

mHEALTH WITH AYURVEDA FOR HP

ArvindRehalia, Dr SVAV Prasad, Dr. Ashok Bhardwaj
 prasad.svav@gmail.com drashokchoudhary@gmail.com rehaliaarvind@gmail.com

ABSTRACT

Ayurveda is one of the oldest branches of medical science .As we know mobile and wireless technologies are contributing in development of many countries across the world in many ways. There is another way in which this growth can be accelerated that is use of the mobile and wireless technologies. Physician needs a accurate reading of the human parameters for the detection of any disease in the patient. This paper proposes the concept of implementing mHealth with Ayurveda. This method will help in providing support to our Ayurveda facility and make the medical system more accurate. This will provide the health services in remote areas, slums and hilly areas where there is no medical facility.

Keywords : mHealth, Ayurveda

1. INTRODUCTION

Cellular Communication

Mobile has created a new boom in the society. The number of mobile phone subscriptions worldwide has reached 4.6 billion and is expected to increase to five billion by 2010. Mobile phone providers in rich countries offer advanced services and handsets, while people in developing countries increasingly use the mobile phone for health.

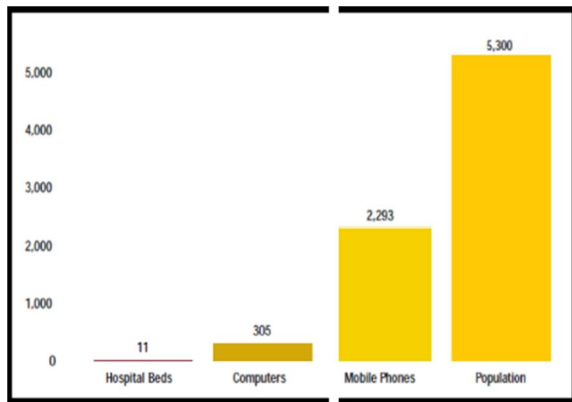


Figure. 1. Technology and health infrastructure statistics for developing countries (in millions) [United Nations Foundation ,2009]

So we can use this system for the improvement of the health of people. Fig.1 shows the

technology and health infrastructure for developing countries.

2. RESEARCH METHODOLOGY

Himachal Pradesh

Himachal Pradesh is a state in the north of India having area of 55673 km square. Having total population of 6856509. Having census villages 20690 and inhabited villages 17495 rural population 6167805 and urban population 6,88,704. There are 12 districts in HP. These are Kangra, Hamirpur, Mandi, Bilaspur, Una, Chamba, Lahul and Spiti, Sirmaur, Kinnaur, Kullu, Solan and Shimla. There are one ayurvedic medical colleges in H P Government Ayurvedic College, Paprola.

mHealth

mHealth system will provide specialized medical services to remote communities, tele-consultation on the move, and on-line telemedicine services. An mHealth system is intended to provide medical services any time anywhere. The mHealth system combines portable biomedical instruments (PBI) with advanced telecommunication systems where PBIs based on low power mixed signal microcontroller and wireless devices allow medical staff with basic training to install and record the vital signals of patients on remote locations, on the move and at small clinics for on-line tele-consultation. The m-Health services will be available to the patients depending on demanded

services, locations and availability of telecommunications systems.

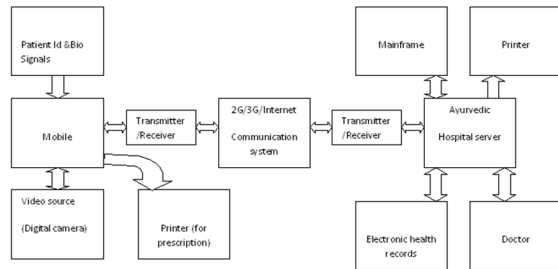


Fig.2 mHealth model

Figure.2 mHealth model

Patient id

Every patient will be detected by fingerprint biometric. When patient enters the finger in the biometric patient whole record will be displayed on the screen.

Bio signals

Bio signals are the signals received from the portable biomedical instruments. There will be non invasive sensor for detecting human disease.

Video source

In case of 3G we can transmit video signal also which can help the doctor in proper diagnosis. In other case we can send the clip of the patient using MMS.

Printer

Printer is used on both sides at the remote end and the hospital end for the printing purposes.

Analyzer

Analyzer here is specialist who will diagnose the disease in the patient and using mHealth for his post give the prescription according to the patient conditions.

Main frame

Mainframes are mainly a powerful computers used by corporate and governmental organizations for big applications, bulk data processing. here it is used for the storage of data i.e electronic health records.

Electronic health records

An electronic health record (EHR) which is sometimes also called as electronic patient record (EPR) is a concept which can be defined as an organised and systematic collection of patient's health information electronically. It is a record in digital format and is capable of being shared across different health care units with the help of network connected information systems. These records generally include a whole range of data including their basic details or demographics of patient, their medical history, medication status, allergies, laboratory test results, radiology images, vital signs or symptoms of the disease.

Image formats

An image is a two dimensional signal. Image is the pictorial representation of memories. An image file format can store data in uncompressed, compressed and vector formats. There are various kind of digital image formats supported by the mobile. Tagged Image File Format (TIFF) .tiff, .tif, Joint Photographic Experts Group (JPEG).jpg, .jpeg, Graphic Interchange Format (GIF).gif, Portable Network Graphic (PNG).png, Windows Bitmap Format (DIB).bmp, .BMPf, Windows Icon Format .ico, Windows Cursor.cur, XWindow bitmap .xbm.

Ayurveda

Ayurveda : To save the life for longtime.

Ayus : We maintain our life safe and sound for long time

Vedas : Mean study of Medicines.

This study of Vedas started from Vedic age in India which in discovered from various sources from mid first millennium BCE to about 500 CE they made practice number of medicine and surgical procedures for the treatment of various diseases. The history of ayurveda started from 1500 BC which is connected with Hindu religion known as atheraveda it contains

114 Hymns. Hymns mean the sings praise to God which gives us relief to mind if mind is balance whole body will also sound. If our mind will sound the whole body will be sound. By Ayurveda we learn different kind's medicine for different diseases and natural medical science in positive and negative position. In early period we take fine elements:

- Prithvi
- Jala
- Agini
- Bayu
- Akas

That fine element from which human Body is Built Plasma Cycle of (1) Rasudhatn Blood (2) Raktadhathn flesh (3) Ma Sandhatu) (4) Fat (Meahadhatu) (5) Bone (asthidhatu) (6) Marrow (majjadhatu) and (7) Male and female tissues (saphadhatu). The Body of Human being made from these seven dhatu.

The Ayurveda Believes there are energies elements (1) Wind (2) Bile (3)phlegm if these three elements are in Balance. The body will be Healthy if these elements are in equal. If they are not equal the Body is unhealthy. In Ayurveda there is 20 fundamental qualities

In Mahabharata ayurveda they divided in eight Components

1. Kaya Cikitra (Internal medicine) these medicines used in internal diseases i.e. cholera, Malaria. Pncumouia.etc
2. Paediatrics (Kaumarabhtyam)
3. Surgery (Salyacikitra by operation Accident's, Alrar, Heart problems etc. We gave relief to patient
4. Eye Ent (Salakantra)
5. Bhvavidya
6. Toxicology
7. Prenentuin disease

Srotas: By Source of Curing the disease

In Ayurveda they open the nerve (1) By sweating (2) Stream based treatment for transporting the medicine to disease from one side to another side of the body disease like epilepsy, autism (3) Paralysis.

In India: Most of the people of India take the Ayurveda Medicines and other also in 1970 Indian Medical Central Council Act standardize qualification for Ayurveda which is passed by parliament of India in to colleges offered for student for research the medicines according the disease. The state sponsored Central Council for Research in Ayurveda Science has been set research subject. There are more than 100 colleges offer degrees in traditional BAMS which Bachelor in ayurveda , medicine and surgery in India. In 2001 Government of India set up Traditional Knowledge of various System and 50 books of various systems of medicine in unani siddha. Books are digitalized online. Central Council of Indian Medicine a statutory body established in 1971 in Ayurveda. This is concern with Naturopathy. The Ayurveda clinics are run by professional doctors outside Indian?

Several institutions

1. WHO: That is open for Ayurveda practitioners.
2. The European Federation.

The European Ayurvedic Association. Methodology Patient end

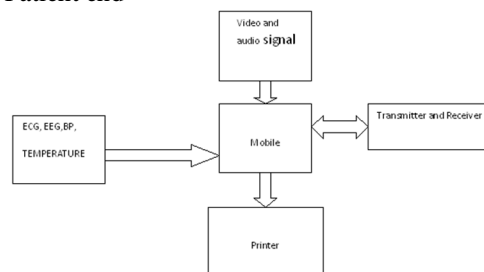


Figure.3 Patient end system

This diagram shows the interface of mobile with PBI's. This system will be available with the patient. After take basic reading of the patient data will be send to the hospital on doctor and operator mobile using sms, mms, image, e-mail etc.

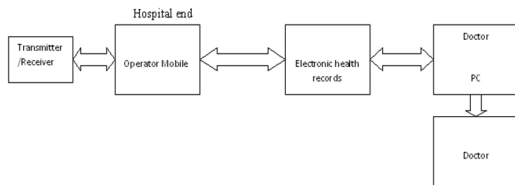


Figure.4 Hospital end system

At the hospital operator will upgrade the EPR at the hospital server. Operator will receive the data from patient and the doctor and upgrade the data base.

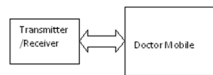


Figure.5 doctor module

Doctor will receive the data of patient, checks his history on his computer and reply his suggestions to patient and the operator. Operator will again upgrade data on the data base. All these data's can be send to doctors on doctors mHealth module like mobile, tablet PC etc.

Whole processes

Patient:

Patient has to go to the hospital. He has to fill the form in the hospital. That form is given to the receptionist. Receptionist will give a slip to the patient on which following information will be given.

Registration: Name :SanjeevKumar

patient mobile: 9817289654

Patient id: 13572

Server mobile number: 9716500000

Doctor name: Dr Rajesh

Doctor mobile number: 9416500000

The doctor number will vary according to the specialization of the doctor.

Doctors

Doctor name	Mobile number
General physician	
Dr. Ram	94xxxxxxxx
Dr. Sham	94xxxxxxxx
Cardiologist	
Dr. Sonu	94xxxxxxxx
Dr. Mohit	94xxxxxxxx
Surgeon	
Dr. Rana	94xxxxxxxx
Dr. Jeet	94xxxxxxxx

After first meet patient has to be in touch with doctor for post operative treatment. Patient will send the data to the doctor's mobile and operators mobile. Operator will upgrade the data in the EPR. The will reply his suggestions to both operator and the patient. The ERP will be available on the doctor PC in the hospital.

Merits

- This system will help us to provide medical facility in every part of the state.
- This system will provide job to opportunity to local people
- This system will help in checking the number of patients of particular disease like HIV, cancer, Polio etc.
- This system will help in removing various from the world.
- Patient does not need to revisit doctor
- This system will remove the chance of human error in the system
- This system will provide Ayurvedic treatment for society

Demerits

- Used only for pre and post operative treatments
- If data is wrong then prescription will be wrong
- Some technical knowledge is required to the patient

3. FUTURE SCOPE

As wireless technologies has created a revolution in the society. This concept can be used for



improving health sector. This will enhance the scope of Ayurveda in the world. This system can be used to make world free from diseases. It can be used to remove epidemics from the society. This concept can be used for developing for improving health sector. This model can be used in the other parts of the country. This model can be used to improve health facility in other developing countries also. This concept can be further converted into virtual hospitals.

REFERENCES

- [1]. Ping Yu, Ming X. Wu, Hui Yu, and Guo Q. Xiao (.2006)“The Challenges for The Adoption of M-Health “ IEEE international conference
- [2]. Pindter Medina J, Gonzalez Villarruel, Tovar Corona B 2009 “Proposal of M-HEALTH,” J E,” Technology de Monterrey, Campus Estado de Mexico. 2009
- [3]. United Nations Foundation. (2009). MHealth for Development. [Online]. Available: <http://www.unfoundation.org/globalissues/technology/mhealth-report.html>
- [4]. Wikipedia.com.
- [5]. Jim Black, Fernando Koch, Liz Sonenberg, Rens Scheepers, Ahsan Khandoker, Edgar Charry, Brian Walker, Nay Lin Soe (2009)” Mobile Solutions for Front-Line Health Workers in
- [6]. Developing Countries” , www.fernandokoch.me/docs/publications/Black2009-healthcom
http://upload.wikimedia.org/wikipedia/en/thumb/f/f2/Mobile_growth_india.svg/600px-Mobile_growth_india.svg.png
- [7]. Electronic health record overview, research report of the NIH
National Center for Research Resources, 2006
- [8]. ArvindRehalia , Dr. S V A V Prasad “eHealth model for Himachal Pradesh”IJMER : Volume 2, Issue 2 (Mar-Apr 2012) pg 253-258
- [9]. ArvindRehalia , Dr. S V A V Prasad “Proposed Mobile Cellular Communication Model For Health Monitoring In Himachal Pradesh”IJCRR : Volume 4, Issue 10 (May 2012) pg 6-12
- [10]. ArvindRehalia , Dr. S V A V Prasad “Proposal Of Data Capturing Device For GIS”iJARS/Vol.I/ Issue I/Mar-May, 2012/107
- [11]. ArvindRehalia , Dr. S V A V Prasad “mHealth Solution For Removing Anemia” LINGAYA’S JOURNAL OF PROFESSIONAL STUDIES (ISSN 0975-539X) July 2012
- [12]. ArvindRehalia , Dr. S V A V Prasad “Proposal of centralized electronic health record for developing mhealth in India” IJAEED (ISSN 2319-1112) NOV 2012 PP 237-242