

Review Article

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## Occupational cancers management, via telehealth opportunities

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### ABSTRACT

Because of the importance and huge burden of occupational cancers for the population today, health policy makers should look for innovative and cost effective ways to manage these diseases. Information technology bases such as telehealth have prominent impacts in many areas of medicine. Telehealth approaches including teleoncology and teleoccupational therapy are the solutions that help to provide quick access to high quality services for cancer patients in remote areas. The most important impact of telehealth methods is enhancing care cost-effectiveness and eliminating the disparities in access to cancer care for cancer patient. For the reasons mentioned it is necessary to use telehealth in occupational cancer care same as other fields of cancer. In this paper application of telehealth opportunities in occupational cancers have been described.

**Keywords:** Occupational cancer, Telehealth, Teleoccupational therapy, Teleoncology

### INTRODUCTION

Cancer is a major cause of death in the world with high health priority and has become an important issue in public health.<sup>1-3</sup> According to GLOBOCAN 2012 estimations, there were about 14.1 million new cancer cases, 8.2 million cancer deaths and 32.6 million people who living with cancer (within 5 years of diagnosis) in 2012 worldwide.<sup>4</sup> Occupational cancer is occurred due to exposure to many environmental and occupational factors including biological, chemical and physical carcinogens.<sup>5-8</sup>

Statistics show that 19% of all cancers are related to environmental factors such as work setting resulting in 1.3 million deaths each year; and 3-6% of all cancers in the world are occurred due to exposures to carcinogens in the workplace that is significant part of all cancers.<sup>9-11</sup> In order to achieve the WHO objectives, by 2025, applying health system in occupational cancer management is inevitable.<sup>12</sup> For this reason it is critical for all health

policy makers to have strategies and plans to address this issue because early detection, treatment and rehabilitation of cancers can lessen mortality and morbidity rate and improve cancer patient's quality of life.<sup>13-15</sup>

Therefore we need innovative information systems such as telehealth opportunities to manage and control of occupational cancers.<sup>16,17</sup> This paper represents telehealth approaches including teleoccupational and teleoncology to help achieving this purpose.

### TELEHEALTH OPPORTUNITIES IN OCCUPATIONAL CANCER

Health care systems should look for means to enhance health care efficiency.<sup>18,19</sup> The limited access to cancer care and cancer patient continues travelling between home and hospitals imposes high costs to patient and families and have undesirable emotionally effect on them

so reduce their quality of life.<sup>20</sup> With the use of new technologies it is possible to change the way of cancer care delivery to patients and their families.

It is obvious that telehealth is a significant part of the health care system.<sup>21</sup> In remote areas access to preventing, diagnostic, therapeutic and palliative cancer care is very difficult and sometimes impossible; therefore use of telehealth for patients and providers in occupational cancer facilitates access to health services and increase efficiency of care, reduce the cost of health care services and increase the availability of health care providers in remote areas.<sup>23-25</sup>

Telehealth includes many scopes such as telemedicine, telenursing, telesurgery, teledentistry, telepharmacy, teleoncology and teleoccupational medicine. It is a new approach in information technology that means providing health-care services at long by using telecommunication to connect health care centers and patients in remote areas and with lowest training needs for users and personnel.<sup>26,27</sup> Telehealth have been used to consultations, training, supervision, and educational purposes.

Telehealth has many benefits such as increase the rural people access to professional services, reduce feelings of isolation in them, improve self-care, increase the quality of health care, reduce the costs of health care improve health-related quality of life, decrease patients costs, outpatient visits and hospitalization.<sup>28-31</sup> Studies show that the use of telehealth in cancer patients increases the satisfactions of participants in cancer care processes.<sup>32</sup>

### **Teleoccupational therapy and telerehabilitation**

For people who don't have quick and easy access to occupational therapy services because of long distances or lack of time, teleoccupational therapy is an appropriate solution and can be used for evaluation, intervention, monitoring, supervision, and consultation of occupational therapy related issues.<sup>33</sup> Teleoccupational therapy can apply to treatment and control occupational cancers. In cancer care teleoccupational therapy is the remote delivery of cancer care and services via information technology that are used for diagnosis, follow-up and emergency consultations, monitoring of injuries and pain management.<sup>34</sup> American Occupational Therapy Association (AOTA) recommended to health organization using telehealth for occupational therapy because of its many advantages.<sup>25</sup> Applying telehealth in occupational disease increase and facilitate interaction between patients and providers.<sup>35</sup>

One of the applications of telehealth in treatment and follow up the occupational cancers is telerehabilitation that is a modern technology provides rehabilitation services such as occupational therapy to patients in long-distance.<sup>36</sup> Telerehabilitation is useful and comfortable method that enhances the satisfaction of participants, reduces time and cost barriers, increases of consultation

time and effectiveness of treatments, improves quality of decision making and quality of life.<sup>37-39</sup> Studies show that telerehabilitation and traditional rehabilitation have the same clinical outcomes and use of telerehabilitation in cancer care process increases the cancer patients quality of life.<sup>40</sup>

### **Teleoncology**

In recent years teleoncology has been receiving much attention by practitioners. Safe and high quality follow-up in the occupational cancer through use of teleoncology approaches has been grown. Teleoncology is the use of telemedicine in oncology and cancer care area including diagnosis, treatment, and follow up from distance.<sup>41-43</sup>

The main benefits of teleoncology is elimination of disparities in access to cancer care, quick receive the oncology services, provide consultation to patient in remote area, present emergency medical care at patient homes, provide more comfortability and teleeducation for patients and providers, increase safety of chemotherapy, enhance patient and health professional satisfactions, reduce patient travel, complication of chemotherapy and lessen waiting time to receive services, represent timely and high quality information and promote medical information management.<sup>22,42,44-50</sup>

In teleoncology there is no need for face to face between the patient and doctor and health service can be delivered via methods such as videoconferencing, web-based methods and mobile technologies.<sup>20</sup> Limitations of teleoncology are the lack of participant training, high initial costs, inappropriate infrastructure and insufficient human resources.

Since the high quality cancer care required continuous communication between patients and physician, using teleoncology can be great suggestion to health care policymaker.

### **CONCLUSION**

With regard to growing occupational cancer patients rates and their needs to health services it is necessary to seek means such as information technology innovations to address these issues and provide better and fair health services in occupational cancer care. In health care information and communication technology including telehealth are used for exchange health information and communications between practitioners. Telehealth can be used for remote delivery of occupational services for who need it. In occupational cancer care monitoring patient in remote area by telehealth can reduce the need for face to face visits, medical care costs and improve efficiency of care. It also reduces economic, social and cultural barriers. Teleoccupational therapy and teleoncology are two instances of telehealth that help achieving mentioned purposes. Studies show that applying teleoncology in cancer care centers has satisfactory and positive results.

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