

Assessing effectiveness of telemedicine intervention for creating awareness of pain education in rural areas of Central India

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Abstract

Introduction: Pain and palliative care is a growing need of the current healthcare system. This is because of the changing trends of disease related morbidity and mortality from acute communicable disease to chronic non communicable diseases. Development and easy availability of telecommunication mediums may be useful for creating awareness of pain and palliative care education in rural Indian setting. **Material and Method:** We tried to assess effectiveness of telemedicine intervention for creating awareness of pain education in rural area of Central India. Total of five villages were connected through high speed broadband services to a tertiary care centre (LN Medical College Bhopal). This medical college acted as a nodal centre for the peripheral rural areas for providing telemedicine intervention. **Results:** Telemedicine appears to be an effective and acceptable mode of creating awareness of pain and palliative care in rural population of Central India. **Conclusion:** Telemedicine interventions may be able to bridge the gap between rural and urban part of Central India and may prove to be useful in low resource setting.

Keywords: Pain and Palliative Care, Telemedicine, Pain education, Awareness, Non communicable diseases

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Introduction

Pain and Palliative care is a growing need of the current healthcare system. This is because of the changing trends of disease related morbidity and mortality from acute communicable disease to chronic non communicable diseases [1,2,3].

Pain and Palliative care has been recognized by World Health Organization (WHO) and defined as an approach which improves the quality of life of the patients and their families facing life threatening illness through prevention and relief of suffering by means of early identification and impeccable assessment and treatment of pain and other problems as physical, psychosocial and spiritual [4]. Lack of awareness has been found for pain education across the developing countries like India in rural population except in South India where majority of population is aware of pain and palliative care. In Central India there is no such model for awareness of population for pain

education. The need of awareness for pain education is growing in view of increased incidence of non communicable diseases accounting for around 62% of total disease burden and nearly 50% mortality in India as in 2004 [5].

The improvement in life expectancy of Indian population is leading to increase in percentage geriatric population which subsequently need the services of pain and palliative care healthcare personals [6,7,8,9]. India is witnessing increase in healthcare facilities but they are predominantly mushrooming in metro cities and urban areas. Basic healthcare needs of rural populations are yet to be fulfilled. The non communicable diseases like coronary artery disease, hypertension, diabetes, cancers, end stage renal disease, heart failure etc have not spared the rural India and are contributing to the disease burden significantly.

The need of spreading awareness about education of pain and palliative care is initial step in providing better health care service and end of life

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care to the rural population. The National Program for Prevention and Control of Cancer, Diabetes, Cardiovascular disease and Stroke is run by government of India also focus on establishing and developing capacity for pain, palliative and rehabilitation care. There are several barriers in implementing the pain and palliative care service to the remote rural areas which need to be identified and accordingly policies need to be designed for the large population of rural areas. The common barriers may be very less number of pain and palliative care specialist, availability of services only at tertiary care centers, poor connectivity of remote rural population with road, train or air, illiteracy, poor or no government policy framework, lack of awareness about pain and palliative care services even among doctors and paramedical staff in rural areas etc.

Hence we need to do workup about the explored and unexplored barriers in order to improve the availability and access of pain and palliative care services to the remote rural population of the country. For this we need to create connection between doctors at rural area and specialist pain and palliative care physician which may help to overcome the barriers of means of transportation and hence patient need not to come to tertiary care centre of each and every problem. The widespread availability of advanced telecom technology has made the connection between doctor in periphery and specialist pain and palliative care physician very much possible. Taking these things in consideration we wanted to assess the effectiveness of telemedicine in contributing towards improving awareness of pain and palliative care medicine.

We planned our study with the following objectives

1. To identify the use of telemedicine intervention for creating awareness for pain and palliative care for rural population in central India.
2. To assess their effectiveness.
3. To identify provider and user acceptability and feasibility of these interventions to form a suitable guideline and model for promotion and development of pain and palliative care education in rural population in central India.

Material and Method

This study is a cross-sectional, observational survey involving five villages in central India.

Inclusion criteria: villages having facility of high speed broadband connections located in Central India.

Exclusion criteria: inadequate connectivity or poor facility of high speed internet facility in the village.

Participants: They were the people residing in these villages.

Total of five villages included in this project based on availability of facility of high speed broadband connection. The primary care physicians available in the village were enrolled and one room is taken and facility for video conferencing developed for telemedicine. These villages connected through a tertiary care centre (LN Medical College Bhopal) which acts as a nodal centre for telemedicine intervention.

Different telemedicine interventions were used for awareness like videoconferencing, telephonic advice and support services, Small mobile what's up group for each village, online educational program through website etc. Once in a month these villages are supposed to organize an awareness campaign this centre which is connected to tertiary care centre and a talk with video film for awareness of pain is being telecast through webcast.

No statistical tests were employed as it was an observational survey for feasibility, acceptability and effectiveness of telemedicine.

Results

The project was continued for a period of one year and the results were seen in terms of feasibility and effectiveness of the telemedicine intervention. These interventions were found to improve communications among health care workers and rural population. They were able to express them in more effective way.

The treatment modalities were explained to them through various means and the acceptability was improved when things were offered after making them aware about the details and goals of treatment modalities. Majority of them were able to understand various methods and goals of treatment including palliative and rehabilitative care.

The telemedicine interventions were found to improve awareness about pain and palliative care. People in the villages were found to be very curious about the new modalities available for diagnostic and treatment of serious conditions like cancer, cardiovascular, renal conditions. People showed great enthusiasm in knowing about early identification of serious conditions and how it help to reduce morbidity and mortality related to serious conditions. They were also keen to know and understand various risk factors responsible for development and progression of chronic not curable conditions like advanced malignancies, cardiovascular, neurological and renal conditions. They were clearer in their understanding of objectives of treatment involving the improvement in quality of life care. The study also boosted self confidence of caregiver and professionals at rural places as they felt connected to higher centre and may be able to find help in case if they need it. The study has shown promising results in terms of reducing the barriers of means of transportation. The cost implications are also favorable and this model may be useful in imparting healthcare services with better outcome.

Discussion

Health care services for all still seem as distant reality in a huge country like India. The widespread reach of basic healthcare is still a tough fight for our country. Although we are able to provide satisfactory awareness and treatment modalities for infectious disease to even distant areas through wide spread national program but the same remain untrue when it comes to the other segment of non communicable diseases [10,11,12].

We in India have very limited resources in terms of number of healthcare workers including specialist doctors and paramedical staff. This is very unfortunate but true that majority of our resources whatever are available to the country are crowded in and around the urban areas [13,14,15]. This becomes a challenge to impart services to huge population of 1250 million people. Despite of best possible efforts to increase number of doctors through opening of new medical colleges, these efforts still remain inadequate in consideration to growing complexity of healthcare spectrum and huge population of country. The challenge of improving healthcare facilities is huge and complex and hence effort has to be done to overcome the

possible barriers for same. Apart from improving manpower and infrastructure we need to find out all possible ways to reach to the goal.

Improving awareness remains a very good and effective tool to help in solving health related issues. Technology remain one very powerful tool in current time [16]. With the widespread availability and acceptability of telecommunication technology, telemedicine appear to be promising in current scenario. With the better availability of telecommunication technology at least some barriers may be breached if not all. The project also gives insight regarding better utilization of available resources. The specialist doctor sitting at tertiary level may be able to assist the primary care physician serving in rural areas. This model also provides better accessibility of specialist service at multiple peripheral areas. It encourages patients and caregivers involvement in plan of management of disease symptoms and removes fear among patients, caregiver and professionals at rural area and hence improves self confidence of patients, relatives and professionals at rural areas.

Treatment cost has profound implications in any part of world but especially so in cases of developing countries with huge population like India [17,18,19]. This project tries reduces cost, travel time and psychological burden of travelling.

Last but not the least the project also help to meets the educational goals in creating awareness of pain and palliative care.

Conclusion

1. Telemedicine appears to be an effective and acceptable mode of creating awareness of pain and palliative care in rural population of Central India.
2. Rural population is showing great enthusiasm in this project.
3. Telemedicine as a tool for creating awareness of pain and palliative care education is a useful & convenient.
4. This project creates need for development of a policy for creating awareness of pain and palliative care services in rural areas of Madhya Pradesh.

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