

CONCLUSIONS

The results of the study demonstrate the significant role of social networks in the lives of modern students. They actively use online platforms for communication, learning and entertainment. However, the study also points to the need for a conscious approach to the use of social networks in order to avoid possible negative consequences, such as addiction and information overload.

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ВЗАИМОСВЯЗЬ ИЗБЫТОЧНОГО ВЕСА И РАКА

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Аннотация

Введение. Известно, что ожирение связано с раком и увеличивает смертность от рака. **Цель исследования** – изучение взаимосвязи между ожирением и раком, с акцентом на то, как избыточный вес и ожирение могут привести к раку и как можно предотвратить и лечить рак, связанного с ожирением. **Материал и методы.** Мы провели поиск литературы по доступным ресурсам Национального института рака, Центра по контролю и профилактике заболеваний, Всемирного фонда исследований рака и PubMed. **Результаты.** Связь между пищевыми привычками, ожирением и раком сложна и многогранна. Ожирение увеличивает риск рака через такие механизмы, как хроническое воспаление, резистентность к инсулину и гормональные изменения. **Выводы.** Поскольку заболеваемость ожирением продолжает расти во всем мире, понимание взаимосвязи между ожирением и раком имеет решающее значение для разработки целевых стратегий профилактики и лечения рака, связанного с ожирением.

Ключевые слова: ожирение, рак, профилактика, диета с высоким содержанием жиров, лишний вес.

OBESITY AND CANCER

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Abstract

Introduction. Obesity is known to be associated with cancers and to increase cancer – related mortality. **The aim of the study** is to explore the intersection between obesity and cancer, focusing on how overweight and obesity can lead to cancer and how obesity – related cancer can be prevented and treated. **Material and methods.** We conducted a literature search across the available resources of the National Cancer Institute, Center for diseases control and prevention, World Cancer research fund, and PubMed. **Results.** The relationship between dietary habits, obesity and cancer is complex and multifaceted. Obesity increases cancer risk through mechanisms such as chronic inflammation, insulin resistance, and hormonal changes. **Conclusions.** As the incidence of obesity continues to rise globally, understanding the intersection between obesity and cancer is crucial for developing targeted prevention and treatment strategies for obesity – related cancers.

Keywords: obesity, cancer, prevention, high – fat diet, overweight.

INTRODUCTION

In the past decades, the prevalence of obesity, a multifaceted chronic disease often driven by high – fat diets, has been dramatically increasing globally.

Obesity is characterized by excessive body fat tissue mass and is associated with disturbances in lipid and glucose metabolism, chronic inflammation, and oxidative stress. These metabolic disorders are reported to be able to increase the risk of several severe diseases including cancers. Specifically, association between body mass index (BMI) of 30 or high and the risk of developing a variety of cancers (including esophageal, pancreatic, colorectal, breast (among postmenopausal women), uterine, kidney, thyroid, and gallbladder cancer) has received considerable attention in recent years [1 – 5]. Studies highlight the need for comprehensive strategies to address obesity as a cancer risk factor [6 – 10]. Moreover, obesity is known to increase cancer – related mortality.

The aim of the study is to explore the intersection between obesity and cancer, focusing on how overweight and obesity can lead to cancer and how obesity – related cancer can be prevented and treated.

Objectives: to reveal biological changes caused by overweight and obesity that may lead to cancer; to find out the ways to reduce the risk of obesity – related cancer and to treat obese cancer patients.

MATERIAL AND METHODS

To provide a comprehensive and critical analysis of the intersection between obesity and cancer, we conducted a literature search across the available resources of the National Cancer Institute, Center for diseases control and prevention, World Cancer research fund, and PubMed. The search employed a combination of keywords, including “obesity” and “cancer”. We prioritized peer – reviewed articles published between 2003 and 2025, ensuring the inclusion of recent scientific advancements and details about the current understanding of this field.

RESULTS

The latest research suggests that anthropometric parameters, lifestyle factors and biological mechanisms are involved in the development of cancer in obesity [11 – 14].

Specifically, the scientists show the strong link between obesity and cancer, highlighting how obesity alters metabolism through increased glucose, fructose, and lipid levels, as well as changes in metabolic regulatory factors. According to the latest research results, obesity is associated with abnormalities in the IGF axis, elevated estrogen levels, chronic low – grade inflammation, deregulated adipokines, and hypoxia, all of which contribute to cancer initiation and progression [15].

Specifically, obesity is reported to play an important role in promoting the development of endometrial cancer, by inducing a state of unopposed estrogen excess, insulin resistance and inflammation [16, 17].

Also, evidence shows that maintaining a healthy weight throughout life is one of the most important things people can do to reduce their cancer risk, and early prevention in adulthood is very important [18].

Calorie restriction is presented as an effective weight – loss strategy that improves metabolic processes and reduces oxidative stress and inflammation. Research indicates that calorie restriction can suppress the development of various cancers in preclinical models and enhance chemotherapy effectiveness [16].

However, recent studies demonstrate that there are limitations to using fasting in clinical practice. Both obesity and calorie restriction can influence the same signaling pathways but with opposing effects, suggesting a need for further research into calorie restriction mechanisms for developing new therapeutic approaches [16, 17].

As we revealed, the association between obesity and cancer risk varies by sex. For example, obesity is strongly linked to endometrial cancer in women, while in men, it is associated with cancers like colon and kidney cancer. Women with cardiovascular disease and obesity have a higher risk of obesity – related cancers compared to men [18].

Beyond increasing cancer incidence, obesity can also affect cancer outcomes. For instance, it may influence survival rates and treatment effectiveness in certain cancers. Specifically, obesity also affects treatment, increasing the risk of surgical complications. Radiation therapy is a cornerstone of cancer treatment, but obesity may influence the effectiveness of this treatment. The altered response to radiation in obese patients is reported to be attributed to several factors: changes in tumor microenvironment, systemic effects of obesity, inflammation and immune response [19 – 20].

Recent studies show that weight – loss interventions can lead to improvements in breast, endometrial and colorectal cancer – specific survival [15 – 16].

Collaborative interventions aimed at improving diet and lifestyle are considered to be crucial both for reducing cancer risks in people without cancer and enhancing health outcomes in cancer patients.

DISCUSSION

Maintaining a healthy weight is crucial for reducing cancer risk. Early prevention efforts in adulthood are particularly important.

Collaborative interventions aimed at improving diet and lifestyle are considered to be crucial both for reducing cancer risks in people without cancer and enhancing health outcomes in cancer patients.

However, recent studies demonstrate that there are limitations to using fasting in clinical practice. Both obesity and calorie restriction can influence the same signaling pathways but with opposing effects, suggesting a need for further research into calorie restriction mechanisms for developing new therapeutic approaches [12, 14].

CONCLUSIONS

The relationship between dietary habits, obesity and cancer is complex and multifaceted. Obesity increases cancer risk through mechanisms such as chronic inflammation, insulin resistance, and hormonal changes.

High – fat diets exacerbate these risks while also potentially altering the effectiveness of radiation therapy.

As the incidence of obesity continues to rise globally, understanding these interactions is crucial for developing targeted prevention and treatment strategies for obesity – related cancers.

Our findings support the implementation of primary care – based strategies for cancer prevention, with a strong focus on preventing and reducing early overweight and obesity.

Future research should focus on elucidating the specific pathways involved in these processes and exploring potential interventions to mitigate the adverse effects of obesity and dietary patterns on cancer outcomes. Specifically, additional research into dietary modifications could play a vital role in mitigating the health risks associated with high – fat diet and radiation exposure.

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ПРОБЛЕМА ДЕФИЦИТА ВИТАМИНА D В УРАЛО – СИБИРСКОМ РЕГИОНЕ И СПОСОБЫ ЕЁ РЕШЕНИЯ

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Аннотация

Введение. Более половины населения планеты испытывает нехватку витамина D. Это связано не только с недостатком солнца, но и с особенностями питания, возрастными изменениями и состоянием здоровья. **Цель исследования** – изучить, могут ли БАДы или солярий повысить содержание витамина D в организме человека также эффективно, как и медицинские препараты, выписанные врачом. **Материал и методы.** В исследовании был использован метод – эксперимент. В исследовании приняли участие жители г. Екатеринбурга одного возраста, пола и с одинаковой группой здоровья. Исследование проводилось с 02.12.2024 по 02.03.2025. **Результаты.** В ходе эксперимента получены результаты и сделан вывод о том, что БАДы и солярий менее эффективны, по сравнению с эффективностью медицинских препаратов, для повышения уровня витамина D в крови. **Выводы.** Из полученных результатов можно сделать следующие заключение: эффективнее всего уровень витамина D в организме можно поднять с помощью медикаментозных препаратов. БАДы хуже всех справились со своей задачей, поэтому, если нет нужды идти к специалисту, эффективнее посещать солярий.

Ключевые слова: гипervитаминоз, гиповитаминоз, витамин D, заболевание, исследование, норма, дефицит, недостаточность.