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A STUDY OF TELEMEDICINE IN PUNJAB: SCOPE AND CHALLENGES IN IMPLEMENTATION

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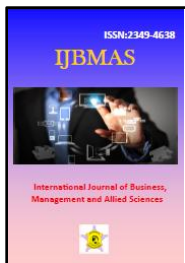
ABSTRACT

Telemedicine is becoming more familiar concept and provide a boom for Indian health care sector. It has the ability to fill the gap between demand of healthcare services and supply of limited manpower and infrastructure in healthcare, especially for people residing in remote and rural areas. Punjab state is geographically and economically diversified. The state already has been passing through various problems such as rapidly increasing population, lack of sufficient transportation, illiteracy and low budget for healthcare. In such a scenario, the telemedicine has emerged as a life line to serve the people at large. The features like easy accessibility and highly economical are bagged into the merit list of telemedicine services. The present study aimed to access various government initiatives taken under telemedicine in Punjab and also to address the issues in implementation of telemedicine. The study has used both primary as well as secondary data to study the problem and to understand view point of telemedicine service providers. The survey was conducted at different telemedicine centres. The study reveals that telemedicine services have not shown remarkable achievements in Punjab, however most of the telemedicine centres are still working hard to survive. The study explores various problems in detail that are required to be overcome to bring the telemedicine at the expected level.

Keywords: Healthcare, Telemedicine, e- governance, e-healthcare

1. Introduction

The Indian healthcare sector is rapidly growing however the expenditure on healthcare is still lowest as compared to developed nations. Accessibility and quality in healthcare services are still considerable challenges to be addressed. The private and government institutions need to play a significant role to enhance the level of medical and healthcare services. The efforts of government in providing basic health care services to people is inadequate. The economical barrier is one of the key hindrances to achieve the said goal. It is a known fact that majority of population belongs to the rural areas where public healthcare services are very limited. The low household income, illness, non insurability and fewer assets add to their vulnerability. The economic and social development of a country is heavily dependent on health status of the people (B. S. Bedi et al. 2009). But, Punjab

government itself is facing the problem like scarcity of funds, non seriousness and poor governance. To overcome such economical problem Telemedicine has emerged as new platform to serve rural masses with more economical, convenient and timely treatment. However, there are few initiatives taken by the government and private undertaking stakeholder in this field but telemedicine is still far away to find recognizable place in healthcare service sector. The present study was an attempt to study various initiatives in field of telemedicine and to analyze various factors associated with growth of telemedicine in Punjab.

The fusion of IT and medical science leads to the growth of Telemedicine services i.e. delivering health care from distance. The Telemedicine services are endowed with information, communication and high-Tech technologies that offer qualitative healthcare to large population residing at far-off places where distance is a critical factor(Bangert D. et al. 2003)..

2. Health care scenario in Punjab

The estimated midyear population of Punjab for the year 2017 is 3, 02, 24,148 (3.02 Crore). Comparatively to available health care infrastructure it is very difficult to serve such a huge widely spread population across India. The cooperation among these public and private sectors can play vital role in enhancement of Tele health services but due to low return on investment, private investors hesitate for investing in rural areas Mostly, the private investors target urban population that results in inequality in service of healthcare on the basis of categories such rural and urban areas. Unequal investment also widens the regional disparity.

The health care services are organized into three tier health care systems comprising of primary, secondary and tertiary health care system. The first tier deals with the primary health care at village level wherein only basic health services are provided. The second tier deals with the secondary health services at district level whereas the third tier covers health care services in major urban cities where super specialty health care services are available.

3. Telemedicine in Punjab

The current health care scenario of Punjab is in transient state where traditional medical practices are transforming into new technology based medical practices. But providing good quality healthcare to all is a big challenge for the government with limited funds. In such scenario, the government has taken initiative to serve patient by new technology, called telemedicine. The telemedicine is a platform to treat the patients with help of information and communication technology (Bashshur R. et al., 2002). In this healthcare model, the hospitals located in village or remote area where super specialist doctors are not available, are linked with super specialist hospitals through internet connection**.** Indian Space Research Organization (ISRO) provides satellite services to ensure high speed connectivity for sharing electronic medical records. The government of Punjab has initiated 25 Telemedicine centres in different districts covering 12,673 villages. In Punjab, the first telemedicine project was started at PGI Chandigarh (Shekh 2013). In the first phase of this project three hospitals each from Patiala, Dasuya and Ajnala region were linked with Post Graduate Institution of Medical Education and Research (PGIMER) Chandigarh, through a very small aperture terminal (V-SAT). Following are few services available at telemedicine centre in Punjab.

Table 1: various services under Telemedicine

Branch	Description
Telepathology	Telepathology is the branch of Telemedicine that is helpful in transmission of pathology reports from one place to distant place. It uses ICT based technology to facilitate the transfer pathology data in the form of images for the purposes of treatment, education and research (Bashshur R. et al. ,2005).
Tele-radiology	Teleradiology deals with activities related with transmission and sharing of radiological images of patients for example X-rays, MRIs, ST scan details etc.
	Tele-education has emerged as new media of receiving education or

Tele-education	instructions by video conferencing over the Internet. ISRO launched EDUSAT', which is India's first exclusive satellite launched for educational services
Tele-monitoring	Tele-mentoring provide remote access to the live information of patient to doctor remotely.

4. Challenges of Telemedicine

The Telemedicine is at toddler stage and has not established as independent faculty. The various centre were setup to provide healthcare facilities through telemedicine. But various difficulties are being faced by the practitioners some of them which are more dominant are discussed below as:

- **Lack of confidence among doctors:** Some doctors themselves are not fully convinced about the results of Tele-consultations. They hesitate to ask for expert opinion from their colleagues and friends. The excessive delay in response time makes the situation worse.

- **Lack of confidence among Patients:** The confidence of patient in outcome of Tele-consultation is very weak. They still prefer to get treatment by visiting doctor personally.

- **Lack of Financial support:** Implementation of TM technology costs too high. Without cooperation from private sector such heavy investment seems unfeasible.

- **Poor basic amenities in rural areas:** In India, majority of population lives below the poverty line. The basic amenities like electricity, safe drinking water, primary medical facilities, telecommunication, safe drinking water etc. are missing particularly in the rural areas. To implement TM basic amenities are required.

- **High illiteracy rate:** The literacy rate in India is very low and among them very few are well-versed in English. Motivating and inspiring illiterate people to get treatment under Telemedicine are indeed a difficult task.

- **Non-standardized tools:** The treatment under Telemedicine is solely dependent on the technologies used. The regular up gradation of software and hardware are required for correct diagnosis of problems. For accurate diagnosis advanced biological sensors and internet with high band width support is also needed.

- **Quality aspect:** The essence of health care under Telemedicine is Quality. Everyone expects qualitative health care facilities despite of the fact whether they live in rural or urban areas. But there are no proper guidelines issued by proper authority in respect of conduct and implementation of TM activities. It is solely left on the Institutes how they take it.

- **Lack of support from the government:** The Telemedicine technology is in nascent stage in Punjab. As it is a new technology it requires care and support. But due to limited recourses fewer initiatives have been taken by government.

The telemedicine services are being provided at district level government hospital and majority of patients are found unaware about the telemedicine. The medical staffs involved in telemedicine are putting their best to bring the awareness masses and recommend as many as cases to the telemedicine centers.

5. Conclusion

Telemedicine has emerged as new platform to serve people of Punjab. The government has taken various initiatives at government hospitals to run telemedicine centre and appointed nodal officer to manage the affairs. But still it has not so popular among the masses and are starving to make its position in health care sector. The study concluded that the people at large are unaware about the facilities of telemedicine and lack of facilities at telemedicine centre further contribute into low popularity of telemedicine services in Punjab. There is need to put efforts to make aware people about new platform of treatment and also huge investment of sufficient funds is required to run telemedicine center smoothly.

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