Global Science Research Journals

Available online at
www.globalscienceresearchjournals.org/

Global Journal of Biological and Biomedical Research

Commentary | Open Access

ISSN:2504-001X Vol. 10 (2), pp. 1-2, August, 2022

Bayesian networks demonstration of cause-and-effect relationship of cancers

Faruk Ramadani*

Department of Biology, University of Tabriz, East Azerbaijan Province, Tabriz, Bahman Boulevard, Iran

*Corresponding author. E-mail: ramadanifar@outlook.com

Received: 01-Aug-2022, Manuscript no: GJBBR-22-71797, **Editor assigned**: 03-Aug-2022, PreQC no: GJBBR-22-71797(PQ), **Reviewed**: 17-Aug-2022, QC no: GJBBR-22-71797, **Revised**: 24-Aug-2022, Manuscript no: GJBBR-22-71797(R), **Published**: 31-Aug-2022, DOI: 10.15651/2504-001X.22.10.012.

ABOUT THE STUDY

One of the most challenging disorders to treat is cancer. In industrialised and developing nations, it is the second and third major cause of death, respectively. The International Agency for Research on Cancer estimates that there will be about 19.29 million new cancer cases and 9.96 million cancer deaths worldwide in 2020. Of these, colorectal and gastric cancers will account for 1.93 (10%) and 1.09 (5.6%) million of the new cases and 935 (9.4%) and 769 (7.7%) thousands of the deaths, respectively. According to estimates, Iran would experience 131 000 new instances of cancer and 71 000 cancer-related deaths in 2020.

The number of new instances of colorectal and gastric cancer were 6.87 (9.7%) and 9.60 (13.6%) thousand, respectively, while the number of deaths attributable to these cancers was 5.07 (%8.4) and 5.06 (8.4%) thousand. Despite the fact that stomach and colorectal cancers have become less common globally in recent decades, they were still the second and fourth most common malignancies and the main causes of cancer deaths in 2020, respectively. The control of diseases like cancer can be accomplished at a reasonable cost by using preventive healthcare. Between 30% and 50% of cancer cases, according to the World Health Organization, are preventable. Research demonstrates that early prevention is most successful when risk and protective factors are known.

Recognizing the risk and preventive factors of cancer is therefore the first step in its prevention. The development of colorectal and gastric cancers is significantly influenced by variables like age, environment, lifestyle, and genetics. Lifestyle includes eating habits, exercise, smoking, and alcohol consumption. Regular physical activity and a nutritious diet are preventive factors that effectively lower the risk of colorectal and stomach cancer. As a result, altering these characteristics may be extremely helpful in preventing gastric and colorectal cancer. One of the most crucial objectives of medical, health, and biological studies is the analysis of risk and protective factors.

Systems biology, engineering, economics, environmental sciences, social sciences, and medicine are just a few fields where Bayesian Networks (BNs), also known as belief networks, Bayesian belief networks, Bayes nets, and occasionally causal probabilistic networks, may be applied. BNs are constructed using the Bayes technique and are situated at the nexus of statistics and machine learning. The Bayesian technique is a statistical approach predicated on the Bayes theorem and relies on prior probability, likelihood-function-observed data, and posterior probability.

Learning is the process of BNs being fitted to data. In machine learning, this phrase refers to selecting the optimum network based on data. Learning in BNs is dependent on parameters and structure. Based on these discoveries, BNs are probabilistic graphical models that fit. In contrast, the conditional probability relationships between the variables in this probabilistic graphical model. Based on data, BNs could be classified as static or dynamic. In static BNs, data depend only on space; in dynamic BNs, they depend on time. Directed Acyclic Graphs (DAGs) make up the paths in static BNs. In other words, there are no cycles or loops in directed pathways where the node (variable) serves as both the beginning and the end of one, but cycles and loops might exist in dynamic BN paths.

The incidence of gastric and colorectal cancers was also significantly enhanced by using opium and Narcotics. The algorithms were compared, and the results demonstrated that the study's hypothetical algorithm was suitable for the data. As a result, BNs are a probabilistic graphical model that depicts the cause-and-effect relationship (parents and children) between the variables as graphical networks. They

may be effective for predicting uncertainty and bolstering expert opinions in the fields of biology, medicine, and epidemiology.