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An examination of Risk Factors of Cancer

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English 400 Research Project: An examination of Risk Factors of Cancer – Nathan Teague

Introduction

My goal for this research project is to examine risk factors pertaining to the likelihood of developing cancer, to examine whether or not cancer is a largely genetic or lifestyle disease, and to come up with a number of clearly defined recommendations and takeaway points that a general audience could apply. I attempted to examine these topics by employing the use of scholarly databases and examination of peer-reviewed journals.

Genetics vs External Factors

Genetics' role as a risk factor for developing cancer is relatively small when compared to external risk factors (Anand). Genetics only accounts for 5-10% of cancer cases while external factors account for 90-95% of cancer cases (Anand). These external factors include: Smoking, alcohol, Diet, physical inactivity, infections, stress, radiation, and sunlight exposure and environmental pollutants (Anand).

Smoking

Smoking and/or use of any type of tobacco product is a well-known risk factor and is believed to account for 25-30% of all US cancer cases (Anand). Some research has found that men who smoke are 23 times more likely to develop lung cancer and that women who smoke are 17 times more likely (Anand). Tobacco usage also increases the risk of developing 14 different types of cancer (Anand).

Alcohol

Alcohol has been labeled as a type 1 carcinogen by National Cancer Prevention Societies from the UK, Ireland, Australia, and New Zealand (Amin). Alcohol consumption is a risk factor for developing cancers of "the oral cavity and pharynx, oesophagus, colorectum, liver, larynx, and female breast" (Bagnardi). For certain cancers, such as oral, research has shown a dose-to-risk relationship with alcohol (Bagnardi). Alcohol consumption can be attributed to 4-6% of all US cancer cases (Anand).

Diet: Fruits and Vegetables

Diet is the largest individual external risk factor for developing cancer, accounting for 30-35% of all US cancer cases (Anand). High fruit and vegetable consumption has been linked to preventing cancer, and a study in Norway examining 10,000 men for 40 years found that "increased consumption of vegetables, fruits, and berries was associated with a delayed risk of all-cause mortality and of mortality due to cancer and stroke... A clear inverse dose-response association was observed between consumption of total fruits and cancer mortality" (Hjartaker). A Canadian study found that low fruit and vegetable consumption, defined in their research as less than four servings of fruits and vegetables each, every day, was associated with an increased risk of colorectal cancer (Poirier).

Diet: Red Meat

Frequent consumption of red meat has been linked to an increase of cancer, in particular cancer of the gastrointestinal tract (Anand).

General Conclusions

From the research that has been examined, a few key takeaways can be made:

- Cancer risk is largely lifestyle based and by modifying diet, tobacco habits, and alcohol consumption, a large portion of cancer risk can be reduced.
- To reduce cancer risk, tobacco products should be avoided, and smokers and tobacco users should quit.
- Alcohol and red meat consumption should be minimized.
- Vegetable, and especially fruit, consumption should be regular and should reach at least four servings of fruits and vegetables each every day.

Areas of Improvement/Further Research

If I were to do further research regarding this topic, I would try to investigate the connection between infections and developing cancer as they are credited to causing 15-20% of all US cancer cases (Anand). In particular, I would like to learn if these infections occur due to complications from other medical issues or if there are lifestyle factors that can be adjusted to decrease the likelihood of such an infection occurring.

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