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BACKGROUND & OBJECTIVE

- More than 1.6 million people are diagnosed with cancer each year.
- Despite the different treatment options available for cancer, many individuals refuse treatment for various reasons.
- However, there is little known about the cumulative group of individuals who refuse treatment.
- Objective: To assess characteristics and associations among this group of individuals compared to those who receive cancer treatment.

METHODS

- A cross-sectional analysis was performed using the BRFSS data from 2017 to 2020.
- We included respondents who answered yes to the prompt “Do you have cancer?” and subsequently answered “Are you currently receiving cancer treatment?” with choices of “currently receiving treatment”, “refused treatment”, or “am waiting for treatment”.
- Demographic variables: sex (male or female), education (less than high school, high school graduate or GED, some college, college graduate or higher), and race/ethnicity (White or all other races)

RESULTS

- The sample included 6,238 individuals of whom 83% were White, 53% were female, and over half reported attending college or technical school.
- Individuals with cancer of internal organs had higher rates of cancer treatment refusal at 8.43%, compared to 4.41% of breast cancer, 5.94% of skin cancer, and 4.15% of other types.
- Individuals who did not graduate high school were nearly twice as likely to refuse cancer treatment than other education groups (11.57%; $p < 0.01$).
- We found no significant difference in reported cancer related pain among in the cancer refusal group compared to those in treatment (AOR: 0.59; 95%CI:0.21-1.61); however, those waiting for treatment were less likely to report cancer related pain (AOR: 0.3; 95%CI 0.17-0.52)

CHARACTERISTICS OF INDIVIDUALS WITH CANCER BY STATE OF TREATMENT

Table 1. Characteristics of individuals with cancer by state of treatment (n = 6,238, N = 544,641).

Characteristic	In Tx (%)	Refused (%)	Waiting (%)	Total (%)	Chi-square F, P
Race					
White	68.85	5.73	25.42	83.29	6.17, .003
All other races	77.09	7.85	15.07	16.71	
Sex					
Male	69.19	5.96	24.86	46.97	0.50, .59
Female	71.13	6.2	22.68	53.03	
Education					
< High school	66.74	11.57	21.69	15.27	4.02, 0.002
Graduated High School	70.46	5.83	23.71	28.69	
Some college/Tech	67.73	6.14	26.13	30.62	
Graduated college/Tech	74.94	3.05	22.01	25.42	
Cancer Type					
Breast	86.33	4.41	9.26	19.14	10.88, <.001
Internal organs	73.02	8.43	18.55	31.06	
Skin	62.25	5.94	31.82	31.54	
Other (Blood, Bone, Head/Neck, other)	76.28	4.15	19.57	18.25	
Age^A					
M (SD)	65.24 (12.58)	60.03 (17.45)	61.72 (14.73)	64.09 (13.58)	11.83, <.001

A. Linear regression analysis was used to determine significance for age. Percentages are weighted.

DISCUSSION

- Our investigations revealed statistically significant associations among treatment groups and race/ethnicity, cancer type, and educational attainment—the latter of which showed that individuals with less than a highschool education were nearly twice as likely to refuse treatment than those with higher levels of education.
- Given low education is related to low health literacy, the Agency for Healthcare Research and Quality’s (AHRQ) Health Literacy Universal Precautions Toolkit may help increase patient understanding of their health and provide them with proper support based on their health literacy.

CONCLUSION

- Our findings showed that low educational attainment and being of a minority group were associated with higher rates of cancer treatment refusal.
- Previous research has shown these groups are more likely to have low health literacy, and focused efforts to improve cancer screening and treatment awareness are imperative to the well-being of future patients.

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