A critical review on *Knowledge Discovery From Mental Health Data*

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Abstract—In Bangladesh about 15 million people are suffering from mental disease. Almost 10 percent of them require proper treatment. In this study, we will analyze an authentic and real dataset consisting of 600 treatment records of patient. For this, we collected data from National Institute of Mental Health. We applied 3 machine learning techniques for comparing their performance in diagnosing mental health. Helpful knowledge can be discovered from this data.

Index Terms—Distributed database; Initial fragmentation; Allocation; MCRUD matrix; Attribute locality precedence

I. SUMMARY

According to WHO (World Health Organization) more than 450 million people around the world suffer from neuropsychiatric disorder[2]. As a result, treatment of this patients create huge mental health related data. Using Data Mining we can know many important things. Developing countries have a bigger burden of mental disease than Economically developed countries[3]. W. Husain[4] predicts General Anxiety Disorder (GAD) among women using Random Forest Classification algorithm. R. G. Raman[5] researched on Schizophrenia patients. In Ghassan Azar[6] research, a novel study was done for preliminary diagnosis for the psychological affected individuals. Their goal was to ensure, a classifier could match patients symptoms with mental health illness. From National Institute Of Mental Health (NIMH) we collected data which contain the description of mental illness problems with symptoms, personal and family history records, present condition and test reports of the patients. We use generalization technique to convert age of the patients to age ranges to enhance privacy of the patients. Our dataset contains patient age from 10-70. There are 29 diseases in our training dataset marked by the domain experts. All symptoms are independent attributes. From our investigation we can realize that age group 25-29 are more affected by BMD and Schizophrenia. Again we found that Adult people who are unmarried affected more from Schizophrenia and Female adults affected more in Bipolar Mode Disorder (BMD). We consulted with domain experts about our result and they agreed with it.

II. CONTRIBUTION

Collecting data from Govt. faculty is very challenging in Bangladesh. It was very tough for us, but we succeeded. We could collect 600 patients data. This model will help the psychiatrist to understand the attributes related to patients with mental disorder. We are grateful to the authorities of the National Institute Of Mental Health.

III. LIMITATION

Our real data contains only patients data. But for a good analysis, we need large dataset of about 3000 patients. Again in the medical reports, some attributes were missing. As it is very important project, more analysis needs to be done to predict diagnosing.

IV. CONCLUSION

About 10 percent of people around the world are suffering from mental disease. Our goal is to discover interesting patterns. We applied two phonetic algorithms and a generalization algorithm. From our analysis, initial measures can be taken to treat mental patients at an early age.

REFERENCES

[1] Knowledge Discovery from Mental Health Data by  
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