

An Assessment on Asha Worker's Awareness and Implementing a Low Cost Integrated Toolkit for Accredited Social Health Activist(Asha) Using Android Device (Aakash Tab)

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ABSTRACT: The objective of Government of India is to provide comprehensive integrated health care to the rural people under the umbrella of National Rural Health Mission (NRHM). A village level Female community health worker "Accredited Social Health Activist" (ASHA) acts as an interface between the community and the public health system. Therefore present study was conducted to access the socio-demographic profile of ASHA workers and to assess the knowledge awareness and practice of their responsibilities. Mobile technologies have penetrated rural parts of the countries unlike any other technology. This can be leveraged to provide primary maternity healthcare services. A low cost toolkit containing AAKASH TAB (android smart phone) is designed in such a way that it helps to take decision and supports for decision making.

Keywords

-Primary Maternity Healthcare, ASHA, NRHM, Awareness, Responsibility, Practice, PHC.

I. INTRODUCTION

With the objective of providing effective, efficient and affordable healthcare to rural population in India, the National Rural Health Mission, India aims to appoint a female health activist known as ASHA (Accredited Social Health Activist) [1] in every village. Selected from the village itself and accountable to it, the ASHA workers are trained based on the principles of old learning process to be an interface between the community and the public health system. Each ASHA receives reference material in the form of books and previous files during the learning program. ASHAs, after taking up and completing this learning program, will be equipped with necessary knowledge and a kit containing necessary medicines and previous files containing records of village. After they understand the previous file they have to maintain the similar files and records. As ASHA may be a eight pass or less many times they do not maintain the data in an appropriate way and Many of times this data's are lost due to improper maintenance of file. Keeping that on and for decision support AAKASH Apps is made with the concept of iconic data entry or data entry with few clicks and minimum data entry. ASHA can be easily trained with the apps which remove the complete file work and help the ASHA to take decision, updates them with alerts like list of people for vaccination. When real facts are asserted, the edge intelligence framework can return a decision/judgment to the application. In short, edge intelligence framework guzzles artificial intelligence in the application. ASHA workers often need to refer to ASHA manual for assessing symptoms of women. The process of assessing patient symptoms based on hundreds of pages of hard-copy guidelines is quite cumbersome and error prone. Also, as the ASHA and ANM workers have the aware people about various health issues like what should a pregnant women eat what to give to a baby. Often it is noticed that they forget to tell or don't point out some important issues. This can be overcome with some multi language resource containing videos which People easily understands.

II. CURRENT SYSTEM

After going through the training modules prepared by National Rural Health Mission, ASHA workers are required to work in villages to provide primary healthcare services in villages.

ASHA's work consists mainly of five activities as listed below:

- ASHA worker has to make at least five home visits to the pregnant women for health promotion and preventive care.
- She has to take pregnant women to rural health center for immunization or other services.
- In case of medical emergency, ASHA worker escorts pregnant women to a PHC. PHC is manned by a doctor and 14 other paramedical staff. PHC manages patients coming from 6 rural sub-centers and it has got 4-6 beds for the patients.
- ASHA worker holds village level meetings with Village Health and Sanitation Committee to increase health awareness and to plan health work services.
- She maintains records to make her work more organized and easier.

ASHA workers need to refer the training modules again and again and also need to remember various patient details to effectively discharge their duties. Currently, ASHA workers need to record patient details in a notebook, and later send it to the PHC. She is supposed to maintain following records in log books:

- a) Village Health Register: This register contains records of the details of pregnant women and Others whom ASHA provides primary health care services.
- b) An ASHA diary: which is a record of ASHA's work and also useful for tracking performance of the ASHA worker by the medical supervisor positioned at PHC.
- c) Maintaining drug kit stocks: ASHA workers are provided with a drug kit so as to be able to treat minor ailments/problems. The drug kit contains Paracetamol tablets, Albendazole tablets, Iron Folic Acid (IFA) tablets, Chloroquine tablets, Oral Rehydration Salts (ORS), and eye ointment. In addition, the kit may contain pregnancy testing kits, malaria testing kits, etc.

The following services are provided at the rural sub-center by ANM or ASHA :

- Early registration of pregnant women.
- Regular weight check.
- Blood test for anemia.
- Urine test for protein and sugar.
- Measure blood pressure.
- Treatment for anemia.
- Two doses of Tetanus Toxoid (TT).
- Nutrition counseling.
- General danger signs.
- Preparing for birth.

In addition, ANM worker provides following services to pregnant women with the help of ASHA workers:

III. PROPOSED SYSTEM:

We have developed a decision support system named ASHA, to enable health workers to provide maternity health care services efficiently and transparently. The ASHA can be used to register all the pregnancies in rural parts of a country and subsequently track pregnant women throughout the period of pregnancy for vaccination and periodic checkups the test results is updated with few tick marks like yes and no. Once the details are updated in the remote database doctors or experts can easily take any decisions with the help of data. Appointment for ultrasonography, etc. may also be scheduled via the mobile application ASHA. ASHA is the first port of call for any health related demands of deprived sections of the population, especially women & children, who find it difficult to access health services. Keeping in mind the application is designed in such a way with fewer clicks & minimum memory load.

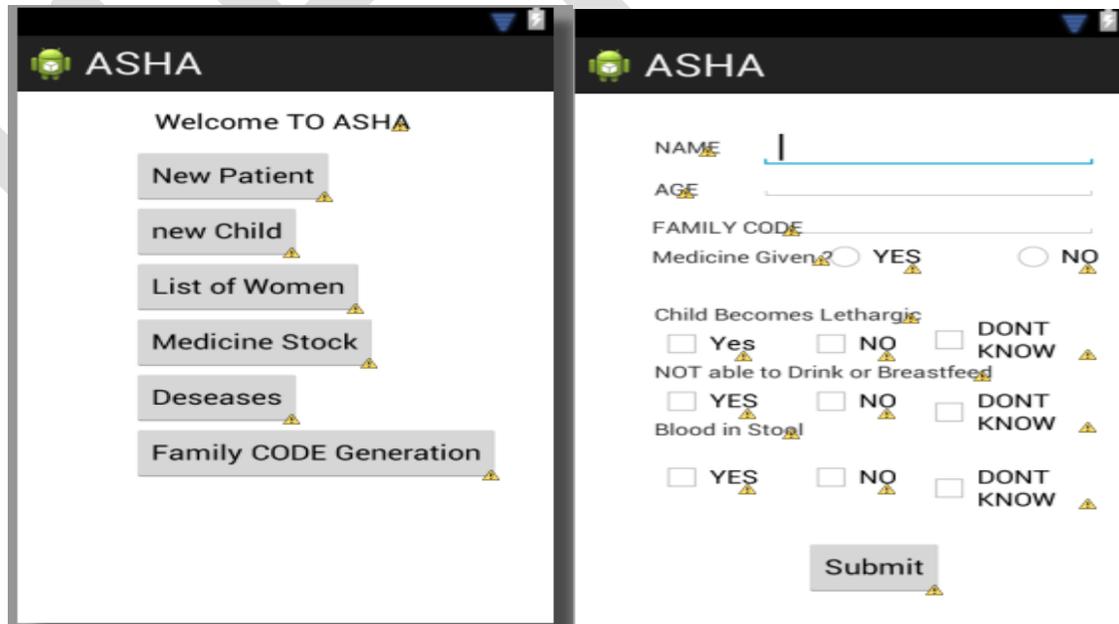


Fig: Android application ASHA for data entry with few clicks

All people's data are maintained in the database but the special decision supports are for pregnant woman and their child health. With the ASHA application every villager's information can be stored which will help all the details of diseases. There medicine stocks or if any extra facilities needed. ASHA can entry the symptoms of diseases which is decision supportive. The whole system can also be used for identification of a person or person count etc. All the data are stored in the local database of the android device and after a particular time frame this data are damped to the remote server like an XAMMP server.

Multilingual videos stored in an android device containing health awareness can be used to Spreading awareness for health concerns Promoting change in health related practices. Application like free SMS to a few registered numbers is also attached to the ASHA application for the safety of the Accredited Social Health Activist(ASHA).



FIG: Free SMS APPs for Safety of ASHA

XII. FUTURE WORK

- Multilingual videos which can be used by ASHA workers for awareness like Various Dos and Don'ts during pregnancy, important food nutrients, natural remedies, vaccinations etc. and embedding those videos in the AAKASHA applications.
- different types of low cost devices like ECG, WEIGHT measuring device, low cost solar charger etc. and integrating them in the android devices to make a complete toolkit.

XIII. CONCLUSION

Mobile communication networks have penetrated rural parts of developing countries, especially in India, unlike any other technology. Android devices like AAKASH TAB come with a low cost, a rich set of resources and supports its local database SQLite. This phenomenal growth can be exploited to provide effective healthcare services in rural parts of developing world where healthcare facilities are scarce. In India, a rural healthcare activist (ASHA worker) is being appointed in each village with necessary manuals on providing healthcare services after training by the National Rural Healthcare Mission (NRHM). In this paper, we have presented AAKASHA application built on an edge intelligence platform based on CLIPs Rules Engine ported to Android platform, which will enable these semi-literate ASHA workers discharge their duties in an efficient and transparent manner. As the complete workflow of ASHA workers is automated, the data is stored in a backend application and can be used for further analysis, online advice by the Doctors, policy planning, forecast disease spread and measures to contain the spread.

REFERENCES:

- [1] Mother and child protection card: <http://hetv.org/pdf/protection-card/mcpc-english-a.pdf>
- [2] Health Infrastructure in India: <http://childhealthfoundation.net/Health%20infrastructure%20in%20India.pdf>
- [3] "A System to provide Primary Healthcare Services to Rural India more efficiently and transparently" : International Conference on Wireless Technologies for Humanitarian Relief. (ACWR2011)
- [4] Richardson, Leonard; Ruby, Sam (2007-05), RESTful Web Services, O'Reilly, ISBN 978-0-596-52926-0
- [5] "Accredited Social Health Activist (ASHA)", State Institute of Health & Family Welfare, Jaipur SIHFW: an ISO 9001: 2008 certified Institution
- [6] CLIPS a tool for building an expert system : <http://clipsrules.sourceforge.net>

[7] ASHA Worker : <http://mohfw.nic.in/NRHM/asha.htm>

[8] AkashTablet : <http://www.akashtablet.com/>

[9] Mahyavanshi DK, Patel MG, Kartha G, Purani SK, Nagar SS. Across sectional study of the knowledge, attitude and practice of ASHA workers regarding child health (under five years of age) in Surendranagar district. Healthline 2011; 2(2): 50

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