eAoushad: IT-based Personalized Medico Advisory System

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Abstract—**The eAoushad system is an IT-based personalized medico advisory system. In this system, the medical experts generate the prescription by using the information received from the patient in the form of photographs and text. The medical expert advice is delivered to the patient on a regular basis (typically twice in a week depending on the type of diseases) . It has been found that the medical expert can prepare the expert advice in an efficient manner based on the disease's photographs and related information [2][3]. The impact results show that the expert advices helped the patients to achieve significant saving in the consulting fees and time.**

Keywords— **eAoushad, medico advisory system, IT in medical.**

I. INTRODUCTION

Now a day's some people are facing a multitude of problems due to the lack of medical facility. In spite of successful research on new medical practices concerning health, the majority of patients are not getting quality and reliable prescription due to several reasons. One of the reasons is that there is no reliable prescription to the patients from doctors. It is true that Indian experts possess a valuable medical knowledge and expertise. It is necessary that patients need expert advice so that they will take the necessary medicine and precautions.

The eAoushad is an IT-based personalized medico advisory system [2]-[7]. In eAoushad, the developments in IT such as (database, Internet, and digital photography) are extended to improve the performance of medical extension services. The objective of eAoushad is to make people live hygienic by delivering high quality personalized expert advice in an efficient manner. In this system, the medical experts generate the advice by using the recent information about the patient situation received in the form of both photographs and text. The advice is provided on a regular basis (typically twice in a week depending on the type of diseases) interaction with the doctor will be continued till the patient gets recovered to normal state. This system has several advantages includes significant savings in consulting fee and time.

The development of eMedicine system has started in 1996. Since 1996, There are rapid changes in medical advisory system. In this paper we briefly explain about summary of eAoushad system, its advantages and future plan.
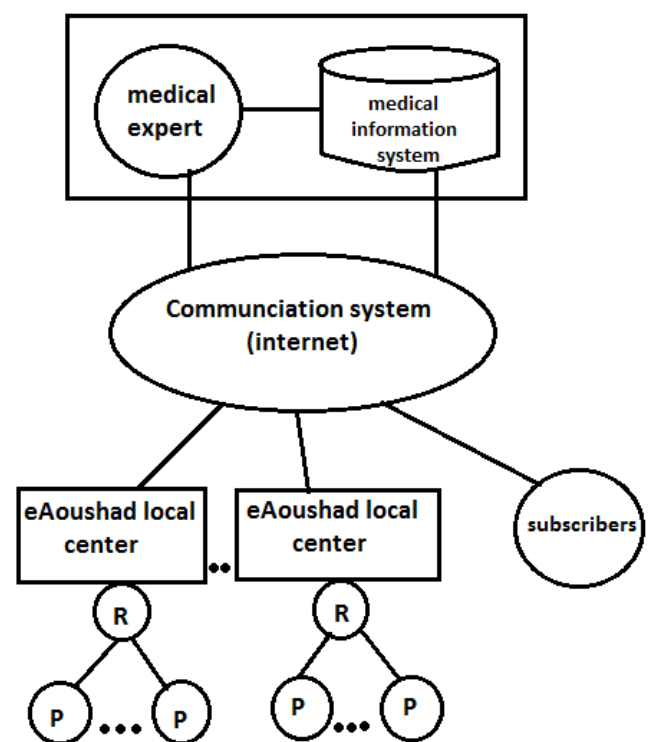
II. SYSTEM ARCHITECTURE AND OPERATION

Fig . system architecture

In e-Aoushad, rather than visiting the patient in personal, the medical expert delivers the expert advice by getting the patient status in the form of digital photographs and text. The description of eAoushad is shown in (Fig 1): The subscribers and representatives are the end users of the system. Subscribers are the one who subscribes our service by paying some money. Subscribers and representatives will be provided with username and password to make use of this service. Subscribers can communicate with the doctors directly

without need of any representative, as shown in (figure 2)

Fig 2. subscriber form

So subscribers must have the basic knowledge about the computer to enter their symptoms and some other basic information and forwards it to the doctor and doctor generates a expert advice to them directly, as shown in the figure3:

Fig 3. doctor form

Representative is like an interface between the doctor and patient.Representative is an educated and knowledgeable person who is stationed in the rural areas.[7]-[15] The people who are suffering with health problems will come to nearest eAoushad local center where the representative collects the information from the patients like symptoms and some other basic information and forwards this information to the Medical expert by filling the form as shown in the figure4:

Fig 4. representative form

Then medical expert provides prescription and advice to the representative so that patients get the medicine from the representative itself. Each representative is attached to eAoushad local center which contains a computer with internet connectivity. Medical Experts possess a university degree in medical and are qualified to provide expert advice. Medical Information System is a computer based system that contains all the related data about the patients. Communication system is a mechanism to transmit information from patients to medical experts and vice versa. However, the advices (text) can be transmitted from the main system to the local center through dial-up Internet connection.

The operation of eAoushad center is as follows. One eAoushad local center is established for a group of two to three rural areas. Medical educated and experienced persons work as representatives. The representative collects the details of the patient including symptoms and some other basic information including name, age, BP, sugar and sends this information to the medical expert. The number of visits depends on the type of disease. In addition, we provide a feedback form to subscriber and representative to provide their feedback [14]. The data is uploaded through Internet. The Medical experts with diverse background analyze the patient situation along with climatic conditions and provide prescription and advice for each patient.[15] At the local eAoushad center, the advice is viewed by a representative through a dial-up Internet connection and delivers corresponding medicine to the concerned patient. Whereas Subscriber views the prescription and gets corresponding medicine from the nearest eAoushad local center or pharmacy as shown in the figure5

Fig.5 prescription view to subscriber and representative

In this way each patients gets the reliable advice at regular intervals till the patient recovers to normal stage.

III. KEY RESULTS AND ADVANTAGES

The key results and advantages of the eAoushad system are summarized as follows.

The patients are healthy with the expert advice as it is quality prescription. It helps the patients to achieve significant savings in the consulting fees and time.

The eAoushad system provides a quality personalized medical advice to the patients. Through eAoushad, accountable advice can be provided by interaction between the doctor and the patients. The advice is comprehensive, complete and regular in terms of disease, advice delivery and follow-up [2][16].

The eAoushad is a scalable system. It is a three layer system. One medical expert can manage several representatives and subscribers. Each representative can manage several patients. The advice is prepared in an asynchronous manner. Also, different components of the network are connected through Internet.

The eAoushad system capacitates rural livelihoods and generates rural employment. Finally, eAoushad system promises, that it can provide the expert advice which is crucial to the Patients.

The broad objectives of the programme can be summarized as:

- Enabling the high quality prescription at fair costs.
- Facilitates subscribed patients by getting immediate prescription by the doctor to subscriber's house itself.
- Through updated prescription, Help the patients in risk mitigation efforts against natural calamities and weather changes
- Establishing health centers in different rural areas where the medical facility is lacking.

IV. FUTURE PLAN

Based on the encouraging results from eAoushad project and its benefits to the rural areas.

We gather the information about diseases area wise in which this system is executed. We apply classification and association mining techniques on the above information to predict which area will be affected by particular disease at particular time. This prediction will help the government, doctor for taking precautionary activities and pharmaceutical companies to produce sufficient medicine.

The scope of the services includes personalized medical-advisories continuously from abnormal condition to the normal condition. The system will address, at key leverage points, the issues such as producing the best quality prescription and frequent monitoring of patient situation through SMS, live chatting and live video conference.

V. CONCLUSION

The eAoushad system is new development in the IT medical system. We are making efforts to design an efficient system to deliver a quality medical expert advice by considering patient as units. The advice is provided at regular intervals to each patient. Through eAoushad experiment, it has been shown that it is possible for the medical expert to provide the expert advice by observing the patient status through digital photographs and text. It has been shown that the medical knowledge can play crucial role in delivering the quality prescription. The impact results show that the system is delivering a reliable advice and best use of medicine.

It can be observed that all the patient details and symptom history is stored in medical information system which can be accessed around the clock. Several stakeholders of medical and related domains can get significant benefits through eAoushad system

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