

The Perceived Risk of Lifestyle Choices on Cancer Development Among Obese Adults in the United States

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I. Summary

It is unknown if there is a difference in the understanding of obese adults in the United States on the significance of lifestyle choices on cancer development, as compared to adults of normal weight. Specifically, there is a paucity of literature exploring whether BMI, diet and exercise are seen as significant risk factors for the development of cancer by adults in the United States that are obese.

In the present study, we evaluated the perceived risk of lifestyle choices on cancer development among adult persons that are obese in the United States.

Of the 3 risk factors, obese adults were only less likely to believe that obesity could significantly influence the development of cancer. This implied that some obese adults may not even realize that their BMI puts them at risk for cancer, and education is needed. However, the entire population should be made to understand that lifestyle choices have a substantial influence on cancer development.

II. Background

Obesity is known to be associated with several comorbidities, including cancer. Reduced fat mass, healthy eating and regular exercise are known ways to minimize obesity-associated inflammation, which is an underlying pathophysiologic mechanism of disease development. There is little information about the perception of obese adults on the influence of lifestyle choices on cancer development.

III. Aim

To evaluate the perception of obese US adults on the influence of obesity, healthy eating and regular exercise on the development of cancer.

IV. Methods

We analyzed the 2018 Health Information National Trends Survey (HINTS 5 Cycle 2). Our analytical cohort identified 2,986 respondents in the US (weighted population size = 219,552,371). Respondents rated how much they thought the following factors had an influence on whether a person will develop cancer: (1) Being overweight or obese, (2) Eating healthy food, and (3) Exercising regularly.

We used logistic regression analyses to examine the association between respondent BMI categories and whether respondents believed each factor substantially influenced the development of cancer. We used survey weights in all analyses. We calculated odds ratios (OR) and 95% confidence interval (CI).

V. Results

The mean age of the cohort was 48.4 years, 50.1% female, 66.1% White, 10.3% Black, 15.9% Hispanic, 15.8% current smokers, 27.9% with a yearly household income less than \$35,000 and 30.4% had a high school education or less.

Among the options presented, the perception of obese adults only differed when it came to identifying obesity as a substantial risk factor for developing cancer (Table 1).

- 24.6% of obese respondents thought that obesity influenced cancer development a lot, while 39.2% of normal weight respondents thought the same to be true versus 29.5% of overweight respondents.
- Although there was also reducing agreement, as BMI increased, for healthy eating and regular exercise, there was no statistical difference for those risk factors among obese adults.

Table 1

Perceived Risk of Lifestyle Choices on Cancer's Development Among US Adults by BMI Categories*

Perceived risk on cancer	Normal BMI (< 25 kg/m ²)		Overweight (25-29.9 kg/m ²)		Obese (≥30 kg/m ²)	
	N (%)	OR (95% CI)	N (%)	OR (95% CI)	N (%)	OR (95% CI)
Obesity has a lot of Influence (Yes)	369 (39.2)	Reference	349 (29.5)	0.68 (0.45-1.02)	294 (24.6)	0.51 (0.33-0.8)
Healthy Eating has a lot of Influence (Yes)	492 (48.0)	Reference	470 (42.3)	0.89 (0.58-1.36)	435 (40.5)	0.87 (0.59-1.28)
Regular Exercise has a lot of Influence (Yes)	420 (41.3)	Reference	411 (36.2)	0.82 (0.56-1.19)	377 (32.7)	0.74 (0.53-1.03)

*Adjusted for age, sex, education, marital status, health insurance, smoking, income, and race.

VI. Conclusions

Statistically, there was only a significant difference in the perception of obese respondents when it involved obesity as a risk factor. People that fell under the obese category were less likely to believe that obesity had a substantial influence on whether a person is likely to develop cancer.

There is a need for education to improve the identification of modifiable risk factors in the general population. Healthcare professionals should encourage adults to recognize their BMI as a potential risk factor for the development of cancer, especially if they are obese. Future studies can explore how obese adults perceive their own risk for cancer development.

VII. References

- *Obesity and cancer: inflammation bridges the two* (PMID: 27429211)
- *Young Adult Cancer: Influence of the Obesity Pandemic* (PMID: 29570247)
- *Obesity as a Major Risk Factor for Cancer* (PMID: 24073332)