

SUMMARY

This research discusses the forecasted problem for the attacked number of cancer patients in the Kingdom of Saudi Arabia by using Time Series methodology of Box & Jenkins.

The need for having an accurate and reliable forecasted system is to measure the number of cancer patients depends on the historical data, hence the non accurate forecasted process has a negative impact on medical custody plans that required special attention to those who suffer from cancer in the following areas:

- Provide the required medical custody.
- Mitigate the number of attacked patients.
- Procure highly expensive medical equipment and the associated medicines to secure the patients need.
- Prepare qualified medical resources.

Moreover, the need for a reliable forecasted system that can be used to adjust the required plans in order to be aligned with all the emergency changes as well as to meet the entire surrounding environment. Therefore, it is mandatory to develop effective forecasted system to overcome the existing traditional ways of mitigating the subject disease.

The new forecasted system would be developed by using the Time Series technique invented by the two authors Messrs Box and Jenkins ARIMA Models which was known since the seventies from Jorge Box and Jwilym Jenkins famous Book (Time Series Analysis Forecasting and Control) issued on 1970 and have become the powerful tool used in applied science field to provide an effective measurement methodology in Time Series Analysis Forecasting and Control provided that the process is considered as Stochastic Process.

The research consists of the following five chapters:

The first chapter consists of studies and researches which is dealing with cancers holders to provide accurate statistical studies to measure number of cancers holders and mitigate cancers future forecast.

The second chapter shows the effort made by the researcher for collecting statistical data (from 1994 to 2000) in the main areas of the Kingdom of Saudi Arabia, (e.g. Riyadh, Makkah, and the Eastern province) for cancer sufferers. Moreover, the researcher has provided general historical overview about different types of cancers disease in the Kingdom of Saudi Arabia and which type is commonly spread across the country.

The third chapter consists of a preliminary introduction on Time Series and presented model of Constant Time Series.

The fourth chapter consists of the particular forecasted parameters of colon cancer.

The fifth chapter presents different modeling type of (breast cancer- lung cancer- Prostate cancer- Brain cancer)

However, the studies resulted in the subject research is considered to be valuable resources that can be used in developing the required control programs to mitigate cancers disease in the Kingdom of Saudi Arabia as well as to provide the best custody required for the patients.