A visit to observe the functioning of Digital Health Unit of PHFI at Chennai

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Introduction:

During the period, 18th November to 23rd November,2022, I visited Star Arogya Digi Seva Assisted Telemedicine Clinic, at 5th Main Road, Nanganallur, Chennai-600061 as a part of my INSA Visiting Scientist Fellowship Program. The visit to this clinic had been advised by Dr. Arun P Jose, Dy. Director at Centre for Digital Health, Public Health Foundation of India. At the time of my visit the clinic was being officiated by Medical Officer - Dr. Sethuraman, Project Coordinator - Mr. Deepak Kumar, Quality Assurance Officer - Ms. Anbumathi, Tele Nurse - Ms. Lavanya and Community Mobilizer - Ms. Shazeeba.

Fig. 1 With the members of the Clinic

As per my observation, the clinic was functioning as follows:

1. When a patient comes to the clinic for the first time, he/she has to meet with Quality Assurance Officer who collects all the demographic data. Apart from this, the reason of coming is sought for and any past medical history is recorded in a Tab with the help of Tia Tele PHFI platform which is a part of Digisahayam software developed by PHFI. All patients have to sign a consent form for tele-consultation.

Fig. 2 Consent Form   Fig. 3 Tab with Tia Tele Platform   Fig. 4 After opening Tia Tele

2. Then the patient meets the Medical Officer for consultation. The Medical Officer prescribes medicine. Alternately, if any specialized consultation is required, the Medical Officer at once refers the patient for tele-consultation . The patient is then shifted to a specific room having necessary arrangements for

telemedicine consultation with a specialised doctor. This doctor then prepares a prescription through Tia Tele PHFI platform using a laptop.

Fig. 5 Tele Consultation with Doctor and Patient

3. All the testing reports (if any) are uploaded by the tele nurse through the same platform using the tab. If a doctor need to hear chest sound of some of the patients, ECOSTETH is used to record patient's chest sound and uploaded immediately through the same platform for required diagnosis.
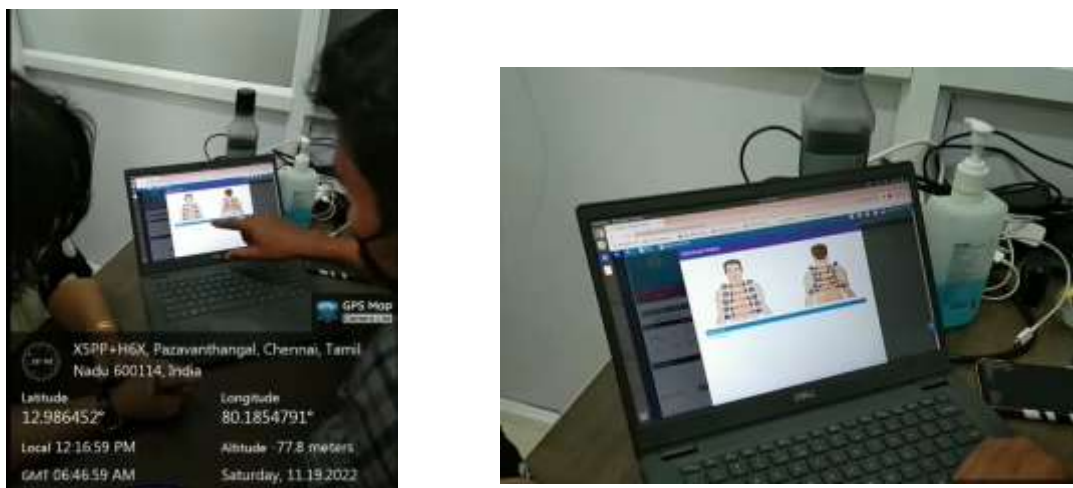

Fig.6 Observation and demonstration of ECOSTETH

4. ECG monitoring is also done for few patients in case they had mentioned some cardiac related issues or has had any past history of cardiac disorder. ECG is done with the help of KARDIOSCEEN device which is Bluetooth enabled. This device is also able to store data into cloud storage for future reference. The ECG data is taken by the tab and sent directly to the doctor's laptop in image form in PDF format with the help of same platform.
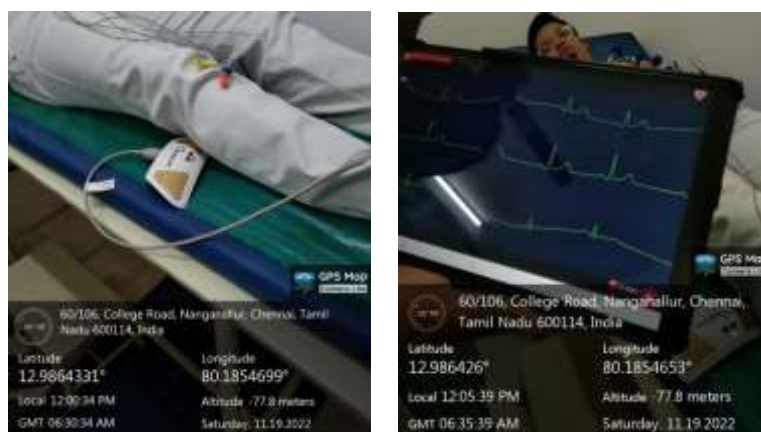
Fig.7 Observation and demonstration of CARDIOSCREEN Device

5. For female patients with more than 35 years of age Haemoglobin and sugar test is compulsorily done. Otherwise these examinations are done only if felt necessary. The test reports are readily uploaded into the portal from the testing devices.

Fig.8 Observation and demonstration of sugar and Haemoglobin testing device

6. For all patients, Blood Pressure, height and weight are noted and BMI is calculated to get the triage factor.

Fig.9 Data entry and Blood Pressure monitoring of patients

7. Usually 2 or 3 camps are organised every month in the clinic or in the locality depending upon availability of doctors.
8. Apart from these, an audio visual awareness campaign is going on in the clinic continuously to bring about awareness among general people about the best practices for a good health.

My views / observations from the visit

This is a very good initiative from PHFI for development of Telemedicine Clinic. It will be better if this type of clinic is established all over the India especially in remote places where internet facility is available but specialised doctors are unavailable.

Data collection and data storage is very important for further research and development as well as for future diagnosis. All devices which are used in this clinic should have the data storage facilities. So data upgrade and data

management remains an important issue. Up graded data can be subsequently used for improving/developing diagnostic parameters. The current software being used should be upgraded to keep in mind such future requirement. AI based self-developing software should be most suitable for this type of clinic.

In Kardioscreen device, data can be stored in image format for future reference. However, this data cannot be retrieved in the Voltage – Time format which is also an important format for auto diagnosis. The device should enabled to diagnose all common type of cardiac disease so that immediate treatment can be stated even in absence of any specialised doctor.

Data preservation is an important tool to grow our own health statistics. In a developing country like India, the normal health parameter of people varies region to region due to different food habits, body structure and weather. So we need to record and create regional health statistics to get individual health parameters for better diagnosis. Unfortunately, at present, most diagnosis in India is done based on the health statistics developed in other countries having different geographical parameters. If we can develop a robust data base of our own, we can Indianize the diagnosis process.

I feel implementation of this type of Digitised Telemedicine centres in all over India is required. This would definitely help us to overcome the current limitations in our diagnostic procedures and hence will improve the overall health condition of the population of our country. It may also reduce the over loaded rush of the patient to doctors as the patient doctor ratio is abnormally high in India.

It will be my pleasure to include myself in this project developed by PHFI. Going forward, I also want to establish a similar clinic in my region (if possible) i.e. in Eastern India in collaboration with PHFI to help the common man in solving majority of their health problems.