Abstract—Several efforts are spent on diagnosis, coding diseases and signs, symptoms, abnormal findings, handling complaints, social circumstances and external causes of injury or diseases in the psychological arena. Despite these being a complicated task, psychiatrists are not readily available especially in the rural areas. Medical experts system is urgently needed to give support to psychiatrists in determining definitive diagnosis and/or a range of alternative diagnosis. This leads to the focus on Intelligent Human Computer Interaction System (IHCIS), which this paper advocate, as a way of improving the integrity and management of the psychiatric patients where digital test can be used thereby reducing the time rates spent on each patient as well as providing security. The database method of IHCIS includes model formulation, development of workflow, and test and evaluation of the model.

Keywords—Diagnosis, Psychological arena, Diseases, Intelligent Human Computer Interaction System, Psychiatrists.

I. INTRODUCTION

Psychological assessment is a process of evaluating and measuring the psychological factors, biological and social relations in a person or group with possible psychological disorders, while the diagnosis is the process of determining whether the affected person meets all specific criteria for psychological disorder. The diagnosis is an aspect of the overall process of psychological evaluation. Psychological problems are a huge burden of illness in the community, which are increasingly being identified among general population. Several efforts have been spent to help diagnosis, code diseases and signs, symptoms, abnormal findings, complaints, social circumstances and external causes of injury or diseases in the psychological arena, it is still a complicated task. The psychiatrists are not available everywhere especially in the rural areas. Medical experts system is urgently needed to give a support for the psychiatrists in determining definitive diagnosis or a range of alternative diagnosis. Expert systems are widely used in healthcare either predicting or diagnosing diseases. The use of the computer technologies in supporting the psychiatric illness diagnosed is becoming an attractive option.

Medical artificial intelligence is primarily concerned with the construction of Intelligent Human Computer Interaction System (IHCIS) platform that performs diagnosis and makes therapeutic recommendations. IHCIS for psychiatric health diagnosis and prescription make electronic systems valuable to the clinicians in order to improve the quality of healthcare. The system offers significant advantages to the clinical staff, directly from their use. This study intends to present and review the current state and methods used in psychological diagnostics.

II. METHODOLOGY

To solve the research problem associated with Intelligent Human Computer Interaction System (IHCIS) issues in psychiatric health diagnosis and prescription relating to medical artificial intelligent system, three steps were employed: [A] conceptualization and formulation of intelligent human computer interaction model (IHCI) model; [B] development of workflow; and [C] test and evaluation of model.

a) Model Formulation:

We will develop and formulate an intelligent human computer interaction model (IHCI) model which was conceptualized on three Rs workflow model [1], as seen in Fig. 1, where Role (R1) assigned action or activities (physical devices), Route (R2) is the path for processing, and Rule (R3) is the logical device to measure the effectiveness and functionality of intelligent system.

b) Workflow Development:

We provide mechanisms to represent and process of the intelligent human computer interaction system relations between patients and that can support active platform. The mechanisms are built around software engineering lifecycle model. The framework of the model enables development of algorithms for discovering and analyzing structure in psychiatric illness and for extracting the unstructured information to be constructed and utilized effectively. The design workflow will consists of a sequence of connected steps to achieve processing intents.
The IHCI model enables us to set the diagnosis, allows drug prescription for the patient.

Fingerprint Separate web pages will be first designed and coded before being linked together. The fingerprint and web pages pertaining to the IHCI platform including the database will be in a folder as local database.

c) Model Evaluation:

The platform of the IHCI model based system will be tested. Patients are made available and accessed through IHCI platform. The system will enable the psychiatrist(s) to understand the level of illness and prescribe drugs without stress. The effectiveness of intelligent human computer interaction system for psychiatric health will be quantified. Fig. 1 analyzes the functionality of the IHCIS database while Fig. 2 describes the interactions between the patients, psychiatrist(s) and the system components [3].

The IHCI platform will allow the patient to submit individual patient’s details: name, Alias, Address (home and business), Date and place of birth, Country of citizenship, Gender, Telephone number(s), E-mail address, Place of employment and employment history, Family lineage, Civil or criminal history information, as well as diagnostic history (if already exists).

III. Result

The study is continuous one. It is envisaged that, when IHCIS is fully implemented, it would reduce pressure on practitioners and those with psychological challenges, and improve management of mentally diseased citizens. This, in turn, would reduce operational cost, saving governments’ resources.

IV. Conclusion

This study has provided justification and development of an Intelligent Human Computer Interaction System (IHCIS) in the effective management of mentally challenged patients in the public health sector. The IHCIS research attempts to reflect changes in the nation.

REFERENCES


