 ml/h), the patient noted a significant reduction of pain syndrome and improvement of sleep (a pain score of 4-3 on the VAS).

Despite the ongoing treatment, the patient's condition gradually worsened against the background of cancer intoxication due to the progression of the underlying disease. The patient insisted on being discharged home, as she had been hospitalised for more than 40 days and had not been able to see her relatives due to restriction of visits. Her family also wanted to see her, but they could not visit her in private. Her close relatives believed that she did not want to suffer in hospital and would want to switch to a treatment plan that included home-based care. They were heartbroken that they could not visit her in private but were ready to work together with the support of a visiting care service using a video link. In this situation, the patient was delighted at the opportunity and definitely agreed to be discharged. She was transferred to outpatient care under the observation of the home care team with the advice of a doctor.<sup>10-13</sup>

The patient was given a tablet to monitor her general condition, the correct functioning of the pump, and to deal with issues related to the use of the pump at home. In the hospital the patient was trained to use the tablet and make calls on it and was introduced to the on-call palliative care doctor. On an outpatient basis, the visiting palliative care team provided timely replacement of pumps and adjustment of symptomatic therapy. If the patient had any questions, she was able to contact the doctor as soon as possible. Subjectively the woman was extremely satisfied, as she was able to be at home with her loved ones and her pain syndrome was managed at the same level as in the hospital (the patient regularly gave a pain score of 4-5 on the VAS). Her relatives had also noticed an improvement in her emotional status after she had been discharged, which was very unfortunate as her condition gradually worsened and they decided with the doctor to keep her at home until she died. They stayed in contact with the doctor while her condition was worsening. Despite the sad outcome, the relatives were happy to spend the last days of their loved one's life with her.<sup>14</sup>

## Conclusions

Teleconsultation is an effective modern method for interacting with medical professionals and providing timely consultations for the correction of therapy or selection of pain management. With the introduction of video counseling, it is possible to get advice from a medical professional almost immediately. The patient begins to receive the necessary treatment as soon as possible, while the doctor and nurse are able to monitor the technique and correct use of various medications in real time and, if necessary, provide instruction.

During consultations, 91% of patients noted that the visual contact using a video link with the doctor who conducted the consultation was not inferior to a visit at home. The use of a video link made non-verbal communication possible. When the specialist sees the patient, he reads his emotions on his face. In addition to the situational context, this allows him or her to objectively assess the patient's condition. Being in familiar environment under the care of medical professionals without the need to be in the hospital allows the patient to control the situation and feel more comfortable.

Close patient-doctor-relatives interaction allows for team decision-making regarding further treatment, and the use of telemedicine applications can strengthen the relationship between patients and healthcare providers. It should also be remembered that more patients can be assisted per day in this way, as well as patients in remote areas where daily visits are difficult.

Our experience shows that using telemedicine technology patients were satisfied with the care provided, their adherence to treatment increased, and pain relief was achieved in a shorter time. This is evidenced by the results of a survey of patients and family members on satisfaction with the provision of palliative care using video counseling. Among the 23 patients in need of home care, 17 patients were surveyed. In addition, 21 caregivers who were present during the video consultations participated in the survey. The survey showed that 96.2% of patients and 100% of caregivers felt comfortable and continued further communication with medical staff through teleconsultation.

The potential benefits of teleconsultation are that there is no intrusion into the personal space of the family (the family is not faced with the need to "receive guests", at the same time there is an opportunity to directly observe what is happening during the consultation). Telemedicine provides a rapid access to the consultation (24 hours a day, without waiting) and becomes a solution

for the relatives of the patient, who have difficulties to adjust their stay at home to the scheduled visits of the doctor (effective way for the doctor and the family). Telemedicine improves access to palliative care services in the community for those patients who prefer to stay at home with their relatives, increases the availability of palliative care after hours (nights, weekends) and reduces the number of hospitalizations for effective pain management.<sup>15</sup>

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## Conflicts of interest

The authors declare that there are no conflicts of interest.

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