Editorial

Early Prevention and Detection of Cancer Risk for Low Income Country using Data Mining Technology: Bangladesh Perspective

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Introduction

Cancer is an atrocious problem for the researchers due to lack of faithful treatment to cure this devastating disease in humans since ancient time. Even though the development of new technology in cancer research has been proliferating day by day, but there is still requirement of cancer defeatable treatment. Some mile stone treatment such as treatment based on genome sequencing is giving a good hope to the people nowadays but it is challenging especially for the women of low incoming countries like Bangladesh. Therefore, several factors like first sex at the age below 16 or above 16 years old, lack of knowledge about cancer, number of children above 3 years old, STI (Sexually Transmitted Infection) affection, previous cancer history, abnormal menstruation and the rate of abortion are highly significant for cancer causing risk prediction. There are lots of work to detect the risk factors of cancer using population based case control study, several databases, and algorithm and induction techniques. Apart from these, nowadays a most popular technique to predict cancer risk is data mining technique. Using this new technology of risk prediction for cancer research may be huge beneficial for the population based research to prevent cancer.

Cancer is the leading cause of death worldwide due to improper available treatment and idiopathic etiology. Lung cancer comprises first lethal cancer in Bangladesh whether Breast cancer is second most common neoplasm. Most of people of Bangladesh do not even know that they are the patient of cancer and the majority of cases are diagnosed at late stages whenever cure is impossible. Lack of awareness and illiteracy are contributory factors for late presentation and therefore mortality. People in low income countries are unknown about risk factors highly associated with breast cancer including abnormal menopause, lack of knowledge about breast cancer and abortion rate etc. [1]. Therefore, identification of genetic, environmental factors and early cancer prediction must play a pivotal role in the diagnosis as well as an effective preventive strategy to develop novel methods. Recently there are various types of new methodologies developed for risk prediction analysis based on data mining process ranker algorithm with different attribute evaluator and statistical approaches including skin cancer, cervical cancer, lung cancer, colorectal cancer and breast cancer. Recently it has been reported that data mining technology is well sophisticated risk prediction software which is online service systems. By this technique, people can understand and categorize themselves as high risk level, intermediate or primary stages on the basis of risk factors associated with air pollution, excessive alcohol use, radiation therapy to chest area, tobacco, smoking etc. to cause lung cancer [2]. One sample chart for high risk associated lung cancer and skin cancer patient shown in Figures 1 and 2.

There is no remedy for cancer after completely affected. Death is inevitable. So the ability to predict Lung cancer plays an important role in the diagnosis process.

Using recent advanced knowledge of data mining technology, we can predict the risk of cancer prevention. And early prediction of cancer should play a pivotal role in the diagnosis process and for an effective preventive strategy. Therefore data mining will provide a methodology and technology to analyze the useful information of data for decision making.

Summary

Dominant population of the world including Bangladesh is suffering from skin, lung, cervical and ovarian cancer because of being unconsciousness about cancer as well as their risk factors.
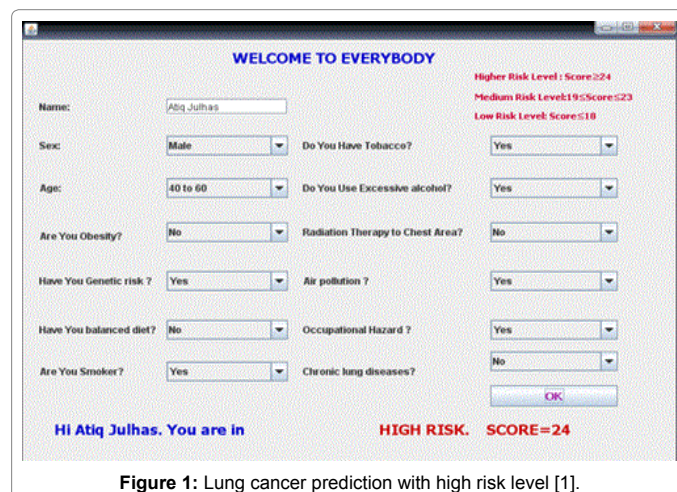
Figure 1: Lung cancer prediction with high risk level [1].

Figure 2: Skin cancer prediction with high risk level [3].

Many of them are illiterate and poor. They cannot go to doctor and do must outdoor activities due to lack of money. Most of them do not even know they have skin cancer. So the ability to predict such cancer with minimum cost plays a pivotal role in the diagnosis process. Therefore use of new information technology data mining and risk prediction systems for cancer research can be more effective for early detection and awareness for future possible chemotherapeutic treatment.

References

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