



Smoking Makes Treatment of Cancer Less Effective

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Introduction

Cancer is diseases in which abnormal cells divide without control and can invade nearby tissues. Cancer cells can also spread to other parts of the body through the blood and lymph systems. There are several main types of cancer. Carcinoma is a cancer that begins in the skin or in tissues that line or cover internal organs. Sarcoma is a cancer that begins in bone, cartilage, fat, muscle, blood vessels, or other connective or supportive tissue.

Several forms of cancer are caused by smoking. Lung, bladder, cervix, kidney, larynx (voice box), pharynx (upper throat), nose, mouth, esophagus (food pipe), pancreas, stomach, liver, and several forms of leukemia are all linked to smoking. Also included are smokers.

Smokers are seven times more likely than nonsmokers to die from these cancers. Scientists have discovered Tobacco smoke contains almost 4,000 distinct compounds.

Smoking throughout cancer treatment is associated with a variety of adverse events that include greater mortality, and more treatment-related complications, there is little research on the effect of smoking on cancer treatment-related side effect severity and symptom burden.

The primary aim of this study was to determine the effect of smoking on the total symptom burden, the sum of 12 common treatment-related side effects, in patients undergoing treatment for cancer.

Materials and Methods

Over the course of cancer treatment, this study looked at sociodemographic variables, self-reported smoking status, and side effects of cancer medication (chemotherapy, radiotherapy, or both).

The data for this secondary analysis came from a larger study that used the University of Rochester Cancer Center CCOP research base to collect data as part of a longitudinal study to analyze the information requirements of cancer patients receiving chemotherapy or radiation therapy. The study questionnaires were completed at three points:

- prior to starting chemotherapy or radiotherapy,
- (b) within two weeks after finishing treatment (reflecting treatment experience), and
- (c) six months after finishing treatment.

Results

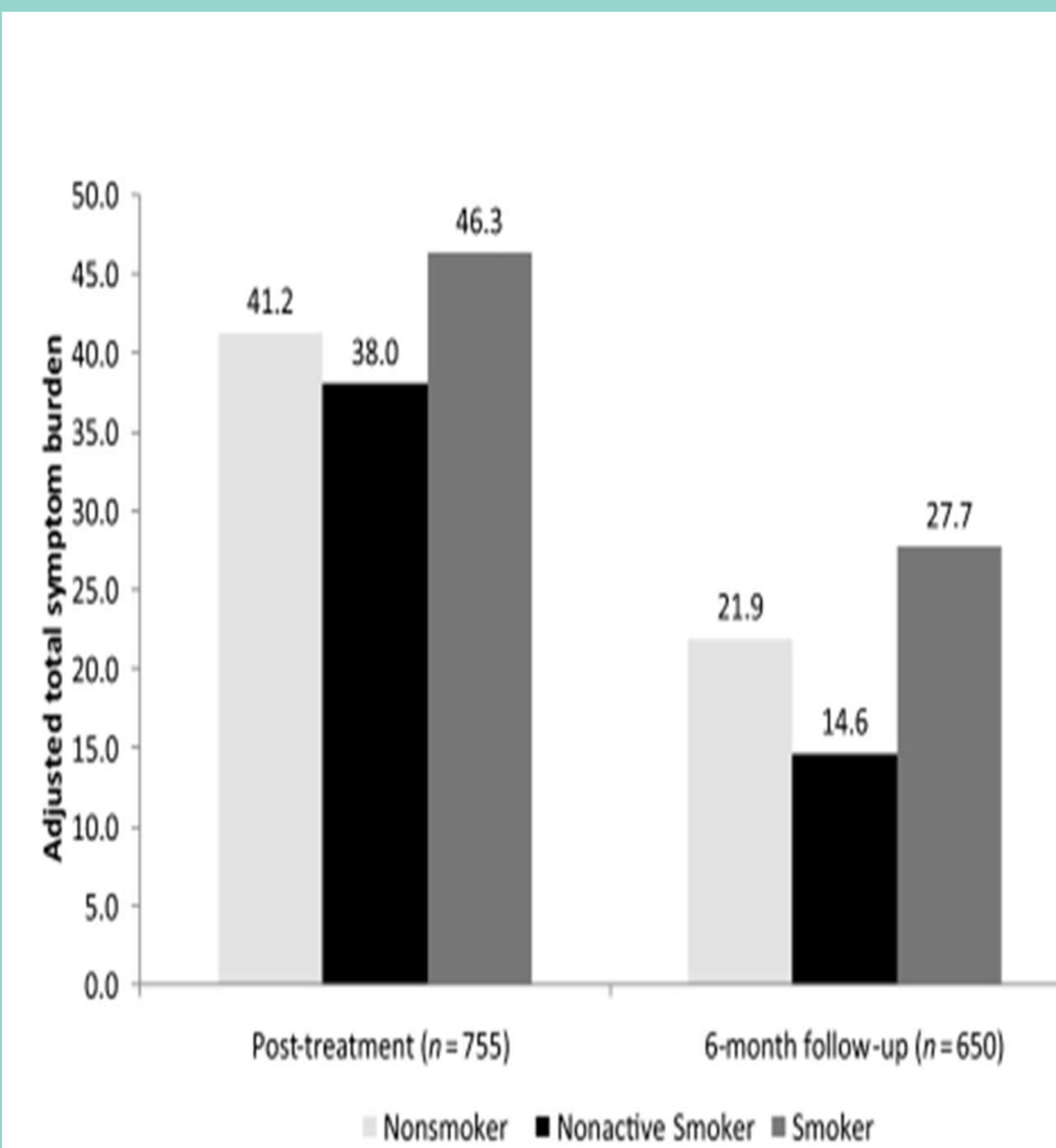


Table 1. Demographics and treatment by smoking status post-treatment

	Nonsmoker		Smoker		p-value
	n	%	n	%	
Gender					
Male	213	33.7	28	32.9	
Female	419	66.3	57	67.1	.89
Age, yrs					
<45	70	11.1	16	18.8	
45-54	107	16.9	20	23.5	
55-64	187	29.6	27	31.8	
65-74	162	25.6	15	17.6	
≥75	106	16.8	7	8.2	.03
Race					
White	599	94.8	75	88.2	
Black	25	4.0	8	9.4	
Other	8	1.3	2	2.4	.05
Marital status					
Married	470	74.4	48	56.5	
Single/divorced	94	14.9	30	35.3	
Widowed	68	10.8	7	8.2	<.01
Education					
Less than high school	43	6.8	17	20.0	
High school graduate	214	33.9	30	35.3	
Some college	152	24.1	23	27.1	
College graduate	149	23.6	10	11.8	
Graduate school	74	11.7	5	5.9	<.01
Occupation					
White collar	346	54.7	27	31.8	
Blue collar	286	45.3	58	68.2	<.01
Health					
Excellent	183	29.0	16	18.8	
Very good	243	38.4	22	25.9	
Good/fair/poor	206	32.6	47	55.3	<.01
Karnofsky performance status score					
100	379	60.0	45	52.9	
90	164	25.9	23	27.1	
≤80	89	14.1	17	20.0	.30
Cancer site					
Breast	335	53.0	42	49.4	
Genitourinary	117	18.5	12	14.1	
Lung	57	9.0	11	12.9	
Gastrointestinal	42	6.6	7	8.2	
Other	81	12.8	13	15.3	.59
Treatment					
Chemotherapy	242	38.5	29	34.1	
Radiation	233	37.0	32	37.6	
Both	154	24.5	24	28.2	.67

Discussion

A total of 938 participants completed the survey at baseline (time point 1), 734 participants (632 nonsmokers, 85 smokers, and 17 non active smokers) completed the survey at the end of treatment (time point 2), and 616 participants (543 nonsmokers, 63 smokers, and 10 non active smokers) completed the survey at the 6-month follow-up (time point 3).

These results show that smoking is associated with a higher mean total symptom burden during treatment and a greater increase in total symptom burden from prior to the initiation of cancer treatment to the highest severity at any point during treatment. These results are consistent with other studies that found that smoking during treatment leads to a lower QOL and marked decreases in physical, social, and emotional functioning . A higher symptom burden can lead to interruptions in treatment, reductions in dosages, and delays in therapy. Treatment interruptions and dosage reduction can, in turn, compromise treatment efficacy, resulting in lower survival rates.

The difference in the mean total symptom burden between smokers and nonsmokers persisted 6 months after treatment, with smokers having a significantly greater symptom burden. Smokers reported significantly higher levels of concentration problems, skin problems, sleep problems, weight loss, and depression. Additionally, the decrease in the symptom burden from the end of treatment to the 6-month follow-up was significantly less for smokers than for nonsmokers. Not only did smokers have a higher mean symptom burden, but they also had higher rates of “severe” side effects. Smokers were significantly more likely to report severe fatigue, hair loss, concentration problems, hot flashes, skin problems, sleep problems, and depression at 6 months after treatment.

Conclusion

In conclusion we see that the treatment .in the non smokers and non active smokers is more effective the symptoms are less than the ones who are smoking during the treatment which turns out to be less effective , symptoms like fatigue, hair loss, memory loss, depression, sleep problems, weight loss.

Reference

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