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Conference Abstract

The development of telerehabilitation in China: a systematic survey

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Abstract

Background: In China, 70 million people suffer from chronic diseases and call for timely rehabilitation service [1]. This number is estimated to grow over 50% of the whole population by the year 2030 [2]. However, current medical resources cannot meet such huge demand. Furthermore, the distribution of these resources in China is not equal. Most of the rehabilitation professionals are centered in large tier 3 hospitals of the big cities. One of the studies shows that about 56% of local community hospitals do not have department of rehabilitation, and most community rehabilitation professionals are primary physicians, only one-fourth of them receive formal rehabilitation education and training [3]. Telerehabilitation, which provides timely rehabilitation services and education, was hence expected to meet this challenge.

Aim: Through this systematic review, we aimed to understand the status of development of telerehabilitation in China, to discuss whether telerehabilitation is conducive to meet the challenges of Chinese rehabilitation service.

Methods: A systematic review was conducted on the development status of Chinese telerehabilitation. The major representative databases were searched: *PubMed*, *CNKI*, *Wanfang*, and *CQVIP*. Additionally, we searched for published research protocols, conference proceedings and governmental reports on telerehabilitation since 2009.

Findings and discussions: We have identified several large-scale telemedicine systems in China [4]. These systems have established a telecommunication platform for diagnose and supervision between tier 3 hospitals and other smaller hospitals. Patients and doctors hence can seek advice online from experienced rehabilitation specialist distantly. In addition, a growing number of telerehabilitation technologies are emerged in China, such as computer aided rehabilitation evaluation system based on the neural function assessment scale, cognitive rehabilitation training system based on virtual reality technology, exoskeleton remote rehabilitation system based on browser/server structure and rehabilitation robotics [5-12]. This indicates that telerehabilitation technology is receiving a growing attention in China. However, it is suggested that there should be more large scale random control trial in relation to the implementation of the technology. Evaluation on its economic effect should also be performed.

Telerehabilitation can significantly reduce the rate of disability and death due to recurrence, raise enthusiasm of patients during rehabilitation training, and improve motor function and quality of life [13,14]. In terms of improving certain dysfunction, telerehabilitation is better than routine rehabilitation therapy [15-18]. This finding has provided evidences on the clinical benefits of the technology to patients. It is advised that hospitals, as well as the administrations in China should realize the potentials of this type of technology. It is argued that the technology will have a positive effect on minimizing the gap between different regions due to the imbalanced allocation of medical resources [19-21].

Conclusions: Telerehabilitation is very meaningful for the development of Chinese healthcare system, especially on the quality of care and equal distribution of rehabilitation resources. More research with different aspects should be performed to show its significance.

Keywords

telerehabilitation; China; telemedicine; systematic review

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