

Improving the Quality and Cost-effectiveness of Elderly Care in a Subvented Nursing Home Through Telemedicine

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Introduction:

Nursing home elderly are frail with frequent sudden change in condition, which causes high hospital utilization. Telemedicine has been studied in various discipline of medicine but randomised studies are lacking. The project aimed at fulfilling this task.

Purpose of the Project:

The objective of this study is to determine the effectiveness of telemedicine system on the feasibility, satisfaction, clinical outcomes and possible cost saving among nursing home residents.

Material & Methods:

A prospective randomised controlled trial was conducted in a nine-storeyed local nursing home (Buddhist Li Ka Shing Care-and-attention Home for the Elderly) since July 2002. A total of 257 residents were randomised by floor to the telemedicine group (n=106) and conventional group (n=151). The conventional group continued their usual clinical activities (on-site doctor's clinic and ad hoc phone consultations), while the telemedicine group had the activities conducted through real-time videoconferencing. Both groups had their demographic data compared. Clinical outcomes data were collected from July 2002 to Nov 2002 and were compared. Feasibility and satisfaction survey as well as cost analysis were conducted.

Results:

Basic demographic data were comparable between the two groups, except that the telemedicine group had a slightly higher number of medication intake (4.58 vs 3.89; $p=0.049$). For the clinical outcomes data (per 100 patients), there was marked decrease in the total AED attendance (22.59 vs 42.85; 47.28% decrease) and the total number of emergency admission (17.85 vs 37.50; 52.4% decrease) in the telemedicine group. The total length of hospital stay was also decreased in the telemedicine group (282.03 days vs 311.81 days; 9.55% decrease). Most of the cases were considered feasible by telemedicine. Of the 237 consultations, only 11 consultations were considered not feasible by telemedicine (4.64%). Health professionals, nursing home staffs and patients were generally satisfied with the telemedicine service with the exception that nursing home staffs felt to have increased workload. There was a cost saving of about HKD\$150,000 in the telemedicine group during this 5-months period.

Conclusions:

The use of telemedicine system is feasible in the geriatric community care of nursing home residents with good level of satisfaction. It also generates positive clinical outcomes and is cost saving. Telemedicine service is able to improve the quality and cost-effectiveness of geriatric community care of nursing home residents.